What is the best way for me to get started?

To familiarize yourself with the five different types of activities, you may want to read the first week’s activities in the Instructor’s Guide. Then look over the rest of the materials in the kit.

- You may decide to start with Week 1 Activity 1 and work through the activities in order, or give the students some or all of the diagnostic tests to determine their strengths and weaknesses. The diagnostic tests are located on pages 181–190 of the student book. There are five separate two-page tests for the five different mathematics strands—number, operations, geometry, measurement, and algebra. Answers to the tests are found in the Instructor’s Guide, beginning on page 213.

The test items are correlated to the 180 activities in the program. You may decide to pick and choose activities based on specific math strands or concepts.

- Next, remove the Math Jumble activity poster from the kit. Slit the poster along the cut lines indicated on the poster. Insert paper clips and tape the paper clips to the back of the poster. When you do the Math Jumble activities, slide the digit or coin cards under the paper clips to attach them to the poster.

- You will need to punch out the Math Maze cards from the perforated sheets. Each sheet and the individual cards are labeled by week number and activity number. To keep the cards organized in your kit, you may want to bundle together each deck of cards with a rubber band or store them in plastic resealable bags.
Materials
Student page 1

Concept and Handbook Reference
Skip count by twos from 1 through 50.
(MTL 97)

Get Started
Practice counting by twos with children. Count up to 20. Practice counting again up to 30, then 40, and then 50.

Now play the game “Beep!” Explain that in this game we will be looking for the numbers that come up when we skip count by twos.

Have children sit in a circle. One child starts the game by saying “one.” The next child says “two,” and so on. Each time a number is said, that child must decide whether to say “Beep!” afterwards.

Play up to 20. Then repeat up to 30, then 40, and then 50. For extra challenge, children can play the game counting backward by twos.

Beep!
Counting forward by twos:
1 - -
2 Beep!
3 - -
4 Beep!
5 - -
6 Beep!
7 - -
8 Beep!
9 - -
10 Beep!
11 - -
And so on...

Counting backward by twos:
15 - -
14 Beep!
13 - -
12 Beep!
11 - -
10 Beep!
9 - -
And so on...

Today’s Challenge
Student page 1 Have children complete the activity on the student page.

Answers for student page 1: 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 should be connected in order to make the cat.

Go Further
Student page 1 Have children complete the activity on the student page.

Answers for student page 1: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 3. Answers will vary. One possible response: The digits in the ones place repeat. (2, 4, 6, 8, 0, 2, 4, 6, 8, 0)

Assessment
Student self-assessment page 1 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children skip count by twos from 1 through 50?
Materials
Student page 2
Math Maze cards (Week 1 Activity 2)

Concept and Handbook Reference
Representation of 1- and 2-digit numbers.
(MT2 2–15)

Background
Research has shown that children who are flexible with number representations are much stronger math students.

Get Started
Use everyday objects to show different ways to represent numbers. Ask children to name the total number.

10 + 4
(14) (5) (15) (6)

Today's Challenge
Distribute the 18 Math Maze cards for Week 1. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to show the picture, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer (picture) on the first child’s card.

The correct sequence of questions and answers is shown on page 181.

Student page 2 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 2 in the student book.


Go Further
Student page 2 Have children complete this section on the student page.

Answer for student page 2: 8. Answers will vary.
Check children’s drawings.

Assessment
Student self-assessment page 2 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand that there is more than one way to represent the same number?
Materials
Student page 3
Blank paper

Concept and Handbook Reference
Examine attributes of cylinders and cones.
(MTL 204–205)

Get Started
Remind children that a solid is a geometric figure with three dimensions — length, width, and depth. Ask:
• What is similar between cylinders and cones? (both have curved surfaces)
• How many bases does a cone have? (1)
• How many bases does a cylinder have? (2)

Explain that today you will be playing a game called "Who Wants to Be the Top Scorer?" Have each child take a blank sheet of paper and pick one of the solids on student page 3. Then ask the children to number their papers from 1 to 4.

As you ask each of four questions, have children look at their solids and answer the question. Yes answers will score points. Here are the questions to ask:
1. Does your solid have 2 round bases? If yes, score 2 points.
2. Does your solid have a pointed end? If yes, score 3 points.
3. Can your solid slide when you move it? If yes, score 4 points.
4. Can you stack your solid? If yes, score 5 points.

Top scorer(s) will have a cylinder.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Student page 3 Have children answer the questions in the Today’s Challenge section of page 3 in their books.


Go Further
Student page 3 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.


Assessment
Student self-assessment page 3 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of cylinders and cones?
Materials
Student page 4
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums of 6 or 7.
(MTL 58–63, 66–67)

Get Started
Begin by brainstorming addition facts with sums of 7. One child calls out an addend. Another child calls out a second addend. Then a third child gives the addition fact. For example, one child calls out “5,” the second child calls out “2,” and the third child says, “5 + 2 = 7.” If the sum is not 7, the three children try again. Repeat until all children have had a chance to participate.

Repeat the game for addition facts for sums of 6.

Today’s Challenge
Using the 0–7 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize as many addition facts as possible with sums of 6 or 7.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Possible addition facts are given below.

<table>
<thead>
<tr>
<th>Sums of 6</th>
<th>Sums of 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 + 3 = 6</td>
<td>1 + 6 = 7</td>
</tr>
<tr>
<td>4 + 2 = 6</td>
<td>7 + 0 = 7</td>
</tr>
<tr>
<td>6 + 0 = 6</td>
<td>1 + 6 = 7</td>
</tr>
<tr>
<td>1 + 5 = 6</td>
<td>2 + 5 = 7</td>
</tr>
<tr>
<td>2 + 4 = 6</td>
<td>3 + 4 = 7</td>
</tr>
<tr>
<td></td>
<td>5 + 2 = 7</td>
</tr>
</tbody>
</table>

Student page 4 Have children use the Math Jumble on student page 4 to find addition facts for sums of 6 or 7.

Answers for student page 4:

<table>
<thead>
<tr>
<th>Sums of 6</th>
<th>Sums of 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 + 6 = 6</td>
<td>5 + 2 = 7</td>
</tr>
<tr>
<td>1 + 5 = 6</td>
<td>0 + 7 = 7</td>
</tr>
<tr>
<td>2 + 4 = 6</td>
<td>1 + 6 = 7</td>
</tr>
<tr>
<td>3 + 3 = 6</td>
<td>2 + 5 = 7</td>
</tr>
<tr>
<td>4 + 2 = 6</td>
<td>3 + 4 = 7</td>
</tr>
</tbody>
</table>

Go Further
Student page 4 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 4: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 4 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize numbers with sums that equal 6 or 7?
Rule Out Two

Week 1 • Activity 5

Materials
Student page 5
Blank paper

Concept and Handbook References
Identify equivalent expressions.
(MTL 114–116, 120–121, 166–170)

Get Started
Use everyday objects to demonstrate equal amounts. For example, show children 8 paper cups. Then, separate the cups into one group of 3 and another group of 5. Ask, “How many cups are there altogether?” (8). Next, regroup the cups into one group of 4 and another group of 4. Ask, “How many cups are there altogether?” (8) After several similar examples, ask children, “Is there more than one way to show 8?” (yes)

Student page 5 To introduce the activity, work through the first problem on student page 5. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say C (1 dime) is wrong because “1 dime equals 10 pennies, not 20 pennies.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 5 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 5 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify equivalent expressions?
Materials
Student page 6
Red, blue, green, orange, and yellow markers or crayons

Concepts and Handbook Reference
Recognize and extend a linear pattern.  
(MTL 276)

Background
By having children recognize a repeating basic pattern unit, they can use the basic unit to complete or extend a linear pattern.

Get Started
Draw a row of 9 squares on the board. Shade a pattern on the squares, repeating it three times. Ask children to describe the pattern.

Attach three more blank squares to the pattern. Ask:
• Which squares should be shaded to continue the same pattern? (blank, shade, shade)

Today's Challenge
Student page 6 Have children complete the activity on the student page.

Answers for student page 6: 1. red, yellow, yellow  
2. blue, orange, orange  
3. yellow, green, green

Go Further
Student page 6 Have children complete the activity on the student page.

Answers for student page 6: 4. yellow; yellow  
5. orange; green  
6. blue; blue

Assessment
Student self-assessment page 6 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a linear pattern and then extend it?
Materials
Student page 7
Math Maze cards (Week 2 Activity 7)

Concept and Handbook Reference
Work with measurements of length.
(MTL 210–211)

Get Started
Demonstrate how to measure the length of an object using non standard units of measure. You can line up everyday objects to use as units of measure. For example, to find the length of a window or lunch table, you can line up:

<table>
<thead>
<tr>
<th>Number of Units</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 second graders standing side by side</td>
<td>second grader</td>
</tr>
<tr>
<td>5 backpacks</td>
<td>backpack</td>
</tr>
<tr>
<td>8 lunch boxes</td>
<td>lunch box</td>
</tr>
</tbody>
</table>

Explain to children that to make all measurements of length the same and more exact, we use \textit{inch}, \textit{feet}, \textit{yard}, and \textit{mile} instead of second graders, backpacks, or lunch boxes.

Use a ruler or yardstick to show the length of 1 inch, 1 foot, and 1 yard. Help children understand that a mile measures a long distance. Name a few familiar nearby locations that are about 1 mile away from school. Children might be interested to know that the height of a doorknob is about 36 inches, or 3 feet, from the floor. Also, the distance from the knuckle to the tip of the thumb is about 1 inch long.

Make a list of familiar items measured in inches, feet, yards, or miles. For example:

<table>
<thead>
<tr>
<th>Inch</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of a textbook</td>
<td>Width of a window</td>
</tr>
<tr>
<td>Length of hair</td>
<td>Height of a ceiling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yard</th>
<th>Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of a playground</td>
<td>Distance between 2 cities</td>
</tr>
<tr>
<td>Length of a field</td>
<td>Distance in a marathon</td>
</tr>
</tbody>
</table>

Today’s Challenge
Distribute the 18 Math Maze cards for Week 2. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 182.

Student page 7 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 7 in the student book.

Answers for student page 7: 1. 1 yard 2. 200 miles 3. 1 foot 4. 2 feet 5. 3000 feet 6. 6 inches 7. 1 inch 8. 3 feet

Go Further
Student page 7 Have children complete this section on the student page.

Answer for student page 7: 9. Answers will vary.
Possible responses: books, sneakers, children with outstretched arms, pencils, and so on.

Assessment
Student self-assessment page 7 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand that different units of measurement can be used to measure length?
Game Time

Week 2 • Activity 8

Materials
Student page 8
Blank paper

Concept and Handbook Reference
Investigate nonstandard units of length.
(MTL 209)

Get Started
Remind children that, in addition to rulers and yardsticks, we can use everyday objects to measure length. Review with children nonstandard units of length such as juice boxes, shoes, pencils, index fingers, arm lengths, or body lengths.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper and draw a straight line. Then ask children to number their papers from 1 to 5.

As you ask each of five questions, have children look at their drawing and answer the question. Yes answers will score points. Here are the questions to ask:

1. Is your line longer than the length of your arm? If yes, score 10 points.
2. Are you able to measure your line using your foot? If yes, score 5 points.
3. Is your line shorter than the length of your index finger? If yes, score 9 points.
4. Is your line longer than you are tall? If yes, score 8 points.
5. Is your line about the same length as a new pencil? If yes, score 15 points.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Student page 8 Have children answer the questions in the Today’s Challenge section of page 8 in their books.


Go Further
Student page 8 Have children complete the Scavenger Hunt.

Answer for student page 8: 3. Answers will vary. Answers should be recorded as a number of fingers or arms.

Assessment
Student self-assessment page 8 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand the use of nonstandard units of length?
Materials
Student page 9
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums of 7 or 8.
(MTL 58–63, 66–67)

Get Started
Begin by brainstorming addition facts for sums of 7. One child calls out an addend. Another child calls out a second addend. Then a third child gives the addition fact. For example, one child calls out "5," the second child calls out "2," and the third child says, "5 + 2 = 7." If the sum is not 7, the three children try again. Repeat until all children have had a chance to participate.

Repeat the game for addition facts for sums of 8.

Today's Challenge
Using the 0–8 digit cards, construct the 4 by 4 poster shown. Explain that the object of today's Math Jumble is to recognize as many addition facts as possible with sums of 7 or 8.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Possible addition facts are given below.

<table>
<thead>
<tr>
<th>Sums of 7</th>
<th>Sums of 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 + 6 = 7</td>
<td>4 + 4 = 8</td>
</tr>
<tr>
<td>5 + 2 = 7</td>
<td>6 + 2 = 8</td>
</tr>
<tr>
<td>3 + 4 = 7</td>
<td>3 + 5 = 8</td>
</tr>
<tr>
<td>0 + 7 = 7</td>
<td>1 + 7 = 8</td>
</tr>
<tr>
<td>4 + 3 = 7</td>
<td></td>
</tr>
</tbody>
</table>

Student page 9: Have children use the Math Jumble on student page 9 to find addition facts for sums that equal 7 or 8.

Answers for student page 9:

<table>
<thead>
<tr>
<th>Sums of 7</th>
<th>Sums of 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 + 1 = 7</td>
<td>1 + 7 = 8</td>
</tr>
<tr>
<td>2 + 5 = 7</td>
<td>0 + 8 = 8</td>
</tr>
<tr>
<td>3 + 4 = 7</td>
<td>5 + 3 = 8</td>
</tr>
<tr>
<td>0 + 7 = 7</td>
<td>4 + 4 = 8</td>
</tr>
<tr>
<td>4 + 3 = 7</td>
<td>2 + 6 = 8</td>
</tr>
<tr>
<td></td>
<td>3 + 5 = 8</td>
</tr>
</tbody>
</table>

Go Further
Student page 9 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 9: Answers will vary. Check children's work.

Assessment
Student self-assessment page 9 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize numbers with sums that equal 7 or 8?
Materials
Student page 10
Blank paper

Concept and Handbook Reference
Identify an addition expression to solve a word problem. (MTL 54–55)

Get Started
Review with children how to write an addition expression:

![Addition Sign]

4 + 7
Addition Expression

You might wish to remind children that an expression does not have an equal sign. If there is an equal sign, it is an equation.

Student page 10 To introduce the activity, work through the first problem on student page 10. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (10¢ − 10¢) is wrong because “we should add to find the answer.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 10 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 10: 1. A 2. B

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 10 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify an addition expression to solve a word problem?
Materials
Student page 11

Concept and Handbook Reference
Recognize and extend a linear pattern using geometric shapes. (MTL 276)

Get Started
Draw the following geometric shapes on the board:

△ □ □ □ ○

Ask children to identify each shape. (triangle, square, rectangle, circle)

Then draw a repeating linear pattern on the board using two of the geometric shapes. For example,

□ △ □ △ □ △ □ △

Ask children to identify the pattern. (square, triangle) Follow up by asking the children to draw the next two or three shapes in this pattern. (square, triangle, square)

Draw another pattern on the board. For example:

○ □ □ ○ □ □ ○ □ □ ○

Ask children to describe the pattern. (circle, rectangle) Then ask how they would extend the pattern. (circle, rectangle, circle)

Today's Challenge
Student Page 11 Have children complete the activity on the student page.

Answers for student page 11: 1. circle, square
2. triangle, circle 3. square, square

Go Further
Student page 11 Have children complete the activity on the student page.

Answers for student page 11: 4. circle 5. square, circle 6. rectangle, rectangle

Assessment
Student self-assessment page 11 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a linear pattern of geometric shapes and then extend it?
Materials
Student page 12
Math Maze cards (Week 3 Activity 12)

Concept and Handbook References
Practice sums of 6, 7, and 8. (MTL 58–63, 66–67)

Background
Review with children the meaning of addend and sum:

\[
4 + 7 = 11
\]

Addend \quad \text{Addend}\quad \text{Sum}

Get Started
Play a simple addition game to help children think of addition sentences with sums of 6, 7, and 8. For example:

- I'm thinking of two addends with a sum of 7. The first addend is 2. What's the second addend? (5)
- Take 6 pennies. Put some in one hand and some in the other. Close your hands. Allow a child to pick one hand. Show him or her how many pennies are in that hand. Ask, "How many pennies are in the other hand?" Repeat the game with 7 and 8 pennies.

Today's Challenge
Distribute the 18 Math Maze cards for Week 3. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze: Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, "Who has the card with the answer to the question just read?" Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 182.

Student page 12 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 12 in the student book.

Answers for student page 19: 1. 6 2. 5 3. 3 and 5 4. 8 5. 4 6. 3 7. 7 8. 0

Go Further
Student page 12 Have children complete this section on the student page.

Answer for student page 12: 9. Answers will vary. Possible responses: \(1 + 7 = 8; 2 + 6 = 8; 3 + 5 = 8\)

Assessment
Student self-assessment page 12 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand addition with sums of 6, 7, and 8?
Materials
Student page 13
Blank paper

Concept and Handbook Reference
Identify attributes of spheres, cylinders, and rectangular prisms. (MTL 204–205)

Get Started
Use everyday objects to review solids. Consider, for example, a soda can, a cereal box, a ball, and so on.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper and pick one of the solids on student page 13. Then ask children to number their papers from 1 to 5.

As you ask each of five questions, have children look at their solids and answer the question. Yes answers will score points. Here are the questions to ask:

1. Does your solid have more than 6 edges? If yes, score 10 points.
2. Does your solid roll? If yes, score 5 points.
3. Is your solid a cube? If yes, score 9 points.
4. Does your solid have square corners? If yes, score 8 points.
5. Can your solid be stacked? If yes, score 15 points.

Have children find their total scores. Ask a volunteer to share his or her solid and explain his or her score.

Today’s Challenge
Student page 13 Have children answer the questions in the Today’s Challenge section of page 13 in their books.


Go Further
Student page 13 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.


Assessment
Student self-assessment page 13 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of spheres, cylinders, and rectangular prisms?
Materials
Student page 14
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts with sums of 9.
(MTL 58–63, 66–67)

Get Started
Begin by brainstorming addition facts with sums of 9. One child calls out an addend. Another child calls out a second addend. Then a third child gives the addition fact. For example, one child calls out “3,” the second child calls out “6,” and the third child says, “3 + 6 = 9.” If the sum is any number other than 9, the three children try again. Repeat until all the children have had a chance to participate.

Today’s Challenge
Using the 0–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize as many addition facts as possible with sums of 9.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Possible addition facts are given below.

Sums of 9
9 + 0 = 9
1 + 8 = 9
7 + 2 = 9
3 + 6 = 9
4 + 5 = 9
8 + 1 = 9

Student page 14 Have children use the Math Jumble on student page 14 to find addition facts with sums of 9.

Answers for student page 14:
Sums of 9
9 + 0 = 9
1 + 8 = 9
2 + 7 = 9
3 + 6 = 9
4 + 5 = 9
6 + 3 = 9
1 + 8 = 9

Go Further
Student page 14 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 14: Answers will vary. Check children’s work.

Assessment
Student Self-Assessment page 14 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize numbers with sums that equal 9?
Materials
Student page 15
Blank paper

Concept and Handbook Reference
Identify 2-dimensional shapes containing straight sides and curves. (*MTL 194–197*)

Get Started
Use everyday objects to show the difference between a straight line and a curved line. Ask:
- Does a juice box have straight sides or curved sides? (straight)
- Does a basketball have straight sides or curved sides? (curved)
- Does the letter A have straight sides or curved sides? (straight)
Continue with similar types of questions.

Student page 15 To introduce the activity, work through the first problem on student page 15. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (circle) is wrong because “a circle does not have straight lines.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 15 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 15 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify shapes containing straight lines or curves?
Materials
Student page 16

Concept and Handbook Reference
Subtract a number from itself to get a difference of 0. (MTL 78)

Get Started
Draw 7 pennies on the board. Tell children this story:

```
1¢ 1¢ 1¢ 1¢
1¢ 1¢ 1¢
```

"I have 7¢. An apple costs 5¢. How much money is left after buying the apple?" (2¢)

Write the equation 7 – 5 = ___ on the board. Erase the number of pennies needed to buy the apple. Then, fill in the answer blank. (2)

```
1¢ 1¢ 1¢ 1¢
```

Draw 6 pennies on the board. Tell children another story, such as: "Jennifer has 6¢. She buys an apple that costs 6¢. How much money does Jennifer have left after buying the apple?" (0¢)

```
1¢ 1¢ 1¢
1¢ 1¢ 1¢
```

Write the equation 6 – 6 = ___ under the previous equation. Have a child erase the number of pennies needed for Jennifer to buy the apple and fill in the answer blank. (0)

```
1¢ 1¢ 1¢
1¢ 1¢ 1¢
```

Today’s Challenge
Student page 16 Have children complete the activity on the student page.

Answers for student page 16: 1. 2, 1, 0
2. 4, 3, 2, 1, 0
3. 5, 4, 3, 2, 1, 0

Go Further
Student page 16 Have children answer the questions on the student page.

Answers for student page 16: 4. 3 – 3 = 0;
5 – 5 = 0; 6 – 6 = 0. In each equation, a number is subtracted from itself.

Assessment
Student self-assessment page 16 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize that subtracting a number from itself leaves 0?
Math Maze

Materials
Student page 17
Math Maze cards (Week 4 Activity 17)

Concept and Handbook Reference
Work with odd and even numbers.
(MTL 36–37)

Get Started
Help children compare numbers by playing “Who Is Closest?” Follow the steps below:
• Name an odd number. (for example, 23)
• Ask children to name three other odd numbers that are less than the given one. (11, 19, 15)
• List all four numbers in order from least to greatest. (11, 15, 19, 23)
• Ask children to name the number closest to the given one. (19)

Vary the game by using an even number.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 4. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze
Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 183.

Student page 17 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 17 in the student book.

Answers for student page 17: 1. 81 2. 26 3. 32 4. 13 5. 75 6. 98 7. 55 8. 52 9. 35 10. 18

Go Further
Student page 17 Have children complete this section on the student page.

Answer for student page 17: 11. 31, 33, 35, 37, 39

Assessment
Student self-assessment page 17 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand odd and even numbers?
Materials
Student page 18
Blank paper

Concept and Handbook Reference
Recognize odd and even numbers.  
(MTL 36–37)

Get Started
Review odd and even numbers. Encourage children
to share strategies for determining odd or even
numbers. For example, some children might sug-
gest looking at the ones place, skip counting by 2,
or thinking in terms of pairs.

Today’s Challenge
Explain that today the class will be playing a game
called “Fantastic Finalist.” Give each child a piece of
paper with a number from 1 and 30 on it. You do
not have to use all of the number cards, but be sure
that one child receives the number 1, since that
number will be the “Fantastic Finalist.”

Have all children hold their numbers and stand in a
large circle. Explain that the object of the game is to
be the “Fantastic Finalist,” the last child to remain
standing.

Read each of the following challenges, one at a
time.
• If your number has a 7 or 9 in the ones place, sit
down. (7, 9, 17, 19, 27, 29)
• Double 10. If your number is 1 more, sit down.  
  (21)
• If the sum of your two digits is greater than 5, sit
down. (16, 18, 24, 26, 28)
• If you land on your number when skip counting
  by 2, sit down. (2, 4, 6, 8, 12, 14, 22)

At this point, only the child holding the number 1
should still be standing. That child is the “Fantastic
Finalist.”

Go Further
Student page 18 Have children complete the activi-
ty on the student page.

Answers for student page 18: 1. 7 2. Odd; answers
will vary.

Assessment
Student self-assessment page 18 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tip Do children recognize odd and even
numbers?
Materials
Student page 19
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums of 10.
(MTL 58–63, 66–67)

Get Started
Begin by brainstorming addition facts with sums of 10. Call out any number from 0 through 10. Have children show with their fingers how many more are needed to make a total of 10. Choose one child to say aloud the correct answer and the complete fact. Repeat several times.

Today’s Challenge
Using the 1–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize as many addition facts as possible with sums of 10.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the addition facts children make. Possible facts are given below.

Sums of 10
9 + 1 = 10
5 + 5 = 10
8 + 2 = 10
3 + 7 = 10
4 + 6 = 10
6 + 4 = 10

Student page 19 Have children use the Math Jumble on student page 19 to find addition facts with sums of 10.

Answers for student page 19:
Sums of 10
9 + 1 = 10
8 + 2 = 10
5 + 5 = 10
4 + 6 = 10
7 + 3 = 10
5 + 5 = 10
6 + 4 = 10
7 + 3 = 10
4 + 6 = 10

Go Further
Student page 19 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 19: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 19 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize addition facts for sums that equal 10?
Materials
Student page 20
Blank paper

Concept and Handbook Reference
Choose the correct measure of capacity to solve a problem. (MTL 222–223)

Get Started
Use everyday containers to help children be more familiar with units of capacity. Display or draw on the board the following:

Ask:
• If I need a little bit of milk, which size container would I buy? (cup or pint)
• If I need a lot of milk, which size container would I buy? (gallon)
• Every day I drink milk at meal times and with snacks. Which size container should I buy for one week? (gallon)

Continue with similar questions.

Student page 20 To introduce the activity, work through the first problem on student page 20. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (cup) is wrong because “you cannot paint a whole library with a cup of paint.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 20 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 20: 1. A 2. D
When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 20 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children choose the correct unit of capacity to solve a problem?
Materials
Student page 21
Red, blue, green, and yellow markers or crayons

Concept and Handbook Reference
Recognize and extend a pattern.
(MTL 276)

Background
By having children recognize a repeating basic pattern unit, they can use it to extend or complete a pattern.

Get Started
Draw a row of 9 squares on the board. Shade a pattern on the squares, repeating it two more times. Help children see how the pattern repeats.

Draw 3 more squares. Ask:
• How does the pattern continue? (shade, blank, blank)

Today's Challenge
Student page 21 Have children complete the activity on the student page.

Answers for student page 21: 1. red, blue 2. red, red 3. green, blue, blue

Go Further
Student page 21 Have children complete the activity on the student page.

Answer for student page 21: 4. green, red

Assessment
Student self-assessment page 21 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a pattern and then extend it?
**Materials**
Student page 22
Math Maze cards (Week 5 Activity 22)

**Concept and Handbook Reference**
Use mental math to add up to 20.  
(MTL 58-67)

**Background**
To practice mental math, children are asked to add without paper and pencil or manipulatives.

**Get Started**
Help children review facts for doubles.

1 + 1 = 2  
2 + 2 = 4  
3 + 3 = 6  
4 + 4 = 8  
5 + 5 = 10  

6 + 6 = 12  
7 + 7 = 14  
8 + 8 = 16  
9 + 9 = 18  
10 + 10 = 20

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 5. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

**Instructions for playing Math Maze**
Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 183.

**Student page 22**
When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 22 in the student book.

**Answers for student page 22:**
1. 15 2. 4 3. 19 4. 7 5. 16 6. 9 7. 5 8. 13 9. 8

**Go Further**
**Student page 22**
Have children complete this section on the student page.

**Answer for student page 22:**
10. Answers will vary. One possible response: I know that 6 plus 6 equals 12; I know that 8 is 2 more than 6, so 6 plus 6 plus 2 equals 14.

**Assessment**
**Student self-assessment page 22**
Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip**
Do children understand how to add using mental math?
Materials
Student page 23
Blank paper

Concept and Handbook Reference
Examine attributes of cubes and rectangular prisms. (MTL 204–205)

Get Started
Draw a cube and a rectangular prism on the board. Ask:
• What is similar between cubes and rectangular prisms? (Both have 6 faces, 12 edges, and right angles.)
• What is different between cubes and rectangular prisms? (The cube has 6 identical faces.)
• Is a cube also a rectangular prism? (yes) Why? (Squares are special rectangles.)

As you ask each of four questions, have children look at their solid and answer the question. Yes answers will score points. Here are the questions to ask:
1. Does your solid have six faces? If yes, score 2 points.
2. Does your solid have a rectangular face? If yes, score 3 points.
3. Can you stack your figure? If yes, score 4 points.
4. Does your solid have all square faces? If yes, score 5 points.
Top scorer(s) will have a cube.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today's Challenge
Have children answer the questions in the Today's Challenge section of page 23 in their books.


Go Further
Student page 23 Have children complete the activity on the student page.

Answer for student page 23: 3. Drawings will vary. Check children's work.

Assessment
Student self-assessment page 23 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of cubes and rectangular prisms?
Materials
Student page 24
Math Jumble activity poster and digit cards

Concept and Handbook References
Add 0 or 1 to any number. (MTL 59, 60)

Get Started
Begin by brainstorming addition facts that include 0 or 1 as an addend. One child calls out an addend. Another child calls out either 0 or 1. Then, a third child adds the first two numbers and gives the sum. For example, one child calls out “7,” the second child calls out “0,” and the third child says, “7 + 0 = 7.” Repeat until all the children have had a chance to participate.

Today's Challenge
Using the 0–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today's Math Jumble is to find strings of numbers that could be used to make addition facts that have 0 or 1 as an addend.

Strings of numbers are made by joining numbers that are inside squares that share a common side. For example, point to the 5 on the top left row and the numbers 4 and 1 below it. Tell children that the three numbers could be used to make the addition fact 5 = 4 + 1. Or, point to the string 0 + 5 = 5 to show that strings of numbers can turn a corner.

Possible strings:
7 + 0 = 7
4 + 0 = 4
0 + 5 = 5
6 = 1 + 5
8 + 1 = 9
5 = 4 + 1
4 + 1 = 5

Student page 24 Have children use the Math Jumble on student page 24 to find more strings of numbers.

Answers for student page 24: The six possible strings: 4 + 1 = 5; 1 + 3 = 4; 5 + 1 = 6; 4 + 0 = 4; 6 + 1 = 7; 6 + 0 = 6

Go Further
Student page 24 Have children answer the question in the student book.

Answer for student page 24: Answers will vary. One possible response: When I add 1 to any number, I get the next number on the number line. When I add 0 to any number the sum is that number.

Assessment
Student self-assessment page 24 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add 0 or 1 to any number?
Rule Out Two

Week 5 • Activity 25

Materials
Student page 25
Blank paper

Concept and Handbook Reference
Read data on a bar graph. (MTL 238)

Get Started
Have children open their books to student page 25.
Direct the children's attention to the bar graph.
Remind children how to read the graph. Ask:
• What is the title of the graph? (Pets at Home)
• What do the bars show? (the number of pets at home)
• What do the numbers 0–7 show? (the number of children who have pets at home)
• How can you find the total number of children surveyed? (Find the number of children for each bar, then add all 3 numbers to find the total.)

Continue with similar questions.

Student page 25 To introduce the activity, work through the first problem on student page 25. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (7 students) is wrong because “the bar doesn’t reach all the way to 7.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way.

Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 25 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 25: 1. D 2. B

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 25 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children read data on a bar graph?
Materials
Student page 26
Yellow and a second color markers or crayons

Concepts and Handbook References
Skip count by twos from 51 through 100. (MTL 97)
Recognize even and odd numbers between 50 and 100. (MTL 36–37)

Get Started
Practice skip counting by twos with children. Count up to 60. Practice skip counting again up to 70, then to 80, then to 90, and finally to 100.

Now play the game “Beep!” Explain that in this game we will be looking for the numbers that come up when we skip count by twos.

Have children sit in a circle. One child starts the game by saying “fifty-one.” The next child says “fifty-two, Beep!” and so on. Each time a number is said, that child must decide whether to say “Beep!” afterwards.

Beep!
Skip count by twos with a Beep!
on the even numbers:
51 - -
52 Beep!
53 - -
54 Beep!
55 - -
56 Beep!
And so on...

Skip count by twos with a Beep!
on the odd numbers:
64 - -
65 Beep!
66 - -
67 Beep!
68 - -
And so on...

Play up to number 60. Then repeat up to 70, then 80, then 90, and finally to 100.

During the game, write on the board all the numbers that are “Beeps.” After a few rounds, ask:
• What pattern do you see in all the even numbers?
  (An even number has a 0, 2, 4, 6, or 8 in the ones place.)
• What pattern do you see in all the odd numbers?
  (An odd number has a 1, 3, 5, 7, or 9 in the ones place.)

Today’s Challenge
Student Page 26 Have children complete the activity on the student page.

Answers for student page 26: 1. All the even numbers 52, 54, 56, ..., 96, 98, 100 should be colored in yellow. 2. 68, 72; even 3. 87, 89, 93; odd

Go Further
Student page 26 Have children complete the activity on the student page.

Answer for student page 26: 5. The even numbers 8, 32, 40, 96 should be colored in yellow. The odd numbers 19, 55, 65, 83 should be colored in another color.

Assessment
Student self-assessment page 26 Have children circle one of the three choices to describe how they feel about the activity.

Assessment tip Can children skip count by twos and recognize an even or an odd number between 51 and 100?
Materials
Student page 27
Math Maze cards (Week 6 Activity 27)

Concept and Handbook References
Use addition and subtraction to represent 10. 
(MTL 6–7, 67)

Get Started
Ask children different ways to represent 10 using addition or subtraction. Some possible responses:

\[
\begin{align*}
8 + 2 & = 10 - 2 \\
6 + 4 & = 10 - 0 \\
5 + 5 & = 20 - 10 \\
\end{align*}
\]

Today's Challenge
Distribute the 18 Math Maze cards for Week 6. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 184.

Student page 27 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 27 in the student book.


Go Further
Student page 27 Have children complete this section on the student page.

Answer for student page 27: 7. Answers will vary. Possible responses: 3 + 3 + 3 = 9; 10 − 1 = 9; 4 + 4 + 1 = 9

Assessment
Student self-assessment page 27 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to represent 10 using addition and subtraction?
Materials
Student page 28
Blank paper

Concept and Handbook Reference
Explore nonstandard units of capacity. (MTL 222–225)

Background
Nonstandard units of measurement are used daily to understand capacity. Everyday items such as paper cups, containers, and water bottles could be used as nonstandard units of measurement.

Get Started
Use everyday objects to review capacity. For example, discuss the uses and capacities of buckets, bowls, and paper cups.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper and draw an object that could be filled with water. (For example: a water bottle, a bathtub, a bucket, or a lake.) Then ask children to number their papers from 1 to 5.

As you ask each of five questions, have children look at their drawing and answer the question. Yes answers will score points. Here are the questions to ask:

1. Does your object hold more water than a bathtub? If yes, score 10 points.
2. Does your object hold less water than a juice box? If yes, score 5 points.
3. Does your object hold more water than a kitchen sink? If yes, score 9 points.
4. Does your object hold more water than a cooking pot? If yes, score 8 points.
5. Does your object hold more water than a swimming pool? If yes, score 15 points.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Student page 28 Have children answer the questions in the Today’s Challenge section of page 28 in their books.


Go Further
Student page 28 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name

Answers for student page 28: 3. bathtub 4. Children’s own riddles will vary

Assessment
Student self-assessment page 28 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand the use of nonstandard units of capacity?
Materials
Student page 29
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize double addends and find their sums.
(MTL 62)

Background
Adding a number to itself is known as “adding doubles.”

Get Started
Begin by discussing what a double is. Write the following sentences on the board:

\[
\begin{align*}
1 + 1 &= 2 \\
2 + 2 &= 4 \\
3 + 3 &= 6 \\
4 + 4 &= 8 \\
5 + 5 &= 10
\end{align*}
\]

Direct children to look at the addition sentences. Ask:
- How are the addends alike? (The addends in each sentence are the same numbers.)
- Are the addends odd or even numbers? (Some addends are even numbers, others are odd numbers.)
- How are the sums alike? (all even numbers)

Today’s Challenge
Using the 0–7 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize pairs of double addends.

Pairs can be made with any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the pairs children find. Create double addend addition facts using the pairs. Possible double addend addition sentences are given below.

Double adds
\[
\begin{align*}
1 + 1 &= 2 \\
2 + 2 &= 4 \\
3 + 3 &= 6 \\
4 + 4 &= 8 \\
5 + 5 &= 10 \\
0 + 0 &= 0
\end{align*}
\]

Student page 29 Have children use the Math Jumble on student page 29 to find pairs of double addends and write their sums.

Answers for student page 29:
Double addends and their sums
\[
\begin{align*}
1 + 1 &= 2 \\
4 + 4 &= 8 \\
2 + 2 &= 4 \\
3 + 3 &= 6 \\
5 + 5 &= 10 \\
0 + 0 &= 0
\end{align*}
\]

Go Further
Student page 29 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 29: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 29 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize double addends and find their sums?
Materials
Student page 30
Blank paper

Concept and Handbook Reference
Choose the correct linear unit of measure.
(MTL 210–211)

Get Started
Help children review the different units of length and the appropriate uses for each. Show children a foot long ruler. Indicate one inch. Ask:
- Would you use inches or miles to measure the distance between cities? (miles)
- Would you use inches or yards to measure the length of your thumb? (inches)
- Would you use yards or miles to measure the length of a football field? (yards)

Continue with similar types of questions.

Student page 30 To introduce the activity, work through the first problem on student page 30. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (a mile) is wrong because “a button hole is too small to be measured with a mile.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 30 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 30: 1. B 2. C
When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 30 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children choose the correct linear unit of measure?
Materials
Student page 31
Student book inside back cover (hundred chart)

Concept and Handbook Reference
Find one more and one less than a given number. (MTL 33)

Get Started
Ask children to turn to the hundred chart on the inside of the back cover of their books. Draw three squares from the hundred chart on the board. Direct children to look for clues to figure out the missing numbers. For example, draw three adjacent boxes (squares) horizontally in a row and write the number 25 in the middle box. Ask:
• Which number belongs in the box to the left of 25? (24)
• Which number belongs in the box to the right of 25? (26)
• How are the numbers 24 and 26 related to the number 25? (24 is 1 less than 25; 26 is 1 more than 25.)

Continue with a few more examples so that each child has a chance to participate.

Today's Challenge
Student page 31 Have children complete the activity on the student page.

Answers for student page 31:
1. 33 34 35
2. 55 56 57
3. 61 62 63
4. 47 48 49
5. 28 29 30
6. 82 83 84

Go Further
Student page 31 Have children complete the activity on the student page.

Answers for student page 31:
7. 82 83 84 85 86 87 88
8. 52 53 54 55 56 57 58

Assessment
Student self-assessment page 31 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find a number that is one more or one less than a given number?
Materials
Student page 32
Math Maze cards (Week 7 Activity 32)

Concept and Handbook Reference
Solve money riddles with coins. (MTL 166–171)

Get Started
Review with children the name and value of each
coin.

Today's Challenge
Distribute the 18 Math Maze cards for Week 7. Each
child should receive at least one card, but since all
cards need to be distributed, some children may
need to get more than one card. Use the cards to
play the Math Maze game.

Instructions for playing Math Maze Ask children to
look at their cards. Ask one child to read the ques-
tion that is written on his or her card. Next ask,
"Who has the card with the answer to the question
just read?" Ask that child to read the answer, and
then read the question on his or her card. Play con-
tinues until all questions have been answered. The
last answer to be read should be the answer on the
first child's card.

The correct sequence of questions and answers is
shown on page 185.

Student page 32 When the group has finished play-
ing the game, have children open their books and
complete the Today's Challenge activity on page 32
in the student book.


Go Further
Student page 32 Have children complete this sec-
tion on the student page.

Answer for student page 32: 9. Answers will vary.
Encourage children to share their riddles.

Assessment
Student self-assessment page 32 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tip Do children understand coin combi-
nations?
Materials
Student page 33
Blank paper (heavyweight if possible) or index cards

Concept and Handbook References
Review addition and subtraction facts for 7, 8, 9, and 10. (MTL 58–63, 76–79, 82–83)

Get Started
Review the fact family for 2, 1, and 3.

Addition               Subtraction
2 + 1 = 3               3 - 2 = 1
1 + 2 = 3               3 - 1 = 2

Today's Challenge
Student page 33 Have children look at page 33 in the student book. Explain that each row will include a fact family for 7, 8, 9, or 10. The first two columns show addition equations. The last two columns show subtraction equations. Have children fill in equations that are missing.

Answers for student page 33:  1. 4 + 6 = 10  
2. 10 - 6 = 4  
3. 1 + 7 = 8  
4. 8 - 1 = 7  
5. 7 + 2 = 9  
6. 9 - 7 = 2  
7. 5 + 3 = 8  
8. 8 - 5 = 3

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 33.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same fact family), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 33 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize related fact family equations?
Materials
Student page 34
Math Jumble activity poster and coin cards

Concept and Handbook Reference
Add pennies and nickels to find the value for 6¢, 7¢, 8¢, 9¢, and 10¢. (MTL 167)

Get Started
Begin by identifying coin values. One child calls out the number of coins. A second child calls out the value of the coins. For example, one child calls out “2 nickels,” the second child calls out “10¢.” Repeat until all children have a chance to participate.

Today’s Challenge
Using the coin cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to find strings of coins that total 6¢, 7¢, 8¢, 9¢, or 10¢.

Strings of coins are made by joining coins that are inside squares that share a common side. For example, point to the coins in the first column. Then, pointing to the coins one at a time, find the total number of cents as you move from the top to bottom and from left to right. (5¢, 6¢, 7¢, 8¢, 9¢) The total is 9 cents.

Next, ask children to find strings of coins that total 6¢, 7¢, 8¢, 9¢, and 10¢. Ask a child to name an amount and have other children try to find a string of coins that totals that amount. Repeat several times.

Student page 34 Have children complete Today’s Challenge on student page 34.

Answers for student page 34: Answers will vary. Check children’s work.

Go Further
Student page 34 Have children complete the activity in this section of the student page.

Answer for student page 34: 6. 48¢; Explanations will vary but may include counting by 5s and 1s or putting all pennies together and all nickels together.

Assessment
Student self-assessment page 34 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add pennies and nickels to find the value for 6¢, 7¢, 8¢, 9¢, and 10¢?
Materials
Student page 35
Blank paper

Concept and Handbook Reference
Identify solids by their ability to slide or roll. (MTL 204–205)

Get Started
Review the concepts of rolling and sliding. Show children two objects such as a juice box and a basketball. Ask:
• Which item will roll? (basketball)
• Which item will slide? (juice box)

Continue to demonstrate with other everyday examples, such as an empty roll of paper towels, a tissue box, and so on.

Student page 35 To introduce the activity, work through the first problem on student page 35. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (an orange) is wrong because “an orange can only roll.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 35 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 35: 1. A 2. A

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 35 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify solids that will roll and/or slide?

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.
Materials
Student page 36
Student book inside back cover (hundred chart)

Concept and Handbook Reference
Add 10 and a 1-digit number. (MTL 6–7)

Background
Remind children that “teen” numbers are numbers from 13 through 19. Children first encounter teen numbers when counting beyond 10 and later by learning basic addition facts having sums of 13 through 19.

Get Started
Ask children to turn to the hundred chart on the inside of the back cover of their books. Tell them you are going to draw several squares from the hundred chart on the board, and they will have to look for clues to figure out what are the missing numbers. An example is shown below.

\[
\begin{array}{ccc}
13 & 5 & 17 \\
\end{array}
\]

Ask:
- What number belongs in the box above the one with number 13? (3)
- What number belongs in the box that is below 5? (15)
- What number belongs in the box that is above 17? (7)
- How are the two numbers in the first set related? (The number 13 is 10 more than 3.)
- Look at the first two rows on the hundred chart. What do you notice? (Each number in the second row is 10 more than the number in the first row.)

Today’s Challenge
Student page 36 Have children complete the activity on the student page.

Answers for student page 36:

1.

\[
\begin{array}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 & 19 & 20 \\
\end{array}
\]

2.

\[
\begin{array}{ccc}
2 & 3 & 4 \\
12 & 16 & 15 \\
\end{array}
\]

3.

\[
\begin{array}{ccc}
5 & 6 & 7 \\
15 & 19 & 18 \\
\end{array}
\]

4.

\[
\begin{array}{ccc}
8 & 9 & 10 \\
11 & 12 & 13 \\
\end{array}
\]

Go Further
Student page 36 Have children complete the activity on the student page.

Answers for student page 36: 13, 10, 14, 10, 15, 10

Assessment
Student self-assessment page 36 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add 10 and a 1-digit number?
Math Maze

Week 8•Activity 37

Materials
Student page 37
Student book inside back cover (hundred chart)
Math Maze cards (Week 8 Activity 37)

Concept and Handbook References
Add and subtract multiples of ten.
(MTL 114, 120)

Get Started
Look at the hundred chart. Show children how the numbers change by 1 from left to right or from right to left. Show children how the numbers change by 10 from top to bottom or from bottom up. Review skip counting by tens starting from a random number. For example:

Addition
Start with 6  6, 16, 26, 36, 46, ...
Start with 43  53, 63, 73, 83, 93, ...
Start with 20  20, 30, 40, 50, 60, ...

Subtraction
Start with 50  50, 40, 30, 20, 10
Start with 56  56, 46, 36, 26, 16, 6
Start with 100  100, 90, 80, ... 20, 10

Today's Challenge
Distribute the 18 Math Maze cards for Week 8. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 186.

Student page 37 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 37 in the student book.


Go Further
Student page 37 Have children complete this section on the student page.


Assessment
Student self-assessment page 37 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand addition and subtraction of multiples of 10?
Materials
Student page 38
Blank paper

Concept and Handbook Reference
Examine attributes of cubes and rectangular prisms. (MTL 204–205)

Get Started
Draw a cube and a rectangular prism on the board.
Ask:
• What is similar between a cube and a rectangular prism? (Both have 6 faces, 12 edges, right angles, and 8 corners.)
• What is different between cubes and rectangular prisms? (A cube has 6 identical faces.)
• Is a cube also a rectangular prism? (yes) Why? (Squares are special rectangles.)

As you ask each of four questions, have students look at their solid and answer the question. Yes answers will score points. Here are the questions to ask:
1. Does your solid have six faces? If yes, score 2 points.
2. Does your solid have rectangular faces? If yes, score 3 points.
3. Can you stack your solid? If yes, score 4 points.
4. Does your solid have long edges and short edges? If yes, score 5 points.

Top scorer(s) will have a rectangular prism.
Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Have children answer the questions in the Today’s Challenge section of page 38 in their books.


Go Further
Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name

Answers for student page 38: 3. cylinder 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 38 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of cubes and rectangular prisms?
Materials
Student page 39
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize double addends for sums greater than 10. (MTL 62)

Get Started
Begin by brainstorming addition facts with double addends. Have one child call out any number from 0 through 10. Have a second child call out the double-addend fact. For example, the first child calls out “6.” The second child calls out the fact “6 + 6 = 12.” Continue until all children have had a chance to participate.

Today’s Challenge
Using the 3–10 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize pairs of double addends for sums greater than 10.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Possible double addend addition sentences are given below.

Double addends
7 + 7 = 14
9 + 9 = 18
6 + 6 = 12
8 + 8 = 16
10 + 10 = 20

Student page 39 Have children use the Math Jumble on student page 39 to find pairs of double addends with sums greater than 10.

Answers for student page 39:
Double addends
(sums greater than 10)
6 + 6 = 12
7 + 7 = 14
9 + 9 = 18
10 + 10 = 20

Go Further
Student page 39 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 39: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 39 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize double addends for sums greater than 10?
Materials
Student page 40
Blank paper

Concept and Handbook Reference
Review place value for 3-digit numbers.
(MTL 16–23)

Get Started
Review place value names for 3-digit numbers. For example, use a chart to illustrate the number 458. Help children recognize that each digit has a different value. Altogether, 400 + 50 + 8 equals the number 458.

<table>
<thead>
<tr>
<th>Hundreds Place</th>
<th>Tens Place</th>
<th>Ones Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>400 + 50 + 8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Student page 40 To introduce the activity, work through the first problem on student page 40. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (7000) is wrong because “7 is in the tens’ column.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 40 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 40 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify the place values in 3-digit numbers?
Materials
Student page 41
Red, blue, green, orange, and yellow markers or crayons

Concept and Handbook Reference
Recognize and extend a pattern. (MTL 276)

Background
By having children recognize a repeating basic pattern unit, they can use it to extend or complete a pattern.

Get Started
Draw a row of 12 squares on the board. Shade a pattern using the first three squares, repeating it three more times. Help children see how the pattern repeats.

Draw 3 more squares. Ask:
• How does the pattern continue? (shade, blank, blank)

Today's Challenge
Student page 41 Have children complete the activity on the student page.

Answers for student page 41: 1. red, yellow, blue
2. orange, green, yellow  3. red, green, blue

Go Further
Student page 41 Have children complete the activity on the student page.

Answers for student page 41: 4. orange  5. red, red
6. blue, orange

Assessment
Student self-assessment page 41 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a pattern and then extend it?
Materials
Student page 42
Math Maze cards (Week 9 Activity 42)

Concept and Handbook References
Work with addition and subtraction facts through 20. (MTL 58–69, 76–79)

Get Started
Use everyday objects to review addition and subtraction facts. For example, line up 8 lunch boxes. Remove 3 of the lunch boxes. Ask, “8 take away 3 equals how many?” Repeat with other numbers to show addition.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 9. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 186.

Student page 42 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 42 in the student book.


Go Further
Student page 42 Have children complete this section on the student page.

Answers for student page 42: 11. 5 12. 8 13. Answers will vary.

Assessment
Student self-assessment page 42 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand addition and subtraction facts through 20?
Materials
Student page 43
Blank paper

Concept and Handbook Reference
Explore nonstandard units of weight. (MTL 218)

Background
Nonstandard units of measurement are used daily to understand weight. Everyday items such as juice boxes, backpacks, and textbooks could be used as nonstandard units of measurement.

Get Started
Use everyday objects to review weight. For example, compare the weight of a desk, a box of markers, and a trash can.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper and draw an object that has some weight. (For example: a textbook, a 3-ring binder, a feather.) Then ask children to number their papers from 1 to 5.

3. Does your object weigh less than a desk? If yes, score 9 points.
4. Does your object weigh more than a marble? If yes, score 8 points.
5. Does your object weigh less than a book shelf? If yes, score 15 points.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Student page 43 Have children answer the questions in the Today’s Challenge section of page 43 in their books.


Go Further
Student page 43 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 43: 3. a television 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 43 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand nonstandard units of weight?
Materials
Student page 44
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Use doubles plus 1 to add two consecutive numbers. (MTL 63)

Get Started
Have children practice adding two consecutive numbers. Guide children to use the doubles plus 1 strategy. For example, call out “8, 9.” A volunteer should respond with, “8 + 8 + 1 = 17.” Repeat until all children have a chance to participate.

Today’s Challenge
Using the 1–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to create as many addition fact sentences as possible using the strategy doubles plus 1.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Possible facts are given below.

<table>
<thead>
<tr>
<th>Doubles plus 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 + 2 = 1 + 1 + 1 = 3</td>
</tr>
<tr>
<td>2 + 3 = 2 + 2 + 1 = 5</td>
</tr>
<tr>
<td>3 + 4 = 3 + 3 + 1 = 7</td>
</tr>
<tr>
<td>4 + 5 = 4 + 4 + 1 = 9</td>
</tr>
<tr>
<td>5 + 6 = 5 + 5 + 1 = 11</td>
</tr>
<tr>
<td>6 + 7 = 6 + 6 + 1 = 13</td>
</tr>
<tr>
<td>7 + 8 = 7 + 7 + 1 = 15</td>
</tr>
<tr>
<td>8 + 9 = 8 + 8 + 1 = 17</td>
</tr>
</tbody>
</table>

Student page 44 Have children use the Math Jumble on student page 44 to write addition sentences using the doubles plus 1 strategy.

Answers for student page 44:

<table>
<thead>
<tr>
<th>Doubles plus 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 + 4 = 3 + 3 + 1 = 7</td>
</tr>
<tr>
<td>5 + 6 = 5 + 5 + 1 = 11</td>
</tr>
<tr>
<td>6 + 7 = 6 + 6 + 1 = 13</td>
</tr>
<tr>
<td>4 + 5 = 4 + 4 + 1 = 9</td>
</tr>
<tr>
<td>1 + 2 = 1 + 1 + 1 = 3</td>
</tr>
<tr>
<td>7 + 8 = 7 + 7 + 1 = 15</td>
</tr>
<tr>
<td>3 + 2 = 2 + 2 + 1 = 5</td>
</tr>
<tr>
<td>9 + 8 = 8 + 8 + 1 = 17</td>
</tr>
</tbody>
</table>

Go Further
Student page 44 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 44: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 44 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use the doubles plus 1 strategy to add two consecutive numbers?
**Rule Out Two**

**Week 9•Activity 45**

**Materials**  
Student page 45  
Blank paper

**Concept and Handbook Reference**  
Choose an appropriate unit of measure for the weight of an object. (MTL 218)

**Get Started**  
Help children review the different units of weight and the appropriate uses for each. Ask:

- Would you use ounces or tons to measure the weight of an airplane? (tons)
- Would you use pounds or tons to measure your weight? (pounds)
- Would you use ounces or tons to measure the weight of a cotton ball? (ounces)

Continue with similar types of questions.

**Student page 45** To introduce the activity, work through the first problem on student page 45. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (mile) is wrong because “a mile is not used to measure weight.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

**Today’s Challenge**  
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

**Student page 45** Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

**Answers for student page 45:** 1. B 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

**Go Further**  
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

**Assessment**  
**Student self-assessment page 45** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Can children choose the correct unit of measure for the weight of a specific object?
Materials
Student page 46

Concept and Handbook References
Recognize a difference of 2 for a pair of consecutive odd numbers. (MTL 36–37, 79)

Background
To be able to recognize a difference of 2 builds number sense, and sharpens mental computation skills.

Get Started
Write this sequence of numbers on the board: 7, 9, 11, 13, ___, ___, ___. Ask:
• What pattern do you see? (Answers will vary, but children should mention that they are odd numbers and that each number is 2 more than the one before it.)
• What three numbers come next? (15, 17, 19)
• How do you know? (The next number is 2 more than the one before it.)

Write another sequence of numbers on the board, for example: 35, 37, 39, ___, ___, ___. Ask the same questions as above. (41, 43, 45)

Today’s Challenge
Student page 46 Have children complete the activity on the student page.

Answers for student page 46: 1. 35, 37; 43, 41; 67, 69; 29, 31; 75, 77 2. 51 or 55 3. 65 or 69 4. 87 or 91 5. 47 or 51 6. 69 or 73 7. 93 or 97

Go Further
Student page 46 Have children complete the activity on the student page.

Answer for student page 46: 8. Answers will vary. Check children’s work.

Assessment
Student self-assessment page 46 Have the children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a difference of 2 for a pair of consecutive odd numbers?
Math Maze

Week 10 • Activity 47

Materials
Student page 47
Math Maze cards (Week 10 Activity 47)

Concept and Handbook Reference
Read clock time. (MTL 180–185)

Get Started
Help children recall that the clock is divided into four equal parts. Fold a paper plate in half, and then in half again. Show children the folded paper plate. Ask, “How many sections are there?” (4) Remind children that the word quarter means one of four parts. Ask, “How many quarters are there?” (4)

Play the “Minute Hand” game. Ask the following:
• If the time is half past, the minute hand is on the ___. (6)
• If the time is quarter past, the minute hand is on the ___. (3)
• Where is the minute hand when it is quarter to the hour? (9)
• It is now quarter to 5. Where is the minute hand? (9)
• It is now 2:15. Where is the minute hand? (3)

Today’s Challenge
Distribute the 18 Math Maze cards for Week 10. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze: Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 187.

Student page 47 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 47 in the student book.

Answers for student page 47: 1. 7:15  2. 3 o’clock
3. 12 noon  4. 12:45  5. 10 o’clock  6. 6 o’clock
7. half past 4  8. 45 minutes past 4 o’clock

Go Further
Student page 47 Have children complete this section on the student page.

Answers for student page 47: 9–10. Answers will vary. Check children’s drawings.

Assessment
Student self-assessment page 47 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to read time?
Materials
Student page 48
Blank paper (heavyweight if possible) or index cards
Crayons

Concept and Handbook Reference
Recognize \( \frac{1}{2} \), \( \frac{1}{3} \), and \( \frac{1}{4} \). (MTL 43–46)

Get Started
Explain that fractions are a part of everyday life.
Encourage children to share what they know about fractions. For example:

- \( \frac{1}{2} \) of the diamond shape is shaded
- \( \frac{1}{3} \) of the pizza has pepperoni
- \( \frac{1}{4} \) of the rectangle is shaded

Today’s Challenge
Student page 48 Have children look at page 48 in the student book. Explain that each picture shows part of a whole shaded in. Have children fill in the blanks with the fraction that represents the picture. They will use only \( \frac{1}{2} \), \( \frac{1}{3} \), or \( \frac{1}{4} \).

Answers for student page 48: 1. \( \frac{1}{2} \) 2. \( \frac{1}{4} \) 3. \( \frac{1}{3} \) 4. \( \frac{1}{2} \)
5. \( \frac{1}{3} \) 6. \( \frac{1}{2} \) 7. \( \frac{1}{2} \) 8. \( \frac{1}{3} \)
Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have children use one slip of paper or card to copy the information from each box on student page 48.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns.
Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same fraction), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end of the game wins.

Assessment
Student self-assessment page 48 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize \( \frac{1}{2} \), \( \frac{1}{3} \), and \( \frac{1}{4} \) of a whole?
Materials
Student page 49
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Add three addends with sums less than 18. (MTI 70–71)

Get Started
Begin by brainstorming addition equations with sums less than 18. For example, one child calls out “7 + 5 = 12.” Another child calls out a different sentence with the same sum using three addends, for example, “3 + 4 + 5 = 12.” Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 0–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to find as many addition sentences as possible for three addends with sums less than 18.

Fact equations can be made by adding any three adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Record the facts children make. Some of the possible facts are given below.

Sums less than 18
6 + 3 + 8 = 17
6 + 3 + 7 = 16
3 + 7 + 1 = 11
3 + 0 + 7 = 10
6 + 2 + 3 = 11
8 + 4 + 1 = 13

Student page 49 Have children use the Math Jumble on student page 49 to create addition sentences with three addends with sums less than 18.

Possible answers for student page 49:

Sums less than 18
2 + 4 + 6 = 12
5 + 1 + 6 = 12
4 + 6 + 6 = 16
4 + 3 + 3 = 10
5 + 3 + 7 = 15
3 + 3 + 4 = 10
3 + 7 + 2 = 12
6 + 7 + 4 = 17
3 + 4 + 5 = 12
7 + 4 + 2 = 13
6 + 4 = 2 = 12
6 + 2 + 5 = 13

Go Further
Student page 49 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 49: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 49 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add three addends with sums less than 18?
Materials
Student page 50
Blank paper

Concept and Handbook Reference
Identify solids by their attributes. (MTL 204–205)

Get Started
Review the concepts of rolling and sliding. Show children a tissue box and a roll of paper towels. Ask:
• Which item will roll? (paper towel roll)
• Which item will slide? (tissue box)

Continue to demonstrate with other everyday examples, such as an empty soda can, a textbook, and so on.

Student page 50 To introduce the activity, work through the first problem on student page 50. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (sugar cube) is wrong because “a cube can’t roll.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 50 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 50: 1. A 2. D

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 50 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify three-dimensional objects and geometric solids that will roll?
Materials
Student page 51

Concepts and Handbook References
Use <, >, and = symbols to make a list of true number sentences. (MTL 26–30)
Find patterns in a list of number sentences. (MTL 254)

Background
The symbols for less than (<), greater than (>, and equals (=) are used to indicate a relationship between two sides of a number sentence. For example:

\[ 3 + 4 < 8 \quad 3 + 5 = 8 \quad 3 + 6 > 8 \]

A number sentence is an equation if the equals symbol is used and one side of the number sentence has the same value as the other side. For example, \[ 3 + 5 = 8 \] or \[ 3 + 5 = 7 + 1 \].

Get Started
Review the meanings of the symbols <, >, and =.

less than < greater than > equals =

Then, write this list of number sentences on the board, and ask the children to fill in a <, >, or = symbol in the bubble to make each number sentence true.

\[
\begin{align*}
7 + 5 & \bigcirc 14 \quad (\text{<}) \\
7 + 6 & \bigcirc 14 \quad (\text{<}) \\
7 + 7 & \bigcirc 14 \quad (\text{=}) \\
7 + 8 & \bigcirc 14 \quad (\text{>)}) \\
7 + 9 & \bigcirc 14 \quad (\text{>)}) \\
\end{align*}
\]

Ask children about the pattern of addition facts they see in the list. (The sum is less than 14 for “7 plus a number less than 7.” Likewise, the sum is greater than 14 for “7 plus a number greater than 7.”)
Write another list of number sentences on the board if needed.

Today’s Challenge
Student page 51 Have children complete the activity on the student page.

Answers for student page 51:
1. \[ 10 + 3 \bigcirc 10 \]
   \[ 10 + 3 \bigcirc 11 \]
   \[ 10 + 3 \bigcirc 12 \]
   \[ 10 + 3 \bigcirc 13 \]
   \[ 10 + 3 \bigcirc 14 \]
2. \[ 9 + 5 \bigcirc 17 \]
   \[ 9 + 6 \bigcirc 17 \]
   \[ 9 + 7 \bigcirc 17 \]
   \[ 9 + 8 \bigcirc 17 \]
   \[ 9 + 9 \bigcirc 17 \]
3. \[ 8 + 4 \bigcirc 16 \]
   \[ 8 + 5 \bigcirc 16 \]
   \[ 8 + 6 \bigcirc 16 \]
   \[ 8 + 7 \bigcirc 16 \]
   \[ 8 + 8 \bigcirc 16 \]
4. \[ 9 + 4 \bigcirc 10 \]
   \[ 9 + 4 \bigcirc 11 \]
   \[ 9 + 4 \bigcirc 12 \]
   \[ 9 + 4 \bigcirc 13 \]
   \[ 9 + 4 \bigcirc 14 \]
5. \[ 7 + 10 \bigcirc 16 \]
   \[ 7 + 9 \bigcirc 16 \]
   \[ 7 + 8 \bigcirc 16 \]
   \[ 7 + 7 \bigcirc 16 \]
   \[ 7 + 6 \bigcirc 16 \]
6. \[ 9 + 4 \bigcirc 10 + 3 \]
   \[ 9 + 5 \bigcirc 10 + 4 \]
   \[ 9 + 6 \bigcirc 10 + 5 \]
   \[ 9 + 7 \bigcirc 10 + 6 \]
   \[ 9 + 8 \bigcirc 10 + 7 \]

Go Further
Student page 51 Have children complete the activity on the student page.

Answers for student page 51: 7–8. Answers will vary. Check children’s work.

Assessment
Student self-assessment page 51 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use <, >, and = symbols to make a list of true number sentences and then find a pattern in the list?
Materials
Student page 52
Math Maze cards (Week 11 Activity 52)

Concept and Handbook Reference
 Identify geometric shapes in real world objects. (MTI 196)

Background
It is important for children to recognize a shape and be able to name it. To do so, children need to develop spatial sense by studying real-world objects.

Get Started
Look around the room for familiar shapes and figures. Ask children to name the geometric figure. For example:

- What shape is the lunch table top? (rectangle)
- What shape is the stool top? (round or circle)
- What shape is the pane of glass in the window? (square or rectangle)
- What shape is the can of soda? (cylinder)

Help children recognize that solids have 3 dimensions, while flat shapes have only 2 dimensions.

Today's Challenge
Distribute the 18 Math Maze cards for Week 11. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze
Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, "Who has the card with the answer to the question just read?" Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 188.

Student page 52 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 52 in the student book.


Go Further
Student page 52 Have children complete this section on the student page.


Assessment
Student self-assessment page 52 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to identify geometric shapes in real-world objects?
Materials
Student page 53
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Use nonstandard units to find the area of a figure. (MTL 216–217)

Get Started
Remind children that the area of a figure is the amount needed to cover a figure. As an example, draw a four-sided figure.

If it takes 4 crayon boxes to cover the figure, then the area of the figure is 4 crayon boxes.

If it takes 16 squares to cover the figure, then the area of the figure is 16 squares.

If it takes 32 triangles to cover the figure, then the area of the figure is 32 triangles.

Answers for student page 53: 1. 9 squares 2. 10 triangles 3. 10 rectangles 4. 4 trapezoids 5. 18 triangles 6. 9 squares 7. 8 trapezoids 8. 6 rectangles

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 53.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show a figure and its area), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end of the game wins.

Assessment
Student self-assessment page 53 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use nonstandard units to find the area of a figure?
Materials
Student page 54
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Use mental math for addition facts greater than 10.
(MTL 58–67)

Get Started
Explain to children that a “Fast Ten” can be made by regrouping numbers to get a sum of 10.

\[
\begin{array}{c}
\text{Think: } \\
8 = 4 + 4 \\
8 + 6 = 14
\end{array}
\]

Then brainstorm addition facts with sums greater than 10 using 7, 8, or 9 as one of two addends. One child calls out two addends, for example, “7 + 6.” Another child regroups the addends using the “Fast Ten” and calls out, “3 + 4 + 6.” A third child calls out the addition sentence, “3 + 10 = 13.” Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 4–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize as many addition facts as possible with sums greater than 10 using 7, 8, or 9 as one of two addends. Encourage children to use the “Fast Tens” strategy to find the sums.

Fact equations can be made by adding any two adjoining numbers (top to bottom or left to right) from the poster. Numbers on the poster can be used more than once. Children must use 7, 8, or 9 as one of the two addends. Record the facts children make. Possible facts are given below.

<table>
<thead>
<tr>
<th>Sums greater than 10 with 7</th>
<th>Sums greater than 10 with 8</th>
<th>Sums greater than 10 with 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>as an addend</td>
<td>as an addend</td>
<td>as an addend</td>
</tr>
<tr>
<td>6 + 7 = 13</td>
<td>9 + 8 = 17</td>
<td>9 + 8 = 17</td>
</tr>
<tr>
<td>7 + 5 = 12</td>
<td>8 + 8 = 16</td>
<td>9 + 4 = 13</td>
</tr>
<tr>
<td>6 + 7 = 13</td>
<td>8 + 6 = 14</td>
<td>9 + 8 = 17</td>
</tr>
<tr>
<td>7 + 4 = 12</td>
<td>8 + 5 = 13</td>
<td>6 + 9 = 15</td>
</tr>
<tr>
<td>4 + 8 = 12</td>
<td>5 + 5 = 14</td>
<td>9 + 5 = 14</td>
</tr>
<tr>
<td></td>
<td>5 + 9 = 14</td>
<td>5 + 9 = 14</td>
</tr>
</tbody>
</table>

Student page 54 Have children use the Math Jumble on student page 54 to recognize facts with sums greater than 10 with 7, 8, or 9 as one of two addends. Encourage children to use the “Fast Tens” strategy.

Answers for student page 54:

<table>
<thead>
<tr>
<th>Sums greater than 10 with 7</th>
<th>Sums greater than 10 with 8</th>
<th>Sums greater than 10 with 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>as an addend</td>
<td>as an addend</td>
<td>as an addend</td>
</tr>
<tr>
<td>6 + 7 = 13</td>
<td>9 + 8 = 17</td>
<td>9 + 8 = 17</td>
</tr>
<tr>
<td>7 + 5 = 12</td>
<td>8 + 8 = 16</td>
<td>9 + 4 = 13</td>
</tr>
<tr>
<td>6 + 7 = 13</td>
<td>8 + 6 = 14</td>
<td>9 + 8 = 17</td>
</tr>
<tr>
<td>7 + 4 = 12</td>
<td>8 + 5 = 13</td>
<td>6 + 9 = 15</td>
</tr>
<tr>
<td>4 + 8 = 12</td>
<td>5 + 5 = 14</td>
<td>9 + 5 = 14</td>
</tr>
<tr>
<td>5 + 9 = 14</td>
<td>5 + 9 = 14</td>
<td>5 + 9 = 14</td>
</tr>
</tbody>
</table>

Go Further
Student page 54 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 54: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 54 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use mental math for addition facts greater than 10?
Materials
Student page 55
Blank paper

Concept and Handbook Reference
Identify an addition sentence to solve a word problem. (MTL 54–55)

Get Started
Help children review the concept of addition. Ask:
• When you add does the answer get bigger or smaller? (bigger)
• What is the symbol for addition? (+)
• How do you read: $5 + 2 = ?$ (5 plus 2 equals 7)

Student page 55 To introduce the activity, work through the first problem on student page 55. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (44) is wrong because “you should add to find the answer.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 55 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 55: 1. A 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 55 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify an addition expression to solve a word problem?
Materials
Student page 56
Orange, green, and yellow markers or crayons

Concept and Handbook Reference
Work with number patterns on a calendar. (MTL 254)

Background
A calendar can be used as more than a display of days of the month. By using a coloring scheme based on a repeated pattern unit, many number patterns can be revealed. Children are challenged to search for connections between the color and the number patterns that appear.

Get Started
Draw the current calendar month on the board or use an outdated large calendar page. Direct children to look at each column on the calendar. Find the column of days that begins with 7. Ask:
- What is the first number? (7)
- Name the numbers as you look down this column. (14, 21, 28)
- What number pattern do you see for this column? (The numbers increase by adding 7 each time.)

Look at other columns of numbers and ask about the patterns children see.

Next, show a color pattern on the calendar by coloring or circling every second number yellow. (2, 4, 6, . . .) Ask:
- Read out loud the numbers that are circled in yellow. What pattern do you see? (Answers will vary, but children should notice that they are all even numbers and that they are the numbers we say when skip counting by twos.)
- Read out loud the numbers that are not circled in yellow. What pattern do you see? (Answers will vary, but children should notice that they are all odd numbers and that the difference between each number is two.)

Today's Challenge
Student page 56 Have children complete the activity on the student page.

Answers for student page 56:
1. The calendar should be colored as follows:

<table>
<thead>
<tr>
<th>Color Pattern</th>
<th>Numbers on the Calendar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>1 4 7 10 13 16 19 22 25 28</td>
</tr>
<tr>
<td>Green</td>
<td>2 5 8 11 14 17 20 23 26 29</td>
</tr>
<tr>
<td>Yellow</td>
<td>3 6 9 12 15 18 21 24 27 30</td>
</tr>
</tbody>
</table>

2. 3, 6, 9, 12, 15, 18, 21, 24, 27, 30; Answers will vary; for example, counting by threes.

Go Further
Student page 56 Have children complete the activity on the student page.

Answers for student page 56: 3. 1, 4, 7, 10, 13, 16, 19, 22, 25, 28; Each number increases by adding 3.

Assessment
Student self-assessment page 56 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children work with number patterns on a calendar?
Materials
Student page 57
Math Maze cards (Week 12 Activity 57)

Concept and Handbook Reference
Review the meaning of half a quantity. (MTL 48–49)

Get Started
When a quantity is divided into halves, it is separated into two equal groups. So, half of 8 juice boxes is 4 juice boxes because there would be 4 juice boxes in each group. Discuss with children whether it is possible to have “a bigger half” or “a smaller half.” (no)

Use everyday objects to demonstrate a half. Be sure to use objects that are the same size or shape. Ask children to name half the quantity.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 12. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 189.

Student page 57 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 57 in the student book.


Go Further
Student page 57 Have children complete this section on the student page.

Answers for student page 57: Answers will vary. Possible looping might show:

11. 

12. 

13. 

14. 

Assessment
Student self-assessment page 57 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand the meaning of half of a quantity?
Materials
Student page 58
Blank paper
Analog clock

Concept and Handbook Reference
Tell time to the quarter hour. (MTL 185)

Get Started
Help children review how to read a clock. Explain that to express 15 minutes past the hour we can also say “a quarter past . . .” This is because 15 minutes is equal to one quarter of 60 minutes. Skip count by fives up to 60.

Today’s Challenge
Explain that today the class will be playing a game called “Fantastic Finalist.” Give each child a piece of paper with different times drawn on clock faces, for example: 2:00, 3:00, 4:00, 5:00, 12:00, 1:15, 6:15, 7:15, 8:15, 9:15. You do not need to use up all the cards, but be sure one child receives 1:15, since that time will be the “Fantastic Finalist.”

Read each of the following challenges, one at a time.
• If your time is on an even number hour with “:00” minutes, sit down. (2:00, 4:00, 12:00)
• If your time is on an odd number hour with “:00” minutes, sit down. (3:00, 5:00)
• If your time is fifteen minutes past an even number hour, sit down. (6:15, 8:15)
• If your time is not quarter past one, sit down. (all times but 1:15)

At this point, only the child holding 1:15 should still be standing. That child is the “Fantastic Finalist.”

Go Further
Student page 58 Have children complete the activity on the student page.

Answers for student page 58: 1. 9:00 2. twelve noon (or noon) and twelve midnight (or midnight)

Assessment
Student self-assessment page 58 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to tell time to the quarter hour?
Materials
Student page 59
Math Jumble activity poster and coin cards

Concept and Handbook Reference
Add pennies, nickels, and dimes. (MTL 166–167)

Get Started
Sit in a circle. Have children practice skip counting by tens. Start the count with any number, for example 4. (4, 14, 24, 34, ...) Direct one child to start and the others follow along until you reach the end of the circle. Then practice skip counting by fives. Start the count with any number, for example 2. (2, 7, 12, 17, ...) Go around the circle until all children have had a chance to participate.

Today's Challenge
Using the coin cards, construct the 4 by 4 poster shown. Explain that the object of today's Math Jumble is to find the amount for a string of different coins.

Strings of coins are made by joining coins in squares that share a common side. For example, point to the coins in the first row and the last coin in the second row. Then, pointing to the coins one at a time, find the total number of cents as you move from left to right and down. (5¢, 10¢, 11¢, 21¢, 31¢) The total is 31 cents.

Next, ask children to find a string of coins that totals 27 cents. (Possible string: all coins in the fourth column plus the last nickel in the third column.) Ask a child to name an amount and have other children try to find a string of coins that totals that amount. Repeat several times.

Student page 59 Have children complete the Today's Challenge activity on student page 59.

Answers for student page 59: Answers will vary. Check children's work.

Go Further
Student page 59 Have children complete the activity in this section of the student page.

Answer for student page 59: 6. 81¢; Answers will vary, but may include skip counting by fives and tens; or putting all pennies together, all nickels together, and all dimes together.

Assessment
Student self-assessment page 59 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add pennies, nickels, and dimes?
Materials
Student page 60
Blank paper

Concept and Handbook References
Identify numbers written in expanded form.
(MTL 12–15, 20–21)

Get Started
Review with children the place value names for 2-digit numbers. For example:

4 tens or 40
9 ones or 9
6 tens or 60
7 ones or 7
49
67

Student page 60 To introduce the activity, work through the first problem on student page 60. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (20 + 19) is wrong because “20 + 19 = 39.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 60 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 60: 1. A  2. A

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 60 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify numbers written in expanded form?
Materials
Student page 61

Concept and Handbook References
Find the sum of two even numbers.
(MTL 36–37, 124–129)

Background
To be able to recognize that adding two even numbers will result in an even-number sum can help children quickly check their work after performing the computation.

Even Number
+ Even Number
Even Number

Get Started
Write five addition problems on the board like those listed. Ask children to find each sum.

Next, have the children look carefully at each sentence. Ask:

- How is each addend the same? (Each addend is an even number.)
- How is each sum the same? (Each sum is an even number.)
- What conclusion can be made about adding any two even numbers? (The sum of any two even numbers is an even number.)

Find each sum.
4 + 6 = ___ (10)
6 + 6 = ___ (12)
10 + 8 = ___ (18)
20 + 4 = ___ (24)
12 + 14 = ___ (26)
20 + 30 = ___ (50)
20 + 16 = ___ (36)
42 + 32 = ___ (74)
And so on...

Today's Challenge
Student page 61 Have children complete the activity on the student page.

Answers for student page 61: 1. 2, 4, 6, 8, and 10 are incorrect. 2–6. Children might select the problems in any order. 2. 14 + 8 = 22 3. 32 + 16 = 48 4. 52 + 14 = 66 5. 72 + 14 = 86 6. 54 + 38 = 92

Go Further
Student page 61 Have children complete the activity on the student page.

Answer for student page 61: 7. 20
+ 14
____ 34

Assessment
Student self-assessment page 61 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that the sum of two even numbers is an even number?
Materials
Student page 62
Math Maze cards (Week 13 Activity 62)

Concept and Handbook Reference
Solve word problems with customary units of measure. (MTL 231)

Get Started
Review the following names for customary units of measure.

<table>
<thead>
<tr>
<th>Length</th>
<th>Weight</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch</td>
<td>Ounce</td>
<td>Cup</td>
</tr>
<tr>
<td>Foot</td>
<td>Pound</td>
<td>Pint</td>
</tr>
<tr>
<td>Yard</td>
<td>Ton</td>
<td>Quart</td>
</tr>
<tr>
<td>Mile</td>
<td></td>
<td>Gallon</td>
</tr>
<tr>
<td>Time</td>
<td>Money</td>
<td>Temperature</td>
</tr>
<tr>
<td>Second</td>
<td>Cent</td>
<td>Degree</td>
</tr>
<tr>
<td>Minute</td>
<td>Dollar</td>
<td></td>
</tr>
<tr>
<td>Hour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ask children to select the unit of measure that is better to describe:

- The distance from home to school mile ton (mile)
- The weight of a school bus cup ton (ton)
- The cost of a ticket dollar cup (dollar)
- The length of a room mile foot (foot)
- The capacity of a jug of apple cider gallon yard (gallon)
- The time of day hour pound (hour)

Use everyday objects to demonstrate a simple word problem. For example:

- I have 15 juice boxes. Eight children come in for snack. Each child drinks one juice box. How many are left? (7 juice boxes)
- Seven chairs are stacked against the wall. Three more are added. How many chairs are in the stack? (10 chairs)
- Emma puts 9 pencils in the box. Josh puts 2 more in. How many pencils are in the box? (11 pencils)

Today's Challenge
Distribute the 18 Math Maze cards for Week 13. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, "Who has the card with the answer to the question just read?" Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 190.

Student page 62 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 62 in the student book.

Answers for student page 62: 1. 55 degrees
2. 20 minutes 3. 4 pennies 4. 4 tons 5. $15
6. 14 pounds 7. 45 minutes

Go Further
Student page 62 Have children complete this section on the student page.


Assessment
Student self-assessment page 62 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to solve simple word problems?
Materials
Student page 63
Blank paper

Concept and Handbook Reference
Review attributes of cylinders and cones. (MTL 204–205)

Get Started
Draw a cylinder and a cone on the board. Write their names below them.

[cylinder and cone images]

Ask:
• What is similar between a cylinder and a cone? (Both have round bases.)
• What is different between a cylinder and a cone? (cylinder has 2 rounded bases, cone has 1 round base; cone has one pointed end)

Leave the drawings on the board. Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper and draw a cylinder or a cone. Then ask children to number their papers from 1 to 4.

As you ask each of four questions, have children look at their solid and answer the question. Yes answers will score points. Here are the questions to ask:
1. Can you stack your solid? If yes, score 2 points.
2. Does your solid have a pointed end? If yes, score 3 points.
3. Can your solid slide? If yes, score 4 points.
4. Does your solid have one round base? If yes, score 5 points.

Top scorer(s) will have a cone.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today's Challenge
Student page 63 Have children answer the questions in the Today’s Challenge section of page 63 in their books.


Go Further
Student page 63 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 63: 3. cone 4. Children's own riddles will vary.

Assessment
Student self-assessment page 63 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of cones and cylinders?
Materials
Student page 64
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Review subtraction facts. (MTL 76–79)

Get Started
Begin by brainstorming subtraction facts. Place the 1–9 digit cards faceup in a pile. Direct each child to draw a pair of cards. Then, ask children to state a subtraction fact using the cards. For example, if a child draws a 5 and an 8 he or she would state the larger number first and then say, “8 – 5 = 3.” Record the subtraction facts. Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 1–9 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to find subtraction facts.

Possible subtraction facts are given below.

Subtraction facts
7 – 3 = 4
8 – 6 = 2
5 – 2 = 3
6 – 2 = 4
7 – 1 = 6
8 – 3 = 5
9 – 4 = 5
5 – 3 = 2

Student page 64 Have children use the Math Jumble on student page 64 to find subtraction facts.

Answers for student page 64:

Subtraction facts
8 – 3 = 5
9 – 3 = 6
5 – 2 = 3
5 – 3 = 2
8 – 1 = 7
7 – 6 = 1
5 – 4 = 1
6 – 2 = 4
6 – 1 = 5
7 – 4 = 3

Go Further
Student page 64 Have children use the same Math Jumble to find addition facts.

Answers for student page 64:

Addition facts
5 + 3 = 8
6 + 3 = 9
3 + 2 = 5
7 + 1 = 8
1 + 6 = 7
1 + 4 = 5
4 + 2 = 6
1 + 5 = 6
3 + 4 = 7

Assessment
Student self-assessment page 64 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children work with subtraction facts?
Materials
Student page 65
Blank paper

Concept and Handbook Reference
Subtract multiples of ten. (MTL 120)

Get Started
Help children get ready for this activity by skip counting backward. Start with 50, and skip count backward by 10. Repeat with other multiples of 10.

Student page 65 To introduce the activity, work through the first problem on student page 65. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (90 points) is wrong because “the score for this week is 90 points.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 65 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 65 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children subtract multiples of ten?
Materials
Student page 66

Concept and Handbook Reference
Recognize and extend a pattern of geometric shapes. (MTL 276)

Get Started
Draw three geometric shapes on the board, such as a triangle, a square, and a circle. Ask children to name each shape. Then draw a repeating pattern using the three shapes. Ask:
• What pattern do you see? (square, triangle, circle)
• What are the next three shapes in this pattern? (□ △ ○)
Continue with another pattern, such as, ○ □ △ ○ □ △. Ask children to describe the pattern and then extend it. (○ □ △)

Today's Challenge
Student page 66 Have children complete the activity on the student page.

Answers for student page 66: 1. ○ □ △
2. △ ○ ○
3. □ ○ □

Go Further
Student page 66 Have children complete the activity on the student page.

Answers for student page 66: 4. Answers will vary. Pattern must repeat and should use three different shapes. 5. Answers will vary. Check children’s answers.

Assessment
Student self-assessment page 66 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a pattern of geometric shapes and then extend it?
Materials
Student page 67
Math Maze cards (Week 14 Activity 67)

Concept and Handbook Reference
Use mental math to add ten to a 2-digit number. (MTL 116)

Get Started
Since mental math is done without paper and pencil or manipulatives, remind children that when adding ten to any number, only the digit in the tens place will change.

Today's Challenge
Distribute the 18 Math Maze cards for Week 14. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 191.

Student page 67 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 67 in the student book.


Go Further
Student page 67 Have children complete this section on the student page.

Answers for student page 67: 11. 27 12. 38

Assessment
Student self-assessment page 67 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to use mental math to add ten to any 2-digit number?
Materials
Student page 68
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Find the perimeter of a figure. (*MTL 214–215*)

Background
The distance around a figure is called the perimeter. Add the lengths of the sides to find the perimeter of any shape.

Get Started
Help children review the meaning of the distance around a shape. Use a familiar object to demonstrate, for example, a textbook, a window pane, or a floor tile.

Today's Challenge
Student page 68 Have children look at page 68 in the student book. Have children fill in the blanks with the perimeter for each figure.

Answers for student page 68: 1. 6 inches 2. 12 feet 3. 8 yards 4. 12 miles 5. 8 inches 6. 30 feet 7. 10 feet 8. 20 yards

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 68.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show a figure and its perimeter), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 68 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find the perimeter of a figure?
Materials
Student page 69
Math Jumble activity poster and digit cards

Concept and Handbook References
Use three numbers to perform two subtractions in a row. (MTL 72, 76)

Get Started
Practice subtracting two numbers successively. Have one child call out a starting number between 10 and 20, for example 15. Have a second child call out another number less than the first, for example 8, and state the subtraction fact: “15 − 8 = 7.” A third child then names a number less than the difference of the first two, and states the complete double subtraction equation; for example: “15 − 8 − 3 = 4.” Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 0–20 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to find three numbers to perform two subtractions in a row.

Equations can be made by joining three numbers (top to bottom or left to right) on the poster. Numbers on the poster can be used more than once. Record the equations children make. Possible subtraction sentences are given below.

Subtraction sentences
19 − 14 − 5 = 0
14 − 5 − 0 = 9
6 − 5 − 1 = 0
5 − 1 − 2 = 2
17 − 10 − 6 = 1

Student page 69 Have children use the Math Jumble on student page 69 to find three numbers to subtract twice in a row.

Answers for student page 69:
Subtraction sentences
20 − 11 − 5 = 4
11 − 5 − 3 = 3
17 − 8 − 1 = 8
13 − 3 − 9 = 1
20 − 6 − 10 = 4
3 − 2 − 1 = 0
2 − 1 − 0 = 1

Go Further
Student page 69 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 69: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 69 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use three numbers to perform two subtractions in a row?
Materials
Student page 70
Blank paper

Concept and Handbook Reference
Use information from a table to solve a problem.  
(MTL 235)

Get Started
Review with children how to read a table.

Row: read from left to right

Column: read from top to bottom

Student page 70 To introduce the activity, work through the first problem on student page 70. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (48) is wrong because “48 inches is equal to four feet.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 70 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 70: 1. D  2. B

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 70 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use information from a table to solve a problem?
**Materials**
Student page 71
Crayon or marker

**Concept and Handbook References**
Recognize a difference of three for number pairs that are multiples of three. (*MTL* 76–77, 81)

**Background**
To be able to recognize a difference of 3 builds number sense and sharpens mental computation skills.

**Get Started**
Practice skip counting by threes. Count as far as 30, then 60, and eventually up to 99.

Now play the game “Beep!” Explain that in this game we will be looking for the numbers that come up when we skip count by threes.

Have children sit in a circle. One child starts the game by saying “one.” The next child says “two,” and so on. Each time a number is said, that child must decide whether to say “Beep!” afterwards.

Play the game several more times, each time starting with a different multiple of three, such as 15, 30, or 45.

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**Today’s Challenge**
**Student page 71** Have children complete the activity on the student page.

**Answers for student page 71:**
1. 18, 21; 36, 39; 48, 51; 57, 60; 66, 69; 75, 78; 90, 93
2. 15 or 21
3. 42 or 48
4. 48 or 54
5. 54 or 60
6. 30 or 42
7. 48 or 54

**Go Further**
**Student page 71** Have children complete the activity on the student page.

**Answer for student page 71:** 8. No. For two numbers to have a difference of three, the ones place must have a difference of three, not the tens place. Some children may say that this is a difference of 3 tens, or 30.

**Assessment**
**Student self-assessment page 71** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Can children recognize a difference of three for number pairs that are multiples of three?

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**Beep!**
Counting by threes:
1 - -
2 - -
3 Beep!
4 - -
5 - -
6 Beep!
7 - -
8 - -
9 Beep!
10 - -
And so on...
Materials
Student page 72
Math Maze cards (Week 15 Activity 72)

Concept and Handbook References
Use counting on to add. (MTL 60–61, 84–85)

Get Started
Play "Count ON and ON." Gather children in a circle. Call out any two-digit number, and then point to each child to count on the next number by ones. Continue until each child has a chance to participate. Repeat with other two-digit numbers.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 15. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 191.

Student page 72 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 72 in the student book.


Go Further
Student page 72 Have children complete this section on the student page.

Answers for student page 72: 11. 27 + 4 = 31 12. 15 + 7 = 22 13. 48 + 3 = 51

Assessment
Student self-assessment page 72 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to add by counting on?
Materials
Student page 73
Blank paper (heavyweight if possible) or index cards

Concept and Handbook References
Use repeated addition to find sums.
(MTL 70–71, 96–97)

Get Started
Encourage children to skip count by twos, fives, and tens.

Today's Challenge
Student page 73 Have children look at page 73 in the student book. Explain that that the first column shows repeated addition equations. The second column shows a sum. The third and fourth columns show the same. Have children fill in the forms that are missing.

Answers for student page 73: 1. 20  2. 24  3. 6
4. 18  5. 21  6. 32  7. 7 + 7
8. 5 + 5 + 5 + 5 + 5

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game "Concentration." Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 73.

Instructions for playing "Concentration": Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same number), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards wins.

Assessment
Student self-assessment page 73 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use repeated addition to find sums?
Materials
Student page 74
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Add three addends with sums between 10 and 20. (MTL 70–71)

Get Started
Begin by naming all addition facts that have a sum of 10. One child calls out any number less than 10. Another child calls out the missing addend needed to make a 10. Then, together they add the two numbers and give the addition sentence. For example, one child calls out “6,” the second child calls out “4,” and together they say, “6 + 4 = 10.”

Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 1–9 digit cards, construct the 4 by 4 grid shown. Explain that the object of today’s Math Jumble is to first find two numbers whose sum equals 10. Then add a third number.

6, could be added to make 16. Numbers on the poster can be used more than once. Possible addition sentences are given below.

Addition sentences
9 + 1 + 6 = 16
8 + 2 + 7 = 17
8 + 2 + 6 = 16
7 + 3 + 8 = 18
4 + 6 + 1 = 11
5 + 5 + 4 = 14
5 + 5 + 2 = 12

Student page 74 Have children use the Math Jumble on student page 74 to find more addition sentence strings.

Possible answers for student page 74:

Addition sentences
8 + 2 + 4 = 14
4 + 6 + 2 = 12
4 + 6 + 5 = 15
9 + 1 + 7 = 17
3 + 7 + 4 = 14
5 + 5 + 3 = 13
5 + 5 + 8 = 18
5 + 5 + 6 = 16
5 + 5 + 1 = 11
1 + 9 + 5 = 15

Go Further
Student page 74 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 74: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 74 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add three addends whose sum is less than 20?

Joining any three numbers that share common sides can make an addition sentence string. For example, the 9 and the 1 in the top right row could be added together to equal 10, and the third addend,
Materials
Student page 75
Blank paper

Concept and Handbook Reference
Identify congruent figures. (MTL 200)

Get Started
Review with children the idea of sameness. Use every day objects to help children identify items that are exactly the same. For example, show two identical textbooks. Ask,
• What do you notice about the length of these books? (same length)
• What do you notice about the color of these books? (same color)
• What do you notice about the thickness of these books? (same thickness)

Continue with similar questions that focus on the identical properties of different items.

Student page 75 To introduce the activity, work through the first problem on student page 75. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (B and C) is wrong because “C has 2 arrowheads.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 75 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 75: 1. A 2. B

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 75 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify congruent figures?
Materials
Student page 76
Yellow and another color crayon or marker

Concept and Handbook References
Recognize a difference of two for a pair of consecutive even numbers. (MTL 36-37, 79)

Background
To be able to recognize a difference of two builds number sense, and sharpens mental computation skills.

Get Started
Write this sequence of numbers on the board: 46, 48, 50, ____ ____ ___. Ask:
- What three numbers come next? (52, 54, 56)
- How do you know? (The next number is two more than the previous number.)

Write another sequence of numbers on the board, for example: 76, 74, 72, ____ ____ ___. Ask the same questions as above. (70, 68, 66)

Now, write these pairs of numbers on the board: 34, 36 65, 68 42, 44 69, 72 54, 52 30, 50
Ask children to circle each pair of numbers that has a difference of 2. (34, 36; 42, 44; 54, 52) Then, ask children how they knew which pairs of numbers to circle.

Today's Challenge
Student page 76 Have children complete the activity on the student page.

Answers for student page 76: 1. The following pairs of numbers should be colored yellow: 38, 40; 78, 76; 98, 100. 2. 3 3. The following pairs of numbers should be colored in another color: 60, 80; 30, 50; 54, 34; 80, 84. 4. 4

Go Further
Student page 76 Have children complete the activity on the student page.

Answer for student page 76: 5. Children should circle the numbers in bold.

START 76→ 78↓ 58 68 48 78 94 99
73 80→ 82→ 84↓ 88 74 98→ 100 END
53 84 72 86↓ 92→ 94→ 96↑ 97
33 87 76 88→ 90↑ 91 93 95

Assessment
Student self-assessment page 76 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize a difference of two for a pair of consecutive even numbers?
Math Maze

Materials
Student page 77
Math Maze cards (Week 16 Activity 77)

Concept and Handbook Reference
Recognize coins and compute sums of money.
(MTL 166–171)

Get Started
Use play money or real coins to review the names and cent values for pennies, nickels, dimes, and quarters.

Practice finding the sum of simple combinations of coins. Ask children:
• What is the value of a penny and a dime? (11 cents)
• What is the value of 2 dimes? (20 cents)
• What is the value of a quarter and a nickel? (30 cents)

Today’s Challenge
Distribute the 18 Math Maze cards for Week 16.
Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze: Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 192.

Student page 77 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 77 in the student book.


Go Further
Student page 77 Have children complete this section on the student page.

Answer for student page 77: 11. penny, nickel, dime, quarter, dollar bill

Assessment
Student self-assessment page 77 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip: Do children understand how to find the sum of different coin combinations?
Materials
Student page 78
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Name plane figures. (MTL 196)

Get Started
Help children recall that a plane figure is a flat shape. Review names of plane figures.

rectangle  square  circle
triangle  rhombus  trapezoid

Today's Challenge
Student page 78 Have children look at page 78 in the student book. Explain that the first and third columns are pictures of plane figures. The second and fourth columns are the names of the plane figures. Ask students to fill in the blanks with the name of the figure or a drawing of the figure.

Answers for student page 78: 1. rectangle  2. triangle  3. circle  4. trapezoid  5.  6.  7.  8.

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game "Concentration." Each pair of children will need 16 small pieces of paper or 16 index cards. Have children use one slip of paper or card to copy the information from each box on student page 78.

Instructions for playing "Concentration": Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same figure), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards wins.

Assessment
Student self-assessment page 78 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the names of plane figures?
Materials
Student page 79
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts with sums of 12. (MTL 58–69)

Get Started
Begin by brainstorming addition facts for sums that equal 12. One child calls out an addend from 0 to 10. Another child calls out a second addend from 0 to 10. Then, a third child gives the addition fact. For example, one child calls out “8,” the second child calls out “4,” and the third child says, “8 + 4 = 12.” If the sum is not 12, the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–12 digit cards, randomly position the cards on the 4 by 4 grid. Separate children into groups. Explain that the object is to find as many sets of numbers whose sum is equal to 12 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 79 Remove the 0–12 digit cards, then randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers to the grid in their books. Children have 5 minutes to find as many numbers whose sum is 12 as possible. Children can use two or more addends. After 5 minutes, have children compare their sums.

Answers for student page 79: Answers will vary. Check children’s work.

Go Further
Student page 79 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 79: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 79 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 12?
Today's Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today's activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 80 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 80: 1. B 2. D

When all children's papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 80 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify a fractional part of a set?
Materials
Student page 81
Student book inside back cover (hundred chart)

Concepts and Handbook References
Skip count by tens from 100 to 1000.
(MTL 97, 166)
Identify a multiple of 10 between 100 and 1000.
(MTL 10–11)

Background
Skip counting by tens in the hundreds place is the same as skip counting by tens for numbers less than 100. The only difference is that the hundreds name must be said before each multiple of 10. For example, skip counting in the 700s, children would say, “700, 710, 720, 730, . . . , 790.”

Get Started
Ask children to skip count by tens to 100. If they have difficulty, allow them to look at the hundreds chart on the inside of the back cover of their books.
Write the tens column from the hundred chart on the board. Ask:
• How will the list change when the numbers are between 100 and 200? (The list will have three-digit numbers with a 1 in the hundreds place.)
• How will the list change when the numbers are between 200 and 300? (They will be three-digit numbers with a 2 in the hundreds place.)
• What do all the numbers have in common so far? (There is a zero in the ones place.)
Write these numbers on the board.
340  508  800

Ask:
• If you skip count by tens, would 340 be included in your count? Why? (Yes; 340 has a 0 in the ones place.)
• Would 508 be included? Why? (No; 508 does not have a 0 in the ones place.)
• Would 800 be included? Why? (Yes; 800 has a 0 in the ones place.)

Today’s Challenge
Student page 81 Have children complete the activity on the student page.

Answers for student page 81:
1. 300  2. 600  3. 800  4. 500
   310  610  810  510
   320  620  820  520
   330  630  830  530
   340  640  840  540
   350  650  850  550
   360  660  860  560
   370  670  870  570
   380  680  880  580
   390  690  890  590

Go Further
Student page 81 Have children complete the activity on the student page.

Answer for student page 81: 5. 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450; the picture is a crocodile.

Assessment
Student self-assessment page 81 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tips Can children skip count by tens between 100 and 1000? Can children identify a multiple of 10 between 100 and 1000?
**Materials**
Student page 82
Math Maze cards (Week 17 Activity 82)

**Concept and Handbook Reference**
Add a half-hour on a clock. (*MTL* 187–189)

**Get Started**
Review skip counting by 5s and 10s on a clock face. Use folded paper plates to help children visualize two halves. Remind children that half of a clock face equals 30 minutes. Ask, “What is another name for 30 minutes?” (half an hour)

**Today’s Challenge**
Distribute the 18 Math Maze cards for Week 17. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

**Instructions for playing Math Maze** Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card. The correct sequence of questions and answers is shown on page 193.

**Student page 82** When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 82 in the student book.


**Go Further**
**Student page 82** Have children complete this section on the student page.

**Answers for student page 82:** 9. 9:30  10. 12:30

**Assessment**
**Student self-assessment page 82** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Do children understand how to add a half-hour on a clock?
Materials
Student page 83
Blank paper

Concept and Handbook Reference
Review customary units of capacity.
(MTL 222–223)

Get Started
Use everyday containers to help children become more familiar with units of capacity.
Display the following:

Draw and label containers on the board, as above. Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child take a blank sheet of paper. Ask children to draw and label or copy from the board a container of their choice. Then ask children to number their papers from 1 to 5.

As you ask each of five questions, have children look at the drawing of their container and answer the question. Yes answers will score points. Here are the questions to ask:

1. Does your container hold enough to fill a swimming pool? If yes, score 8 points.
2. Does your container hold enough to fill a cup and have some left over? If yes, score 2 points.
3. Does your container hold about the same as a juice box? If yes, score 2 points.
4. Does your container hold less than a gallon? If yes, score 3 points.
5. Does your container hold exactly four quarts? If yes, score 4 points.

Have children find their total scores. Ask a volunteer to share his or her drawing and explain his or her score.

Today’s Challenge
Student page 83 Have children answer the questions in the Today’s Challenge section of page 83 in their books.


Go Further
Student page 83 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 83: 3. quart 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 83 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children work with customary units of capacity?
Materials
Student page 84
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 13.
(MTL 58–69)

Get Started
Begin by brainstorming addition facts for sums that equal 13. One child calls out an addend from 0 to 10. Another child calls out a second addend from 0 to 10. Then a third child gives the addition fact. For example, one child calls out “8,” the second child calls out “5,” and the third child says, “8 + 5 = 13.” If the sum is not 13, the three children try again. Repeat until all the children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–13 digit cards, randomly position the cards on the 4 by 4 grid. Separate children into groups. Explain that the object is to find as many numbers whose sum is equal to 13 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 84 Using the 0–13 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers in the grid to their books. Children have 5 minutes to find as many numbers whose sum is 13 as possible. Children can use two or more addends. After 5 minutes, have students compare their sums.

Answers for student page 84: Answers will vary. Check children’s work.

Go Further
Student page 84 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 84: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 84 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know addition facts for sums of 13?
Materials
Student page 85
Blank paper

Concept and Handbook References
Use a table to convert inches to feet.
(*MTL 210, 235*)

Get Started
Help children relate 12 inches to 1 foot. Use a measuring tape or a ruler to show the length of 12 inches. Look around the room and identify familiar objects that measure 1 foot. Ask,
• How many inches equal 1 foot? (12 inches)
• How can you use addition to find the number of inches in 2 feet? (Add 12 inches plus 12 inches.)

Continue with similar questions.

Student page 85 To introduce the activity, work through the first problem on student page 85. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (5 feet) is wrong because “60 inches equals 5 feet.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 85 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 85: 1. D 2. C
When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 85 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use a table to convert inches to feet?
Materials
Student page 86
Pennies, nickels, and yellow marker or crayon

Concept and Handbook Reference
Skip count by fives to 100 to identify multiples of 5. (MTL 166)

Get Started
Discuss the value of a nickel. Show or draw a nickel.
Ask:
• What coin is this? (a nickel)
• How many cents is a nickel worth? (5 cents)
• How many pennies is a nickel worth? (5 pennies)

Show or draw a row of 4 nickels. Ask:
• How can nickels help you skip count by fives? (Answers will vary, one possible response: each nickel is worth 5¢; so I can say 5, 10, 15, 20.)
• How much are 5 nickels worth? (25¢)

5¢ 5¢ 5¢ 5¢

Show or draw rows of 3, 6, and 8 nickels. Encourage children to skip count by fives to find the total worth of each group of nickels.

Today's Challenge
Student page 86 Have children complete the activity on the student page.

Answers for student page 86: 1. The fives and the tens columns should be colored yellow to show the numbers 5, 10, 15, . . . 95, 100. 2. When counting by fives, the digit in the ones place is either a 0 or a 5.

Go Further
Student page 86 Have children complete the activity on the student page and answer the question.

Answer for student page 86: 3. Children should circle the numbers in bold.

START 5↓ 53 25→ 30→ 35↓ 52 95→ 100 END
10→ 15→ 20↑ 75 40↓ 85→ 90↑ 97
18 35 63 50↓ ↔ 45 80↔ 75 85
57 45 75 55→ 60→ 65→ 70↑ 80

Assessment
Student self-assessment page 86 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize that the multiples of 5 have a 0 or a 5 in the ones place?
**Materials**
Student page 87
Student book inside back cover (hundred chart)
Math Maze cards (Week 18 Activity 87)

**Concept and Handbook References**
Use mental math to add and to subtract. 
(MTL 76, 116–117)

**Get Started**
You may wish to use a hundreds chart to help children review simple addition. For example, ask a child to point to a number on the hundred chart. Then, ask a second child to name and point to a number that is 3 more than the first number. Next, ask a third child to name and point to a number that is 3 less than the first number. Continue playing until each child has had a chance to participate.

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 18. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

**Instructions for playing Math Maze** Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 194.

**Student page 87** When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 87 in the student book.

**Answers for student page 87:**

**Go Further**
**Student page 87** Have children complete this section on the student page.

**Answers for student page 87:**
11. 1 greater than 60
12. 10 greater than 70
13. 4 greater than 30
14. 4 greater than 30

**Assessment**
**Student self-assessment page 87** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Can children use mental math to add and to subtract?
Materials
Student page 88
Blank paper

Concept and Handbook Reference
Review attributes of cubes, rectangular prisms, and pyramids. (MTL 204–205)

Get Started
Remind children that a solid is a geometric figure with three dimensions—length, width, and depth. Review the attributes of cubes, rectangular prisms, and pyramids.

As you ask each of five questions, have children look at their solid and answer the question. Yes answers will score points. Here are the questions to ask:
1. Does your figure have five sides? If yes, score 2 points.
2. Does your figure have all square faces? If yes, score 3 points.
3. Does your figure have a different shaped face than base? If yes, score 4 points.
4. Does your figure have triangular faces? If yes, score 5 points.

Top scorer(s) will have a pyramid.
Have children find their total scores. Ask a volunteer to share his or her solid and explain his or her score.

Today's Challenge
Student page 88 Have children answer the questions in the Today's Challenge section of page 88 in their books.


Go Further
Student page 88 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 88: 3. pyramid 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 88 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of cubes, rectangular prisms, and pyramids?
Materials
Student page 89
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 14.
(MTL 58–69)

Get Started
Begin by brainstorming addition facts for sums of 14. One child calls out an addend from 0 to 10. Another child calls out a second addend from 0 to 10. Then, a third child gives the fact. For example, one child calls out “8,” the second child calls out “6,” and the third child says, “8 + 6 = 14.” If the sum is not 14, the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 0–14 digit cards, randomly position the cards on the 4 by 4 grid. Some digits may be used more than once, others not at all. Separate children into groups. Explain that the object is to find as many numbers whose sum is equal to 14 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 89 Using the 0–14 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers in the grid to their books. Children have 5 minutes to find as many numbers whose sum is 14 as possible. Children can use two or more addends. After 5 minutes, have students compare their sums.

Answers for student page 89: Answers will vary. Check children’s work.

Go Further
Student page 89 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 89: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 89 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 14?
Rule Out Two

Week 18•Activity 90

Materials
Student page 90
Blank paper

Concept and Handbook Reference
Identify three-digit numbers written in expanded form. (MTL 20–21)

Get Started
Review with children the place value names for the 3-digit number 689.

Student page 90 To introduce the activity, work through the first problem on student page 90. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say C (20 + 30 + 6) is wrong because “you need 2 hundreds.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 90 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 90: 1. A 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 90 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify three-digit numbers written in expanded form?
Materials
Student page 91
Orange, blue, and yellow markers or crayons

Concept and Handbook Reference
Work with number patterns on a calendar.
(MTL 254)

Background
A calendar can be used to be more than a display of days of the month. By using a coloring scheme based on a repeated pattern unit many number patterns can be revealed. Children are challenged to search for connections between the color and the number patterns that appear.

Get Started
Draw the current calendar month on the board or use an outdated large calendar page. Direct children to look at the numbers in a downward diagonal direction on the calendar. Ask:

- If you start with the number 1, what four numbers do you see? (1, 9, 17, and 25)

<table>
<thead>
<tr>
<th>November</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
</tr>
<tr>
<td>1   2   3   4   5   6</td>
</tr>
<tr>
<td>7   8   9  10  11  12  13</td>
</tr>
<tr>
<td>14  15  16  17  18  19  20</td>
</tr>
<tr>
<td>21  22  23  24  25  26  27</td>
</tr>
<tr>
<td>28  29  30</td>
</tr>
</tbody>
</table>

- What do you notice about these four numbers? (Each number is 8 more than the previous number.)

Suggest to children that they look at the diagonals that start with 2, 3, and 7.

Today’s Challenge
Student page 91 Have children complete the activity on the student page.

Answers for student page 91: 1. The calendar should be colored as follows:

orange: 1, 5, 9, 13, 17, 21, 25, 29;
blue: 2, 3, 6, 7, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 31;
yellow: 4, 8, 12, 16, 20, 24, 28

2. 8, 12, 16, 20, 24, 28; counting by 4s

Go Further
Student page 91 Have children answer the question on the student page.

Answer for student page 91: 3. 12, 28; starting with 4, add 8 to get the next number.

Assessment
Student self-assessment page 91 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children work with number patterns on a calendar?
**Materials**
Student page 92
Math Maze cards (Week 19 Activity 92)

**Concept and Handbook References**
Recognize real-life applications of whole numbers.  
(MTL 164, 180, 191, 197, 210)

**Get Started**
Help children associate whole numbers with real-life applications. For example, ask:
- How many letters are there in the word five? (4)
- How many months are there in one year? (12)
- How many school days are there from Monday to Friday? (5)

Continue with similar questions until each child has had an opportunity to participate.

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 19. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

**Instructions for playing Math Maze** Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 195.

**Student page 92** When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 92 in the student book.

**Answers for student page 92:**
1. 20 2. 2 3. 50 4. 29 5. 1000 6. 26 7. 31 8. 10

**Go Further**
**Student page 92** Have children complete this section on the student page.

**Answers for student page 92:** 9–13. Answers will vary. Check children’s responses.

**Assessment**
**Student self-assessment page 92** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Do children understand that numbers are used in everyday life?
Materials
Student page 93
Blank paper (heavyweight if possible) or index cards
Crayons

Concept and Handbook Reference
Relate temperature in degrees Fahrenheit to comfort level. (MTL 226–227)

Get Started
Help children recall that temperature is measured in degrees Fahrenheit. The symbol for degrees is “°.” Remind children that 55°F is read “55 degrees Fahrenheit.” Ask:
• On a really hot summer day, would the temperature be 45°F or 95°F? (95°F)
• In winter, when the pond freezes, would the temperature be 80°F or 20°F? (20°F)
• When should you wear a warm coat, at 35°F or at 75°F? (35°F)
• When could it rain, at 45°F or at 15°F? (45°F)
• What is the temperature for a day at the beach, 85°F or 55°F? (85°F)

Continue with similar questions until each child has had an opportunity to participate.

Today’s Challenge
Student page 93 Have children look at page 93 in the student book. Explain that the first and third columns show a temperature in degrees Fahrenheit. The second and fourth columns show three choices: HOT, COMFORTABLE, COLD. Children will circle the correct word that best describes the given temperature.

Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 93.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (a temperature and the correct adjective), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 93 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize temperature readings in degrees Fahrenheit?
Materials
Student page 94
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 15.
(MTL 58–69)

Get Started
Begin by brainstorming addition facts for sums of
15. One child calls out an addend from 0 to 15.
Another child calls out a second addend. Then, a
third child gives the fact. For example, one child
calls out “9,” the second child calls out “6,” and the
third child says, “9 + 6 = 15.” If the sum is not 15,
the three children try again. Repeat until all children
have a chance to participate.

Today’s Challenge
Using the 0–15 digit cards, randomly position the
cards on the 4 by 4 grid. (Some numbers may be
used twice, some not at all.) Separate children into
groups. Explain that the object is to find as many
numbers whose sum is equal to 15 as possible. The
time limit is 3 minutes. Children can use two or
more addends. The group with the most addition
sentences wins the round.

Student page 94 Using the 0–15 digit cards, ran-
domly reposition the cards in the 4 by 4 grid. Direct
children to copy the numbers to the grid in their
books. Children have 5 minutes to find as many
numbers whose sum is 15 as possible. Children can
use two or more addends. After 5 minutes, have
students compare their lists.

Answers for student page 94: Answers will vary.
Check children’s work.

Go Further
Student page 94 Using the grid on the student
page, have each child create a Math Jumble to
share with a friend.

Answers for student page 94: Answers will vary.
Check children’s work.

Assessment
Student self-assessment page 94 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tip Do children know addition facts for
sums of 15?
Materials
Student page 95
Blank paper

Concept and Handbook References
Identify an addition equation to solve a problem.  
(MTL 54–55, 70)

Get Started
Review with children how to write an addition equation:

\[
4 + 7 = 11
\]

addition equation

Student page 95 To introduce the activity, work through the first problem on student page 95. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B \((7 + 7 + 7 = 21)\) is wrong because “there is only one card with a 7.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 95 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 95 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify an addition equation to solve a problem?
Materials
Student page 96

Concept and Handbook References
Find the sum of two odd numbers.
(MTL 36–37, 124–129)

Background
To be able to recognize that adding two odd numbers will result in an even-number sum can help children quickly check their work.

Odd Number
+ Odd Number
Even Number

Get Started
Write five addition problems on the board like those listed. Ask children to find each sum.

Next, have the children look carefully at each sentence. Ask:
• How is each addend the same? (Each addend is an odd number.)
• How is each sum the same? (Each sum is an even number.)
• What conclusion can you make about adding any two odd numbers? (The sum of any two odd numbers is an even number.)

Ask each child to write an addition problem with two odd numbers as addends and then find the sum. Ask:
• What type of number is the sum? (an even number)
• How does knowing this fact help you check your work? (One possible response: If I see that the sum of two odd numbers is an odd number, then I’ll know that the answer is wrong.)

Some children may recall from Pattern Puzzler Activity 61 that the sum of any two even numbers is also an even number. So, if two addends are both even numbers or both odd numbers, the sum is an even number.

Today’s Challenge
Student page 96 Have children complete the activity on the student page.

Answers for student page 96: 1. Problems 2, 4, 6, 7, and 10 are incorrect. 2–6. In any order:
13 + 5 = 18, 37 + 15 = 52, 51 + 17 = 68,
65 + 31 = 96, 57 + 13 = 70

Go Further
Student page 96 Have children complete the activity on the student page.

Answer for student page 96: 7. An even number. The sum of any two odd numbers is an even number; 99 + 95 = 194.

Assessment
Student self-assessment page 96 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that the sum of any two odd numbers is an even number?
Materials
Student Page 97
Math Maze cards (Week 20 Activity 97)

Concept and Handbook References
Work with doubles and halves. (MTL 48–49, 62)

Get Started
Help children understand that to double a number means to have twice as many, and to halve a number means to have half as much.

Today's Challenge
Distribute the 18 Math Maze cards for Week 20. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 196.

Student page 97 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 97 in the student book.


Go Further
Student page 97 Have children complete this section on the student page.

Answers for student page 97: 11. twice 12. half

Assessment
Student self-assessment page 97 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand the process of doubling or halving a number?
Materials
Student page 98
Blank paper

Concept and Handbook Reference
Study names and attributes of cylinders, cones, and spheres. (*MTL 204–205*)

Get Started
Remind children that a solid is a geometric figure with three dimensions—length, width, and depth. Review names and attributes of cylinders, cones, and spheres.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child pick one of the solids on student page 98. Then ask the children to number their papers from 1 to 5.

As you ask each of five questions, have the children look at their figures and answer the question. Yes answers will score points. Here are the questions to ask:

1. Does your solid have only 1 round base? If yes, score 1 point.
2. Does your solid have 2 round bases? If yes, score 2 points.
3. Does your solid have a curved surface? If yes, score 3 points.
4. Can your solid slide when you push it? If yes, score 4 points.
5. Can you stack your solid? If yes, score 5 points.

Top scorer(s) will have a cylinder.

Have children find their total scores. Ask a volunteer to share his or her solid and explain his or her score.

Today’s Challenge
Student page 98 Have children answer the questions in the Today’s Challenge section of page 98 in their books.


Go Further
Student page 98 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 98: 3. cylinder 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 98 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to recognize cones, cylinders, and spheres?
**Materials**
Student page 99
Math Jumble activity poster and digit cards

**Concept and Handbook Reference**
Recognize addition facts for sums of 16.
*(MTL 58–69)*

**Get Started**
Begin by brainstorming addition facts for sums of 16. One child calls out an addend from 0 to 16. Another child calls out a second addend. Then, a third child gives the fact. For example, one child calls out “7,” the second child calls out “9,” and the third child says, “7 + 9 = 16.” If the sum is not 16, the three children try again. Repeat until all children have had a chance to participate.

**Today's Challenge**
Using the 0–16 digit cards, randomly position the cards on the 4 by 4 grid. (Some numbers may be used twice, some not at all.) Separate children into pairs or groups of four. Explain that the object is to find as many numbers whose sum is equal to 16 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

**Student page 99** Using the 0–16 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers to the grid in their books. Children have 5 minutes to find as many numbers whose sum is 16 as possible. Children can use two or more addends. After 5 minutes, have children compare their sums.

**Answers for student page 99:** Answers will vary. Check children’s work.

**Go Further**
**Student page 99** Using the grid on the student page, have each child create a Math Jumble to share with a friend.

**Answers for student page 99:** Answers will vary. Check children’s work.

**Assessment**
**Student self-assessment page 99** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Do children know the addition facts for sums of 16?
Materials
Student page 100
Assorted coins or coin cards
Blank paper

Concept and Handbook Reference
Use mental math to add coin values.
(MTL 166–171)

Get Started
Help children review how to add coin values. For example, randomly select 3 coins. Ask, “How much money do I have?” (Answers will vary.)

Student page 100 To introduce the activity, work through the first problem on student page 100. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say C (3 dimes) is wrong because “3 dimes is only 30 cents.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 100 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 100: 1. D 2. B

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 100 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use mental math to add coin values?
Materials
Student page 101
Red, blue, green, and yellow markers or crayons

Concept and Handbook Reference
Recognize and extend a pattern of colors.
(MTL 276)

Get Started

\[
\begin{array}{cccccccc}
\text{□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □}
\end{array}
\]
Draw a row of 15 squares on the board.

Shade the pattern as shown above, repeating the pattern twice. Ask:

\[
\begin{array}{cccccccc}
\text{□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □}
\end{array}
\]
• Describe the pattern you see. (dark, white, dark, white, light)

Draw 5 more squares to the pattern.

Ask:
• How should the squares be shaded to continue the same pattern? (Repeat the original pattern of dark, white, dark, white, light.)

Today's Challenge
Student page 101 Have children complete the activity on the student page.

Answers for student page 101: 1. red, blue, red, blue, yellow repeated another 6 times to finish the pattern 2. yellow, red, yellow, red, green repeated another 6 times to finish the pattern

Go Further
Student page 101 Have children complete the activity on the student page.

Answer for student page 101: 3. Answers will vary. Check children's work.

Assessment
Student page 101 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize and extend a pattern of colors?
Materials
Student page 102
Math Maze cards (Week 21 Activity 102)

Concept and Handbook Reference
Work with addition and subtraction facts.
(MTL 53–89)

Get Started
Help children review how to read a number line labeled from 0–20.

Use a number line to help children review addition and subtraction facts. For example, ask a child to point to a number on the number line. Ask a second child to point to a different number on the number line. Ask, “How many steps away is the second number?” Then write the corresponding addition and subtraction facts.

For example, if the first number is 7 and the second number is 12, ask, “How many steps away from 7 is 12?” Then write 7 + 5 = 12, and 12 - 5 = 7.
Repeat with other numbers until everyone has had a chance to participate.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 21. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 197.

Student page 102 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 102 in the student book.


Go Further
Student page 102 Have children complete this section on the student page.

Answers for student page 102: 11. 10  12. 3  13. Answers will vary.

Assessment
Student self-assessment page 102 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand addition and subtraction facts?
Materials
Student page 103
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Add money amounts to make $1.00. (*MTL 179*)

Get Started
Review with children how to skip count starting with a given number. Ask:

• How do you skip count by fives starting with 20? (20, 25, 30, 35, . . .)
• How do you skip count by tens starting with 25? (25, 35, 45, 55, . . .)
• How do you skip count backward by tens from 50? (50, 40, 30, 20, 10)

Continue with similar questions until all children have had an opportunity to participate.

Today’s Challenge
Student page 103 Have children look at page 103 in the student book. Explain that the first and third columns show a money amount. The second and fourth columns should show the amount they need to make $1.00.

Answers for student page 103: 1. 50¢  2. 20¢
3. 80¢  4. 25¢  5. 55¢  6. 40¢  7. 65¢  8. 45¢

Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 20 small pieces of paper or 20 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 103.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (money amount and money needed to make $1.00), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards wins.

Assessment
Student self-assessment page 103 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to add money amounts to make $1.00?
Materials
Student page 104
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 17. (MTL 58–71)

Get Started
Begin by brainstorming addition facts for sums of 17. One child calls out an addend from 0 to 17. Another child calls out a second addend. Then, a third child gives the fact. For example, one child calls out “10,” the second child calls out “7,” and the third child says, “10 + 7 = 17.” If the sum is not 17, the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 0–17 digit cards, randomly position the cards on the 4 by 4 grid. (Some numbers may be used twice, some not at all.) Separate children into groups. Explain that the object is to find as many numbers whose sum is equal to 17 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 104 Using the 0–17 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers to the grid in their books. Children have 5 minutes to find as many numbers whose sum is equal to 17 as possible. Children can use two or more addends. After 5 minutes, have children compare their sums.

Answers for student page 104: Answers will vary. Check children’s work.

Go Further
Student page 104 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 104: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 104 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 17?
Materials
Student page 105
Blank paper

Concept and Handbook Reference
Calculate the distance around a shape. (MTL 214)

Get Started
Help children review the meaning of the distance around a shape. Use a familiar object to demonstrate. For example, use a textbook, a window pane, or a floor tile.

Student page 105 To introduce the activity, work through the first problem on student page 105. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can "rule out" some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (2 feet) is wrong because "2 feet is the length of only one side of the square." (If members of the group do not agree with the volunteer's response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer's choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today's Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today's activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 105 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 105: 1. C 2. D

When all children's papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 105 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find the distance around a shape?
Materials
Student page 106

Concept and Handbook Reference
Recognize a difference of 3 for a pair of numbers.
(MTL 76–77)

Get Started
Write this sequence of numbers on the board: 1, 4, 7, 10, ___, ___, ___. Ask:
• What pattern do you see? (Answers will vary. There are odd and even numbers and each number is 3 more than the one before it.)
• What three numbers come next? (13, 16, 19)
• How do you know? (Answers will vary. The next number is 3 more than the one before it.)

Now write these pairs of numbers on the board and ask children to sort them into two groups: “Difference of 3” and “Other Differences.” Have various children come to the board to write the pairs of numbers under the appropriate headings.

Pairs of Numbers
4, 7
5, 9
14, 18
36, 39
57, 60
50, 80
88, 91

Difference of 3
4, 7; 36, 39; 57, 60; 88, 91

Other Differences
5, 9; 14, 18; 50, 80

Look at the chart after the sorting is completed and ask children how they knew where to write each pair of numbers.

Today's Challenge
Student page 106 Have children complete the activity on the student page.

Answers for student page 106: 1. Draw a circle around the following pairs of numbers: 25, 28; 37, 40; 62, 65; 94, 97. 2. Draw a square around the following pairs of numbers: 27, 29; 80, 82; 59, 61, 78, 80. 3. 43, 73

Go Further
Student page 106 Have children complete the activity on the student page.

Answer for student page 106: 4. Answers will vary. Check children’s work.

Assessment
Student self-assessment page 106 Have children circle one of the choices to describe how they feel about this activity.

Assessment tip Can children recognize a difference of 3 for a pair of numbers?
Materials
Student page 107
Math Maze cards (Week 22 Activity 107)

Concept and Handbook Reference
Find equivalent addition expressions. (MTL 58–69)

Get Started
Remind children that there are many different ways to name a sum. Play “Different Names.” Start by naming a number from 1–12. Ask volunteers to give addition problems that equal the number named.

<table>
<thead>
<tr>
<th>Different Names</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>10</td>
</tr>
<tr>
<td>Second child</td>
<td>5 + 5</td>
</tr>
<tr>
<td>Third child</td>
<td>4 + 6</td>
</tr>
<tr>
<td>Fourth child</td>
<td>9 + 1</td>
</tr>
<tr>
<td>And so on</td>
<td></td>
</tr>
</tbody>
</table>

Today’s Challenge
Distribute the 18 Math Maze cards for Week 22. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 198.

Student page 107 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 107 in the student book.


Go Further
Student page 107 Have children complete this section on the student page.


Assessment
Student self-assessment page 107 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to make equivalent addition expressions?
Materials
Student page 108
Blank paper

Concept and Handbook Reference
Tell time to 15-minute and half-hour intervals.
(MTI 182–185)

Get Started
Help children review how to read a clock. Skip count by fives up to 60.

Today’s Challenge
Explain that today the class will be playing a game called “Fantastic Finalist.” Give each child a piece of paper with one of these times drawn on a clock face: 12:00, 4:00, 5:00, 1:30, 6:30, 7:30, 1:15, 2:15, 3:15. You do not need to use up all the cards, but be sure one child receives 1:15, since that time will be the “Fantastic Finalist.”

Have all children hold their times and stand in a large circle. Explain that the object of the game is to be the “Fantastic Finalist,” the last child to remain standing.

Read each of the following challenges, one at a time.
• If your time has “:00” minutes, sit down. (12:00, 4:00, 5:00)
• If your time is on the half hour, sit down. (1:30, 6:30, 7:30)
• If your time is 15 minutes past 3 o’clock, sit down. (3:15)
• If your time is 15 minutes past 2 o’clock, sit down. (2:15)

At this point, only the child holding 1:15 should still be standing. That child is the “Fantastic Finalist.”

Go Further
Student page 108 Have children complete the activity on the student page.

Answers will vary. Check children’s work.

Assessment
Student self-assessment page 108 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to tell time to 15-minute and half-hour intervals?
Materials
Student page 109
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 18.
(MTL 58–71)

Get Started
Begin by brainstorming addition facts for sums of 18. One child calls out an addend from 0 to 18. Another child calls out a second addend. Then a third child gives the fact. For example, one child calls out “9,” the second child calls out “9,” and the third child says, “9 + 9 = 18.” If the sum is not 18, the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using the 0–18 digit cards, randomly position the cards on the 4 by 4 grid. Separate children into groups. Explain that the object is to find as many numbers whose sum is equal to 18 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 109 Using the 0–18 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers in the grid to their books. Children have 5 minutes to find as many numbers whose sum is 18 as possible. Children can use two or more addends. After 5 minutes, have children compare their sums.

Answers for student page 109: Answers will vary. Check children’s work.

Go Further
Student page 109 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 109: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 109 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 18?
Materials
Student page 110
Blank paper

Concepts and Handbook References
Find a sum in repeated addition. (MTL 70–71)
Identify the correct equation to solve a problem. (MTL 54–55)

Get Started
Review with children skip counting by twos, threes, and fives.

Student page 110 To introduce the activity, work through the first problem on student page 110. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D \(4 + 4 + 4 + 4 = 16\) is wrong because “there are 3 cookies on 4 plates, not 4 cookies.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 110 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 110 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tips Can children find sums using repeated addition? Can children identify the correct equation to solve a problem?
Pattern Puzzler

Week 23 • Activity 111

Materials
Student page 111
Student book inside back cover (hundred chart)

Concepts and Handbook References
Skip count by fives from 100 to 1000. (MTL 97)
Identify a multiple of five between 100 and 1000. (MTL 16–25)

Background
Skip counting by fives in the hundreds place is the same as skip counting by fives for numbers less than 100. The only difference is that the hundreds name must be said before each multiple of five. For example, skip counting in the 400s, children would say, “400, 405, 410, 415, 420, 425, 430, . . . , 495.”

Get Started
Ask children to skip count by fives to 100. If they have difficulty, allow them to look at the hundred chart on the inside of the back cover of their books.

Write the fives and tens columns from the hundred chart on the board. Ask:

- If you skip count by fives, would 508 be included? Why? (No; 508 does not have a 0 or 5 in the ones place.)
- If you skip count by fives, would 700 be included? Why? (Yes; 700 has a 0 in the ones place.)

Today’s Challenge
Student page 111 Have children complete the activity on the student page.

Answers for student page 111:

1. 300 2. 350 3. 800 4. 725
305 355 805 730
310 360 810 735
315 365 815 740
320 370 820 745
325 375 825 750
330 380 830 755

Go Further
Student page 111 Have children complete the activity on the student page.

Answer for student page 111: 5. Children should circle the numbers in bold.

START 435 453 455 460 465 452 535 551
440 445 450 485 470 458 500 505
450 435 456 451 475 456 495 510
451 450 444 555 480 485 490 515 END

Assessment
Student self-assessment page 111 Have children circle one of three choices to describe how they feel about this activity.

Assessment tips Can children count by fives between 100 and 1000, and also identify a multiple of five between 100 and 1000?
Math Maze

Week 23 • Activity 112

Materials
Student page 112
Math Maze cards (Week 23 Activity 112)

Concept and Handbook Reference
Use real-life situations to work with multiplication facts. (MTL 92–97)

Get Started
Remind children that multiplication is a short-cut for repeated addition. For example, show children:

\[ 2 + 2 + 2 + 2 + 2 = 10 \]

2 is repeated 5 times

\[ 2 \times 5 = 10 \]

Today’s Challenge
Distribute the 18 Math Maze cards for Week 23. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 199.

Student page 112 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 112 in the student book.

Answers for student page 112: 1, 18, 2, 9, 3, 4, 4, 10, 5, 200, 6, 35, 7, 24, 8, 20, 9, 14, 10, 16

Go Further
Student page 112 Have children complete this section on the student page.

Answers for student page 112: 11, 21, 21, 21, 12, 20, 20, 20

Assessment
Student self-assessment page 112 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand that multiplication is a short cut for repeated addition?
Materials
Student page 113
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Complete multiplication sentences. (MTL 92-97)

Get Started
Remind children that multiplication is a short cut for repeated addition. For example, show:

<table>
<thead>
<tr>
<th>8 groups of 2 = 16</th>
<th>5 + 5 + 5 = 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 × 2 = 16</td>
<td>5 repeated 3 times = 15</td>
</tr>
<tr>
<td></td>
<td>3 × 5 = 15</td>
</tr>
</tbody>
</table>

3 rows of 6 = 18
3 × 6 = 18

Today's Challenge
Student page 113 Have children look at page 113 in the student book. Explain that the first and third columns show dots or squares or repeated addition. The second and fourth columns show a multiplication sentence. Have children fill in the blanks.

Answers for student page 113: 1. 2 2. 6 3. 10 4. 9 5. 3 6. 8 7. 7 8. 9 9

Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 113.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same fact), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 113 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to complete multiplication sentences?
Materials
Student page 114
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize addition facts for sums of 19.
(MTL 58–71)

Get Started
Begin by brainstorming addition facts for sums of 19. One child calls out an addend from 0 to 19. Another child calls out a second addend. Then, a third child gives the fact. For example, one child calls out “10,” the second child calls out “9,” and the third child says, “10 + 9 = 19.” If the sum is not 19, then the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–19 digit cards, randomly position the cards on the 4 by 4 grid. Separate children into groups. Explain that the object is to find as many numbers whose sum is 19 as possible. The time limit is 3 minutes. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 114 Using the 0–19 digit cards, randomly reposition the cards in the 4 by 4 grid. Direct children to copy the numbers in the grid to their books. Children have 5 minutes to find as many numbers whose sum is 19 as possible. Children can use two or more addends. After 5 minutes, have children compare their sums.

Answers for student page 114: Answers will vary.
Check children’s work.

Go Further
Student page 114 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 114: Answers will vary.
Check children’s work.

Assessment
Student self-assessment page 114 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 19?
Materials
Student page 115
Blank paper

Concept and Handbook Reference
Visualize triangles in larger shapes.
(MTL 196–197)

Get Started
Use everyday objects to point out how certain items are made by combining triangles in a larger shape. For example, point to a window pane. Show children how the rectangular pane is made of two triangles.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 115 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 115 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children visualize triangles in larger shapes?
Materials
Student page 116

Concept and Handbook References
Recognize that the sum of an even number and an odd number is odd. (MTL 36–37, 124–129)

Background
To be able to recognize that adding an even number and an odd number will result in a sum that is an odd number can help children quickly check their work.

<table>
<thead>
<tr>
<th>Even Number</th>
<th>Odd Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Odd Number</td>
<td>+ Even Number</td>
</tr>
<tr>
<td>Odd Number</td>
<td>Odd Number</td>
</tr>
</tbody>
</table>

Get Started
Draw part of an addition table on the board.

```
+  6  7  8  9  
6 12 13 ___ ___
7 13 ___ ___ 16
8 ___ 15 16 ___
9 ___ 15 ___ 18
```

Have children take turns filling in the missing sums. Then ask:

- Draw a circle around all the sums of two even numbers. (6 + 6 = 12, 6 + 8 = 14, 8 + 6 = 14, 8 + 8 = 16)
- What do you notice? (When the two addends are even numbers, the sum is an even number.)
- Draw a square around all the sums of two odd numbers. (7 + 7 = 14, 7 + 9 = 16, 9 + 7 = 16, 9 + 9 = 18)
- What do you notice? (When the two addends are odd numbers, the sum is an even number.)

Finally, ask children to look at the sums that do not have a circle or square around them. Ask:

- Which numbers do not have a circle or square around them? (13, 15, 17)
- Are these sums even or odd numbers? (odd)
- What are the addends for each of these sums? (One addend is an even number and the other addend is an odd number.)

Write the following addition problems on the board:

```
23 + 14 + 25 + 45
-- + 34 + 32 + 13 + 32
```

Ask:

- Without adding, will these problems have sums that are even or odd? (odd, even, even, odd)
- Why? (odd number + even number = odd number, even number + even number = even number, odd number + odd number = even number)
- What are the sums? (57, 46, 38, 77)

Today’s Challenge
Student page 116 Have children complete the activity on the student page.

Answers for student page 116:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 23 + 45</td>
<td>2. 14 + 15</td>
<td>3. 53 + 9</td>
<td>4. 30 + 20</td>
<td>5. 39 + 11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 42 + 30</td>
<td>7 35 + 18</td>
<td>8 63 + 21</td>
<td>9 25 + 52</td>
<td>10 17 + 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 33 + 55</td>
<td>12 17 + 42</td>
<td>13 54 + 20</td>
<td>14 29 + 3</td>
<td>15 48 + 12</td>
</tr>
</tbody>
</table>

16. odd number + even number = odd number

Go Further
Student page 116 Have children complete the activity on the student page.

Answer for student page 116: 17. Answers will vary. There should be an even number and an odd number as addends for each problem. The sums should be odd numbers.

Assessment
Student self-assessment page 116 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that the sum of an even number and an odd number is an odd number?
**Materials**
Student page 117
Math Maze cards (Week 24 Activity 117)

**Concept and Handbook Reference**
Add one- and two-digit numbers.  
(MTL 124–129)

**Get Started**
Review with children how to add groups of ten.  
When groups of ten are added to a number, the digit in the ones place does not change.  
Give examples such as those shown.

\[
\begin{array}{c}
10 & 13 \\
+27 & +80 \\
37 & 93 \\
\end{array}
\]

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 24.  
Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card.  
Use the cards to play the Math Maze game.

**Instructions for playing Math Maze**  
Ask children to look at their cards.  
Ask one child to read the question that is written on his or her card.  
Next ask, “Who has the card with the answer to the question just read?”  
Ask that child to read the answer, and then read the question on his or her card.  
Play continues until all questions have been answered.  
The last answer to be read should be the answer on the first child's card.

Some children may have trouble answering the questions without seeing the problems written.  
If so, write each problem on the board as it is read.

The correct sequence of questions and answers is shown on page 200.

**Student page 117**  
When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 117 in the student book.

**Answers for student page 117:**
1. 70  2. 140  3. 20  
4. 47  5. 72  6. 40  7. 68  8. 75  9. 58  10. 97

**Go Further**
**Student page 117**  
Have children complete this section on the student page.

**Answers for student page 117:**
11. 10  
12. 11  
13. 50

**Assessment**
**Student self-assessment page 117**
Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip**  
Do children understand addition with one- and two-digit numbers?
Materials
Student page 118
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Find the least number of coins to make a given amount. *(MTL 166–171)*

Get Started
Explain to children that the same amount of money can be made in different ways. Ask:

- How many different ways can you make 7¢?

\[
5¢ + 1¢ + 1¢ = 7¢
\]

\[
1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ = 7¢
\]

- Which way has fewer coins? (5¢, 1¢, 1¢)

Today’s Challenge
Student page 118 Have the children look at page 118 in the student book. Explain that the first and third columns show the amount of money. The second and fourth columns show coins. Children will fill in the blanks to show the fewest number of coins needed to make the given amount.

Answers for student page 118: 1. 1 nickel, 1 penny  2. 1 dime  3. 1 dime, 1 nickel, 2 pennies  4. 3 quarters  5. 1 quarter, 1 dime, 3 pennies  6. 2 quarters  7. 2 dimes, 1 penny  8. 1 quarter, 1 dime, 1 nickel

Go over answers with the whole group or check the children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 118.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (money amount with fewest number of coins), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 118 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find a given amount using the least number of coins?
Materials
Student page 119
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Add pennies, nickels, dimes, and quarters. 
(MTL 166–171)

Get Started
Sit in a circle. Have children practice skip counting by tens. Start the count with any number, for example 12. (12, 22, 32, 42, . . .) Direct one child to start and the others to follow along until you reach the end of the circle. Then practice skip counting by fives. Start the count with any number, for example 33. (33, 38, 43, 48, . . .) Go around the circle until all children have had a chance to participate.

Today's Challenge
Using the coin cards, construct the 4 by 4 poster shown. Explain that the object of today's Math Jumble is to find the value for a string of different coins.

Strings of coins are made by joining coins that are inside squares that share a common side. For example, point to the coins in the first row and the last coin in the second row. Then, pointing to the coins one at a time, find the total number of cents as you move from left to right and down. (5¢, 10¢, 11¢, 36¢, 46¢) The total is 46 cents.

Next, ask children to find a string of coins that totals 42 cents. (Possible string: all coins in the rightmost column plus the last nickel in the third column.) Ask a child to name an amount and have other children try to find a string of coins that totals that amount. Repeat several times.

Student page 119 Have children complete the Today's Challenge activity on student page 119.


Go Further
Student page 119 Have children complete the activity in this section of the student page.

Answer for student page 119: 6. $1.36; Answers will vary, but may include skip counting by fives and tens; or putting all pennies together, all nickels together, all dimes together, and all quarters together.

Assessment
Student self-assessment page 119 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find the value of different coin combinations?
**Materials**
Student page 120
Blank paper

**Concept and Handbook References**
Use repeated addition to solve word problems.
(MTL 780–71, 96)

**Get Started**
Help children review addition. Ask one child to name a number between 1 and 10. Ask a second child to name another number between 1 and 10. Then ask, “What is the sum?” Continue until each child has had a chance to participate.

**Student page 120** To introduce the activity, work through the first problem on student page 120. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B ($3) is wrong because “he earns $2 each time.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

**Today’s Challenge**
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

**Student page 120** Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

**Answers for student page 120**: 1. B  2. D.

When all children’s papers have been scored, determine the high scorer(s) for the day.

**Go Further**
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

**Assessment**
**Student self-assessment page 120** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Can children use repeated addition to solve word problems?
Materials
Student page 121
Student book inside back cover (hundred chart)

Concept and Handbook References
Find ten more or ten less than a given number. (MTL 114–116, 120–121)

Get Started
Ask the children to turn to the hundred chart on the inside of the back cover of their book. Draw three squares from the hundred chart on the board. Direct children to look for clues to figure out the missing numbers. For example, draw three adjacent boxes (squares) vertically in a row and write the number 36 in the middle box. Ask:
- Which number belongs in the box above 36? (26)
- Which number belongs in the box below 36? (46)
- How are the numbers 26 and 46 related to the number 36? (26 is ten less than 36; 46 is ten more than 36.)

Continue with a few more examples on the board so that each child has a chance to participate.

Today’s Challenge
Student page 121 Have children complete the activity on the student page.

Answers for student page 121:

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13</td>
<td>37</td>
<td>25</td>
<td>59</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>47</td>
<td>35</td>
<td>69</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>57</td>
<td>45</td>
<td>79</td>
<td>90</td>
</tr>
</tbody>
</table>

Go Further
Student page 121 Have children complete the activity on the student page.

Answers for student page 121:

<table>
<thead>
<tr>
<th></th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45</td>
<td>20</td>
<td>54</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>30</td>
<td>64</td>
<td>32</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>65</td>
<td>40</td>
<td>74</td>
<td>42</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>50</td>
<td>84</td>
<td>52</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>60</td>
<td>94</td>
<td>62</td>
<td>53</td>
</tr>
</tbody>
</table>

Assessment
Student self-assessment page 121 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find ten more or ten less than a given number?
**Math Maze**

Week 25 • Activity 122

**Materials**
Student page 122
Math Maze cards (Week 25 Activity 122)

**Concept and Handbook Reference**
Write three-digit numbers in expanded form.
(*MTL 20–21*)

**Get Started**
Review with children the place value names for the three-digit number 476.

4 hundreds or 400
7 tens or 70
6 ones or 6

4 7 6

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 25. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

Some children may have trouble answering the questions without seeing the problems written. If so, write each problem on the board as it is read.

The correct sequence of questions and answers is shown on page 201.

**Student page 122** When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 122 in the student book.

Answers for student page 122:
1. C
2. F
3. B
4. A
5. J
6. I
7. H
8. D
9. G
10. E

**Go Further**

**Student page 122** Have children complete this section on the student page.

Answers for student page 122:
11. 125
12. 236
13. 713
14. 367

**Assessment**

**Student self-assessment page 122** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Do children understand how to write three-digit numbers in expanded form?
Materials
Student page 123
Blank paper

Concept and Handbook Reference
Review place value in three-digit numbers.
(MTL 16–23)

Get Started
Review with children the place value names for a three-digit number. For example, for the number 539, draw the chart:

<table>
<thead>
<tr>
<th>Hundreds Place</th>
<th>Tens Place</th>
<th>Ones Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>500</td>
<td>+ 30</td>
<td>+ 9</td>
</tr>
</tbody>
</table>

Today's Challenge
Explain that today the class will be playing a game called “Fantastic Finalist.” Give each child a piece of paper with a three-digit number from 100 to 120. You do not have to use all of the numbers, but be sure that one child receives the number 115, since that number will be the “Fantastic Finalist.”

Have all children hold their numbers and stand in a large circle. Explain that the object of the game is to be the “Fantastic Finalist,” the last child to remain standing.

Read each of the following challenges, one at a time.
• If your number has a 0 in the ones place, sit down. (100, 110, 120)
• If your number a 0 in the tens place, sit down. (numbers from 101 to 109)
• If your number is less than 115, sit down. (111, 112, 113, 114)
• If your number is greater than 115, sit down. (116, 117, 118, 119)

At this point, only the child holding the number 115 should still be standing. That child is the “Fantastic Finalist.”

Go Further
Student page 123 Have children complete the activity on the student page.

Answers for student page 123: 1. 238 2. Answers will vary. Possible answers include: it is an odd number; it is a three-digit number; it has a one in the hundreds place; it has a two in the tens place; it has a five in the ones place.

Assessment
Student self-assessment page 123 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children demonstrate an understanding of place value in three-digit numbers?
Materials
Student page 124
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize that a repeated addition sentence can be written as a multiplication fact. (MTL 96)

Get Started
Pull out three identical digit cards. For example, three 5s. Ask:

• How many fives do you see? (three)
• How would you write an addition sentence using three fives?\(5 + 5 + 5 = 15\)
• How would you write a multiplication sentence about three fives?\(3 \times 5 = 15\)
• What do you notice about the answers for both sentences? (They are the same.)

Continue with other digit cards.

Today’s Challenge
Using the 0–5 digit cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to recognize repeating numbers. Children will use the repeating numbers to write an addition sentence. Children will also rewrite each sentence as a multiplication fact.

Strings of numbers are made by joining numbers that share a common side. For example, point to the three numbers in the upper left corner. First, combine the repeating numbers to write an addition sentence, \(4 + 4 + 4 = 12\). Then, rewrite the addition sentence as a multiplication fact, \(3 \times 4 = 12\). Possible addition sentences and their related multiplication facts are listed.

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Multiplication fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1 + 1 + 1 = 3)</td>
<td>(3 \times 1 = 3)</td>
</tr>
<tr>
<td>(2 + 2 + 2 = 6)</td>
<td>(3 \times 2 = 6)</td>
</tr>
<tr>
<td>(3 + 3 + 3 = 9)</td>
<td>(3 \times 3 = 9)</td>
</tr>
<tr>
<td>(4 + 4 + 4 = 12)</td>
<td>(3 \times 4 = 12)</td>
</tr>
<tr>
<td>(5 + 5 + 5 = 15)</td>
<td>(3 \times 5 = 15)</td>
</tr>
</tbody>
</table>

Student page 194 Have children complete the Today’s Challenge activity on student page 1924.

Answers for student page 194: ss

Addition sentences | Multiplication facts |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1 + 1 + 1 = 3)</td>
<td>(3 \times 1 = 3)</td>
</tr>
<tr>
<td>(2 + 2 + 2 = 6)</td>
<td>(3 \times 2 = 6)</td>
</tr>
<tr>
<td>(3 + 3 + 3 = 9)</td>
<td>(3 \times 3 = 9)</td>
</tr>
<tr>
<td>(4 + 4 + 4 = 12)</td>
<td>(3 \times 4 = 12)</td>
</tr>
<tr>
<td>(5 + 5 + 5 = 15)</td>
<td>(3 \times 5 = 15)</td>
</tr>
</tbody>
</table>

Note: Some children might write addition sentences with fewer addends. For example, the sentences \(2 + 2 = 4\) and \(2 \times 2 = 4\) are acceptable. Check children’s work to be sure that the addition and multiplication facts correspond.

Go Further
Student page 124 Have children complete the activity in this section of the student page.

Answers for student page 124: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 124 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize that a repeated addition sentence can be written as a multiplication fact?
**Materials**
Student page 125
Blank paper
Assorted objects such as dice, balls, or cans

**Concept and Handbook Reference**
Recognize attributes of familiar solids.  
(MTL 204–205)

**Get Started**
Use everyday objects to illustrate solids. For example, discuss the attributes of a soda can, an ice cream cone, a ball, and so on.

**Student page 125** To introduce the activity, work through the first problem on student page 125. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (sphere) is wrong because “a sphere does not have a flat bottom.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

**Student page 125** Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

**Answers for student page 125**: 1. A 2. D

When all children’s papers have been scored, determine the high scorer(s) for the day.

**Go Further**
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

**Assessment**
**Student self-assessment page 125** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Can children recognize attributes of familiar solid figures?
Materials
Student page 126

Concept and Handbook References
Describe and extend geometric patterns.
(MTL 254, 276)

Background
This activity makes the connection between pictorial patterns and numerical patterns. Children can analyze a given pattern and then extend it to verify their understanding.

Get Started
Draw the pattern with 1, 3, and 5 squares on the board. Write the number of squares below each figure.

```
1  3  5
```

Ask:
• What pattern do you see? (Answers will vary. Possible responses include: each figure to the right has one more square going across the top and going down; the number of squares increases by 2.)

• How many squares do you think will be in the next figure? (7 squares)

```
    
```

Draw the next figure and write the number 7 below it.

```
    
```

You may wish to challenge children to describe the next figure. (The figure will have 9 squares.)

Today's Challenge
Student page 126 Have children complete the activity on the student page.

Answers for student page 126:
1. 
```
   8                  10
   15
```

2. 
```
```

Go Further
Student page 126 Have children answer the questions on the student page.

Answers for student page 126: 3. Answers will vary. Children may mention that the numbers are even. 4. Answers will vary. Children may mention that the number of squares first increases by 2, then by 3, then 4, then 5, resulting in the pattern 1, 3, 6, 10, 15.

Assessment
Student self-assessment page 126 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to describe and extend a geometric pattern?
Materials
Student page 127
Math Maze cards (Week 26 Activity 127)

Concepts and Handbook References
Use mental math to find a missing addend.
(MTL 84–85, 114–117)
Add or subtract two-digit numbers.
(MTL 124–129, 142–147)

Get Started
Review with children how to find missing addends.
Write the problem \(15 + \square = 20\) on the board. Ask a volunteer to tell what the missing addend is and explain how to find it. (The missing addend is 5. You can find it by counting up to 20, or you can count by fives, or you can subtract.)

Then write the problem \(15 + \square = 30\) and ask for the answer and explanations. (The answer is 15. You can find it by counting by fives, or you might remember that \(15 + 5 = 20\), and 10 more makes 30, or you might know that 30 is the double of 15.)

Today's Challenge
Distribute the 18 Math Maze cards for Week 26. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 202.

Student page 127 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 127 in the student book.


Go Further
Student page 127 Have children complete this section on the student page.

Answers for student page 127: 11. 100 12. 200 13. 300

Assessment
Student self-assessment page 127 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to use mental math to find a missing addend?
Materials
Student page 128
Blank paper (heavyweight if possible) or index cards

Concept and Handbook References
Name multiples of two. (MTL 36–37, 92–100)

Get Started
Explain to children that when we skip count by twos, we are naming the multiples of two. Explain that multiples of 2 can be identified in different ways. Use examples like those in the table below to demonstrate three different ways of illustrating multiples of two.

<table>
<thead>
<tr>
<th>Groups of 2</th>
<th>Addition</th>
<th>Multiplication</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐⭐</td>
<td>2 + 2</td>
<td>2 × 2</td>
</tr>
<tr>
<td>⭐⭐⭐</td>
<td>2 + 2 + 2</td>
<td>3 × 2</td>
</tr>
</tbody>
</table>

Today’s Challenge
Student page 128 Have children look at page 128 in the student book. Explain that the first column shows multiples of two. The second column shows a picture representing groups of two. The third and fourth columns show addition and multiplication equations. Have children fill in the forms that are missing.

Answers for student page 128: 1. 3 groups of 2  
2. 3 × 2 3. 2 groups of 2 4. 2 + 2 5. 8  
6. 2 + 2 + 2 + 2 7. 12 8. 6 × 2

Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 20 small pieces of paper or 20 index cards. Have the students use one slip of paper or card to copy the information from each box on student page 128.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same number), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end of the game wins.

Assessment
Student self-assessment page 128 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Are children able to name multiples of two?
Materials
Student page 129
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums greater than 20. (MTL 70–71, 114–117)

Get Started
Begin by brainstorming addition facts for sums that are greater than 20. One child calls out a number less than 20. Another child calls out a second number less than 20. Then, a third child gives the addition fact. For example, one child calls out “10,” the second child calls out “11,” and the third child says, “11 + 10 = 21.” If the sum is less than 20 the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find as many numbers as possible whose sum is greater than 20 but less than 50. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 129 Using the 0–20 digit cards, randomly reposition the cards in the 4 by 4 grid. Be sure no digit card is used more than once. Direct children to copy the numbers in the grid to their books. Encourage children to find as many numbers as possible whose sum is greater than 20 but less than 50. Children can use two or more addends. Ask children to compare their sums.

Answers for student page 129: Answers will vary. Check children’s work.

Go Further
Student page 129 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 129: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 129 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize addition facts for sums greater than 20?
Materials
Student page 130
Blank paper

Concept and Handbook Reference
Identify the movement of a two-dimensional shape as a slide, flip, or turn. (MTL 202–203)

Get Started
Help children review slide, flip, and turn. Ask children to demonstrate each motion using their books.

Student page 130 To introduce the activity, work through the first problem on student page 130. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can "rule out" some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say C (He slid it.) is wrong because "the lightning bolts would look exactly the same." (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 130 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 130: 1. B 2. D

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 130 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify the movement of a two-dimensional shape as a slide, flip, or turn?
Materials
Student page 131
Yellow, green, and orange markers or crayons

Concept and Handbook Reference
Work with number patterns on a calendar.
(MTL 254)

Background
A calendar can be used as more than a display of days of the month. By using a coloring scheme based on a repeated pattern unit many number patterns can be revealed. Children are challenged to search for connections between the color and the number patterns that appear.

Get Started
Draw the current calendar month on the board or use an outdated large calendar page. Direct children to look at the numbers in a downward diagonal direction on the calendar.

Ask:
• If you start with the number 8, what three numbers do you see? (8, 16, and 24)
• What do you notice about these three numbers? (Each number is 8 more than the previous number.)

Suggest to children that they look at the diagonals that start with 1, 2, and 5. See if a similar pattern exists between the numbers in each diagonal.

Today’s Challenge
Student page 131 Have children complete the activity on the student page.

Answers for student page 131: 1. Calendar should be colored as follows.

yellow: 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25, 26, 28, 29, 31 green: 3, 9, 15, 21, 27 orange: 6, 12, 18, 24, 30

2. 3, 9, 15, 21, 27; add 6 3, 6, 12, 18, 24, 30; counting by sixes

Go Further
Student page 131 Have children complete the activity on the student page.

Answer for student page 131: 4. Answers will vary. Check children’s work.

Assessment
Student self-assessment page 131 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children work with number patterns on a calendar?
Materials
Student page 132
Math Maze cards (Week 27 Activity 132)

Concept and Handbook References
Add and subtract with multiples of 100.
(MTL 118–119, 122–123)

Get Started
Encourage children to skip count by 100s. Start
with 100 and skip count by 100s to 1000. Next,
start with 130, and skip count by 100s to 930.

Today’s Challenge
Distribute the 18 Math Maze cards for Week 27.
Each child should receive at least one card, but
since all cards need to be distributed, some children
may need to get more than one card. Use the cards
to play the Math Maze game.

Instructions for playing Math Maze
Ask children to look at their cards. Ask one child to read the question
that is written on his or her card. Next ask,
“Who has the card with the answer to the question
just read?” Ask that child to read the answer, and
then read the question on his or her card. Play con-
tinues until all questions have been answered. The
last answer to be read should be the answer on the
first child’s card.

Some children may have trouble answering the
questions without seeing the problems written. If
so, write each problem on the board as it is read.

The correct sequence of questions and answers is
shown on page 203.

Student page 132 When the group has finished
playing the game, have children open their books
and complete the Today’s Challenge activity on
page 132 in the student book.


Go Further
Student page 132 Have children complete this sec-
tion on the student page.

Answers for student page 132: 11. 195, 205, 210,
215 12. 140, 150, 160, 180, 190, 200

Assessment
Student self-assessment page 139 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tip Do children understand how to add
and subtract with multiples of 100?
Materials
Student page 133
Blank paper

Concept and Handbook Reference
Name faces and bases of geometric solids.
(MTL 204–205)

Get Started
Review the names of the faces and bases of pyramids, cubes, and rectangular prisms. Be sure to remind children that a square is a special rectangle.

6 rectangular faces 4 triangular faces 6 square faces
rectangular prism triangular pyramid cube

As you ask each of the five questions, have children look at their solids and answer the question. Yes answers will score points. Here are the questions to ask:

1. Does your solid have 1 base? If yes, score 10 points.
2. Does your solid have 2 square bases? If yes, score 5 points.
3. Does your solid have 6 rectangular faces? If yes, score 9 points.
4. Does your solid have 12 edges? If yes, score 8 points.
5. Does your solid have triangular faces? If yes, score 15 points.

Top scorer(s) will have a triangular pyramid.

Explain that today you will be playing a game called “Who Wants to Be the Top Scorer?” Have each child circle one of the three solids on student page 133. Then ask children to number their papers from 1 to 5.

Today’s Challenge
Student page 133 Have children answer the questions in the Today’s Challenge section of page 133 in their books.


Go Further
Student page 133 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 133: 3. rectangular prism 4. Children’s own riddles will vary.

Assessment
Student self-assessment page 133 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children name the faces and bases for a geometric solid?
Materials
Student page 134
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize subtraction facts for differences greater than 10. (MTL 76–79)

Get Started
Begin by brainstorming subtraction facts for differences that are greater than 10. One child calls out a number. Another child calls out a second number that is less than the first number. Then, a third child says a subtraction sentence beginning with the larger number. For example, one child calls out “18,” the second child calls out “6,” and the third child says, “18 – 6 = 12.” If the difference is less than 10, the three children try again. Repeat until all children have a chance to participate.

Today’s Challenge
Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find as many pairs of numbers as possible whose difference is greater than 10. The group with the most subtraction sentences wins the round.

Student page 134 Using the 0–20 digit cards, randomly reposition the cards in the 4 by 4 grid. Be sure no digit card is used more than once. Direct children to copy the numbers in the grid to their books. Encourage children to find as many pairs of numbers as possible whose difference is greater than 10. Ask children to compare their differences.

Answers for student page 134: Answers will vary. Check children’s work.

Go Further
Student page 134 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 134: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 134 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize subtraction facts for differences greater than 10?
Materials
Student page 135
Blank paper

Concept and Handbook Reference
Use grouping to show division. (MTL 108–110)

Get Started
Display several everyday objects such as pencils, lunch boxes, and paper cups. Count the number of children in your group. Ask, “How can we give each child the same number of pencils?” (Answers will vary. One possible response: “Pass out the pencils until everyone has the same number.”)

Student page 135 To introduce the activity, work through the first problem on student page 135. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (2 groups of 3 markers each) is wrong because “there are 3 children, not 2 children.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 135 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 135: 1. C 2. D

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment 135 Have students circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use grouping to divide?
Materials
Student page 136

Concept and Handbook Reference
Work with the Order Property for Multiplication. (*ML 102–103*)

Background
When the order of the factors in a multiplication sentence is changed, or switched, the product remains the same. This is known as the Order Property for Multiplication.

\[
\begin{align*}
\text{Factors} & \quad \text{Product} \\
\frac{9}{2} & \times \frac{2}{9} \\
& \rightarrow 18
\end{align*}
\]

Get Started
Draw 2 groups of 3 circles on the board. Ask:

- How many circles are there? (6)
- How would you write a multiplication sentence? (3 \times 2 = 6)

Now draw 3 groups of 2 circles on the board. Ask:

- How many circles are there? (6)
- How would you write a multiplication sentence? (2 \times 3 = 6)

Draw 2 groups of 4 circles and then 4 groups of 2 circles. Write the number sentences 4 \times 2 = ____ and 2 \times 4 = ____ under the respective drawings.

4 \times 2 = ____
2 \times 4 = ____

Ask:
- What is 2 \times 4? (8)
- What is 4 \times 2? (8)
- What do you notice about the two number sentences? (The product is the same even when the factors are switched.)

Today's Challenge
Student page 136 Have children complete the activity on the student page.

Answers for student page 136: 1. 10, 10 2. 12, 12
3. 20, 20 4. 3, 3 5. 15, 15 6. 4, 4 7. 8, 8 8. 5, 5
9. 6, 6

Go Further
Student page 136 Have children complete the activity on the student page.

Answer for student page 136: 10. 12; check children’s drawings. The drawings should show two groups of six or six groups of two.

Assessment
Student self-assessment page 136 Have children circle one of the three choices to describe how they felt about this activity.

Assessment tip Do children understand the Order Property of Multiplication?
Materials
Student page 137
Math Maze cards (Week 28 Activity 137)

Concepts and Handbook References
Use mental math to find a missing addend. (MTL 84–85)
Add or subtract two- and three-digit numbers. (MTL 124, 142)

Get Started
Review with children how to find missing addends. Write the problem 150 + □ = 200 on the board. Ask a volunteer to tell what the missing addend is and explain how to find it. (The missing addend is 50. You can find it by counting up by tens up to 200, or counting by 50s, or you might know that 50 + 50 = 100 so adding 50 to 150 makes 200.)

Then write the problem 150 + □ = 300 and ask for the answer and explanations. (The answer is 150. You can find it by counting by tens, or counting by 50s. You might remember that 150 + 50 = 200, and 100 more makes 300, or you might know that 300 is the double of 150.)

Today’s Challenge
Distribute the 18 Math Maze cards for Week 28. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

Some children may have trouble answering the questions without seeing the problems written. If so, write each problem on the board as it is read.

The correct sequence of questions and answers is shown on page 204.

Student page 137 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 137 in the student book.

Answers for student page 137: 1. 600 2. 500 3. 200 4. 250 5. 900 6. 80 7. 50 8. 20 9. 750 10. 400

Go Further
Student page 137 Have children complete this section on the student page.

Answers for student page 137: 11. 100 12. 10 13. 1

Assessment
Student self-assessment page 137 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find a missing addend?
Materials
Student page 138
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Recognize a fractional part of a set or the whole set. (MTL 48–49)

Get Started
Explain that fractions are a part of everyday life. Encourage children to share what they know about fractions. For example, show children a set of 9 objects:

<table>
<thead>
<tr>
<th>Set</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔴🔴🔴🔴🔴🔴🔵</td>
<td>(\frac{6}{9}) is shaded</td>
</tr>
<tr>
<td>🔴🔴🔴🔴🔴🔵🔵🔵</td>
<td>(\frac{5}{9}) is striped</td>
</tr>
<tr>
<td>🔴🔴🔴🔴🔴🔵🔵</td>
<td>9 objects in the set</td>
</tr>
</tbody>
</table>

Today's Challenge
Student page 138 Have children look at page 138 in the student book. Explain that the first column shows a set. The second column shows the fraction representing the shaded part of the set. The third and fourth columns show the same. Have children fill in the forms that are missing.

Answers for student page 138: 1. \(\frac{1}{3}\)  2. \(\frac{1}{4}\)  3. \(\frac{5}{6}\)  4. \(\frac{5}{5}\)
5–8. Children can shade any of the circles, as long as the number shaded matches the answers shown.

Go over answers with the whole group or check children's papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 138.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same fraction), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 138 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children recognize a fractional part of a set or the whole set?
Materials
Student page 139
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize that a repeated addition sentence can be written as a multiplication fact. (MTL 93, 96)

Get Started
Pull out three identical digit cards. If you use three sixes, ask:
• How many sixes do you see? (three sixes)
• How could you write an addition sentence using three sixes? \(6 + 6 + 6 = 18\)
• How would you write a multiplication sentence about three sixes? \(3 \times 6 = 18\)
• What do you notice about the answers for both sentences? (They are the same.)
Repeat with other digit cards.

Today's Challenge
Using the 1–6 digit cards, construct the 4 by 4 poster shown. Explain that the object of today's Math Jumble is to recognize repeating numbers. Children will use the repeating numbers to write an addition sentence. Children will also rewrite each sentence as a multiplication fact.

Strings of numbers are made by joining numbers that share a common side. For example, point to the three numbers in the upper left corner. First, combine the repeating numbers to write an addition sentence, \(5 + 5 + 5 = 15\). Then, rewrite the addition sentence as a multiplication fact, \(3 \times 5 = 15\). The table below lists some of the possible addition sentences and their related multiplication facts.

<table>
<thead>
<tr>
<th>Addition sentences</th>
<th>Multiplication facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1 + 1 + 1 = 3)</td>
<td>(3 \times 1 = 3)</td>
</tr>
<tr>
<td>(2 + 2 + 2 = 6)</td>
<td>(3 \times 2 = 6)</td>
</tr>
<tr>
<td>(4 + 4 + 4 = 12)</td>
<td>(3 \times 4 = 12)</td>
</tr>
<tr>
<td>(5 + 5 + 5 = 15)</td>
<td>(3 \times 5 = 15)</td>
</tr>
<tr>
<td>(6 + 6 + 6 = 18)</td>
<td>(3 \times 6 = 18)</td>
</tr>
</tbody>
</table>

Student page 139 Have children complete the Today's Challenge activity on student page 139.

Answers for student page 139:

<table>
<thead>
<tr>
<th>Addition sentences</th>
<th>Multiplication facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2 + 2 + 2 = 6)</td>
<td>(3 \times 2 = 6)</td>
</tr>
<tr>
<td>(3 + 3 + 3 = 9)</td>
<td>(3 \times 3 = 9)</td>
</tr>
<tr>
<td>(4 + 4 + 4 = 12)</td>
<td>(3 \times 4 = 12)</td>
</tr>
<tr>
<td>(5 + 5 + 5 = 15)</td>
<td>(3 \times 5 = 15)</td>
</tr>
<tr>
<td>(6 + 6 + 6 = 18)</td>
<td>(3 \times 6 = 18)</td>
</tr>
</tbody>
</table>

Note: Some children might write addition sentences with fewer addends. For example, the sentences \(4 + 4 = 8\) and \(2 \times 4 = 8\) are acceptable. Check children's work to be sure that the addition and multiplication facts correspond.

Go Further
Student page 139 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 139: Answers will vary. Check children's work.

Assessment
Student self-assessment page 139 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that a repeated addition sentence can be written as a multiplication fact?
Materials
Student page 140
Blank paper

Concept and Handbook Reference
Make change using pennies, nickels, dimes, or quarters. (MTL 179)

Get Started
Review with children the names and values of pennies, nickels, dimes, and quarters.

Student page 140 To introduce the activity, work through the first problem on student page 140. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can "rule out" some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (1 quarter) is wrong because "he paid for the milk with 1 quarter." (If members of the group do not agree with the volunteer's response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer's choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today's Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today's activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 140 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.


When all children's papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 140 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children make change using pennies, nickels, dimes, or quarters?
Materials
Student page 141

Concept and Handbook References
Find multiplication patterns on a multiplication table. (MTL 100–101, 106–107)

Background
A multiplication table lists all the factors and their products. There is one set of factors going across the top, and a second set going down the side.

Get Started
Write the following multiplication sentences on the board:

\[ 2 \times 1 = \quad 2 \times 2 = \quad 2 \times 3 = \]
\[ 2 \times 4 = \quad 2 \times 5 = \]

Ask:
• What are the products for these multiplication sentences? (2, 4, 6, 8, 10)
• What pattern do you see for these products? (The products are the numbers you say when skip counting by twos.)

Today's Challenge
Student page 141 Have children complete the activity on the student page.

Answers for student page 141:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

2. Answers will vary. Check children's work.

Go Further
Student page 141 Have children complete the activity on the student page.

Answers for student page 141: 3, 6, 9, 12, 15
4. 1, 2, 4, 5, 5, 10, 15, 20, 25

Assessment
Student self-assessment page 141 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find and use patterns on a multiplication table?
Materials
Student page 142
Math Maze cards (Week 29 Activity 142)

Concepts and Handbook References
Solve number riddles. (MTL 8–13, 36–37, 43)
Work with two-digit numbers. (MTL 28–30)

Get Started
Help children review vocabulary. Ask:
• What is the word that describes two equal parts of a whole? (half)
• What is the name for a whole number that has 0, 2, 4, 6, or 8 in the ones place? (even number)
• What is the name for a number that cannot be divided into two equal parts? (odd number)
• Give an example of a 2-digit number. (Answers will vary. One possible response: 47)

Today’s Challenge
Distribute the 18 Math Maze cards for Week 29. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze
Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 205.

Student page 142 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 142 in the student book.

Answers for student page 142: 1. 10 2. 66 3. 60 4. 55 5. 42 6. 50 7. 33 8. 4

Go Further
Student page 142 Have children complete this section on the student page.


Assessment
Student self-assessment page 142 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to solve number riddles with two-digit numbers?
Materials
Student page 143
Blank paper (heavyweight if possible) or index cards

Concept and Handbook References
Write subtraction sentences in horizontal and vertical format. (MTL 73, 76-79)

Get Started
Help children recall that subtraction sentences can be written in horizontal and vertical form.

```
Larger number
10
10 - 4 = 6
-4
6
Smaller number
```

Today's Challenge
Student page 143 Have children look at page 143 in the student book. Explain that the first and third columns show a subtraction sentence. The second and fourth columns show different ways to write the same sentence. Have children circle the sentence that matches the equation in the first and third columns.

Answers for student page 143: 1. 8 2. 7 __6 3. 4 2

2. 4 2

3. 9 6 5. 12 6. 10 7. 15 8. 17 __3 5

-6 -10 -3 -5 -2

-6 -3 -2

-6 0 2 7 10 15

Go over answers with the whole group or check children’s papers individually.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 143.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher value answer goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show different forms of the same sentence), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 143 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children write subtraction sentences in both horizontal and vertical formats?
Materials
Student page 144
Math Jumble activity poster and coin cards

Concept and Handbook Reference
Add nickels, dimes, and quarters. (MTL 170–171)

Get Started
Sit in a circle. Have children practice skip counting by tens. Start the count with any number, for example 32. (32, 42, 52, 62, . . .) Direct one child to start and the others to follow along until you reach the end of the circle. Then, practice skip counting by fives. Start the count with any number, for example 23. (23, 28, 33, 38, . . .) Go around the circle until all children have had a chance to participate.

Today’s Challenge
Using the coin cards, construct the 4 by 4 poster shown. Explain that the object of today’s Math Jumble is to find the value for a string of different coins.

Strings of coins are made by joining coins that are inside squares that share a common side. For example, point to the coins in the first row and the last coin in the second row. Then, pointing to the coins one at a time, find the total number of cents as you move from left to right and down. (5¢, 10¢, 20¢, 45¢, 55¢) The total is 55 cents.

Next, ask children to find a string of coins that totals 90 cents. (Possible string: all coins in the right column plus the last nickel in the third column.) Ask a child to name an amount and have other children try to find a string of coins that totals that amount. Repeat several times.

Student page 144 Have children complete the Today’s Challenge activity on student page 144.

Answers for student page 144: 1–5. Answers will vary. Check children’s work.

Go Further
Student page 144 Have children complete the activity in this section of the student page.

Answer for student page 144: 6. $2.50; Answers will vary, but may include skip counting by fives and tens; or putting all nickels together, all dimes together, and all quarters together.

Assessment
Student self-assessment page 144 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children add nickels, dimes, and quarters?
Materials
Student page 145
Blank paper

Concept and Handbook References
Use addition or subtraction to solve a word problem. (MTL 54–55, 72–73)

Get Started
Pose a simple problem. Have three children come sit by you. Then have two more children step forward. Ask, “How many children are sitting by me?” (5)

Student page 145 To introduce the activity, work through the first problem on student page 145. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (4) is wrong because “11 children are already in the class.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 2 points) and 10 points for choosing the correct answer. So the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 145 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 145: 1. D 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 145 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use addition or subtraction to solve a word problem?

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.
Materials
Student page 146
Student book inside back cover (hundred chart)

Concept and Handbook References
Find 11 more or 11 less than a given number.  
(MTL 114–117, 120–121)

Get Started
Ask children to turn to the hundred chart on the inside of the back cover of their book. Draw three squares from the hundred chart on the board. Direct children to look for clues to figure out the missing numbers. For example, draw three boxes (squares) on a diagonal and write the number 35 in the middle box. Ask:

- What number belongs in the box to the left of and above 35? (24)
- What number belongs in the box to the right of and below 35? (46)
- How are the numbers 24 and 46 related to the number 35? (24 is 11 less than 35; 46 is 11 more than 35.)

Continue with a few more examples so that each child has a chance to participate.

Today’s Challenge
Student page 146 Have children complete the activity on the student page.

Answers for student page 146:

1. 4
   15
   26
   35
     
2. 44
   55
   66
   77

3. 21
   32
   43

4. 8
   19
   30
   46

5. 35
   8
   19
   30
   46
   57
   88
   99

Go Further
Student page 146 Have children complete the activity on the student page.

Answers for student page 146:

7. 22
   34
   45
   56
   67
   78
   89

8. 33
   44
   55
   67
   100

Assessment
Student self-assessment page 146 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find a number that is 11 more or 11 less than a given number?
Materials
Student page 147
Math Maze cards (Week 30 Activity 147)

Concept and Handbook References
Recognize real-life applications of whole numbers. (MTL 164, 183–185, 190–191, 310–311)

Get Started
Help children associate whole numbers with real-life applications. For example, ask:
- How many letters are there in the word five? (4)
- How many months are there in one year? (12)
- How many school days are there from Monday to Friday? (5)

Continue with similar questions until each child has had an opportunity to participate.

Today's Challenge
Distribute the 18 Math Maze cards for Week 30. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, "Who has the card with the answer to the question just read?" Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child's card.

The correct sequence of questions and answers is shown on page 206.

Student page 147 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 147 in the student book.

Answers for student page 147: 1. 50 2. 2 3. 7 4. 5 5. 15 6. 4 7. 3 8. 1 9. 31 10. 12

Go Further
Student page 147 Have children complete this section on the student page.

Answers for student page 147: 11–12. Answers will vary. Check children's work. 13. 2

Assessment
Student self-assessment page 147 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how numbers are used in everyday life?
**Materials**
Student page 148
Blank paper (heavyweight if possible) or index cards

**Concept and Handbook Reference**
Identify items that weigh less than, more than, or about one pound. (MTL 218–219)

**Get Started**
Remind children that weight is a measure of how heavy an object is. Use everyday objects to demonstrate less than, more than, and about one pound.

1 feather weighs less than 1 pound
1 loaf of bread weighs about 1 pound
1 backpack weighs more than 1 pound

**Today's Challenge**
Student page 143 Have children look at page 148 in the student book. Explain that the first and third columns show real life items. The second and fourth columns show choices that describe how much each item weighs. Children should select the most appropriate weight: less than 1 pound, more than 1 pound, or about 1 pound.

**Answers for student page 148:**
1. less than 1 pound
2. more than 1 pound
3. more than 1 pound
4. less than 1 pound
5. about 1 pound
6. less than 1 pound
7. more than 1 pound
8. less than 1 pound

Go over answers with the whole group or check children's papers individually.

**Go Further**
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have children use one slip of paper or card to copy the information from each box on student page 148.

**Instructions for playing “Concentration”:** Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the higher weight value goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (approximate weight matches with real life item), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

**Assessment**
Student self-assessment page 148 Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tip** Are children able to identify items that weigh less than, more than, or about 1 pound?
Materials
Student page 149
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums of 20.
(MTL 70–71, 114–117)

Get Started
Begin by brainstorming addition facts for sums of 20. One child calls out a number. Another child calls out a second number. Then, a third child gives the addition fact. For example, one child calls out “9,” the second child calls out “11,” and the third child says, “9 + 11 = 20.” If the sum is not 20, the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find as many strings of numbers as possible whose sum is 20. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 149 Using the 0–20 digit cards, randomly reposition the cards in the 4 by 4 grid. Be sure no digit card is used more than once. Direct children to copy the numbers in the grid to their books. Encourage children to find as many strings of numbers as possible whose sum is equal to 20. Children can use two or more addends. Ask children to compare their sums.

Answers for student page 149: Answers will vary. Check children’s work.

Go Further
Student page 149 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 149: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 149 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 20?
Materials
Student page 150
Blank paper

Concept and Handbook Reference
Choose an appropriate measurement tool for a real-world situation. (*MTL 230–231*)

Get Started
Display different measurement tools such as a watch or ruler. Identify the tools, and discuss how each tool is used. Select different objects in the room. Discuss the different ways each object could be measured and which tool should be used.

Student page 150 To introduce the activity, work through the first problem on student page 150. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (a clock) is wrong because “a clock measures time, not water.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 150 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 150: 1. D 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 150 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify a measuring tool to use for a real-world situation?
Materials
Student page 151
Student book inside back cover (hundred chart)

Concepts and Handbook References
Skip count by 20s between 100 and 1000.
(MTL 16-25)
Identify a multiple of 20 between 100 and 1000.
(MTL 97)

Get Started
Ask children to skip count by 10s to 100. Then have them skip count by 20s to 100. If they have difficulty, allow them to look at the hundreds chart on the inside of the back cover of their books.

Write the 10s column from the hundred chart on the board. Encourage children to come to the board and circle the multiples of 20 in the list. Then ask:

- How are multiples of 10 and multiples of 20 similar? (Both have a 0 in the ones place.)
- How are multiples of 10 and multiples of 20 different? (The multiples of 20 have an even number in the tens place.)
- How does skip counting by tens help you to skip count by 20s? (Answers will vary. One possible response: you can say every other multiple of 10 starting with 20.)

Write a second column with multiples of ten from 110 to 200 next to the first column. Then add a third column with multiples of ten from 210 to 300. Have children circle multiples of 20 in these two columns. Then have everyone skip count by 20s from 20 to 300 as you point to the circled numbers.

Write these numbers on the board, and ask:

<table>
<thead>
<tr>
<th>10</th>
<th>110</th>
<th>210</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>120</td>
<td>220</td>
</tr>
<tr>
<td>30</td>
<td>130</td>
<td>230</td>
</tr>
<tr>
<td>40</td>
<td>140</td>
<td>240</td>
</tr>
<tr>
<td>50</td>
<td>150</td>
<td>250</td>
</tr>
<tr>
<td>60</td>
<td>160</td>
<td>260</td>
</tr>
<tr>
<td>70</td>
<td>170</td>
<td>270</td>
</tr>
<tr>
<td>80</td>
<td>180</td>
<td>280</td>
</tr>
<tr>
<td>90</td>
<td>190</td>
<td>290</td>
</tr>
<tr>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
</tbody>
</table>

Why? (No; 502 doesn’t have a 0 in the ones place.)
- If you skip count by 20s, would 690 be included? Why? (No; 690 has an odd number in the tens place.)
- If you skip count by 20s, would 700 be included? Why? (Yes; 700 has the even number 0 in the tens place and in the ones place.)

Today's Challenge
Student page 151 Have children complete the activity on the student page.

Answers for student page 151:

1. 300 2. 600 3. 400 4. 700 5. 900
320 620 420 720 920
340 640 440 740 940
360 660 460 760 960
380 680 480 780 980

Go Further
Student page 151 Have children complete the activity on the student page.

Answer for student page 151: 9. 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660; the figure is an elephant

Assessment
Student self-assessment page 151 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children count by 20s between 100 and 1000, and also identify a multiple of 20 between 100 and 1000?
**Materials**
Student page 152
Math Maze cards (Week 31 Activity 152)

**Concept and Handbook References**
Review concepts presented in previous Math Mazes.
(MTL 36–37, 62, 84–85, 96, 310)

**Today's Challenge**
Distribute the 18 Math Maze cards for Week 31. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

**Instructions for playing Math Maze** Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 207.

**Student page 152** When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 152 in the student book.


**Go Further**
**Student page 152** Have children complete this section on the student page.

**Answers for student page 152:** 11. 9 12. 6 13. 7 14. 5 15. 11 16. 8

**Assessment**
**Student self-assessment page 152** Have children circle one of the three choices to describe how they feel about this activity.

**Assessment tips** Do children use mental math strategies? Do children understand the different units of length?

Children who experience any difficulties with this Math Maze should review the concepts covered in Weeks 2–5.
Materials
Student page 153
Blank paper

Concept and Handbook Reference
Identify a line of symmetry. (MTl 198–199)

Get Started
Help children recall that a figure has a line of symmetry if you can fold the figure in the middle and the two halves match. Demonstrate this using a piece of paper. Fold it in half. Show children the two matching sides.

As you ask each of five questions, have children look at their shape and answer the question. Yes answers will score points. Here are the questions to ask:
1. Does your shape have no line of symmetry? If yes, score 5 points.
2. Does your shape have only 1 line of symmetry? If yes, score 10 points.
3. Does your shape have exactly 2 lines of symmetry? If yes, score 15 points.
4. Does your shape have 3 or more lines of symmetry? If yes, score 20 points.
5. Does your shape have more than 4 sides? If yes, score 25 points.

Have children find their total scores. Ask a volunteer to draw his or her shape on the board and explain his or her score.

Go Further
Student page 153 Have children solve the riddle and create another riddle for a friend to solve. Have the solver sign his or her name.

Answers for student page 153: 1. heart
2. Children’s own riddles will vary.

Assessment
Student self-assessment page 153 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand what a line of symmetry is?
Materials
Student page 154
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Predict whether a sum will be an odd number or an even number. (MTL 36–37)

Get Started
Review with children the following:

<table>
<thead>
<tr>
<th></th>
<th>Odd</th>
<th>Even</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>+</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>+</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>+</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Odd</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

Begin by playing “Is It Odd or Even?” Place the 0–20 digit cards faceup in a pile. Have children take turns drawing two cards. Each child predicts whether his or her sum will be an even or odd number. Then, the child says the number sentence for the two numbers. For example, if a child draws a 7 and a 5 he or she says, “7 and 5 are odd numbers. So, the sum will be an even number. 7 + 5 = 12.” Repeat until all children have had a chance to participate.

Today’s Challenge
Student page 154 Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find as many odd number and even number sums as possible in 5 minutes time. The group with the most sums wins the round.

Using 16 of the 0–20 digit cards, randomly reposition the cards in the 4 by 4 grid. Be sure no digit card is used more than once. Direct children to copy the numbers to the grid in their books. Encourage children to find as many odd number and even number sums as possible. Ask children to compare their sums.

Answers for student page 154: Answers will vary. Check children’s work.

Go Further
Student page 154 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 154: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 154 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children predict whether a sum will be an odd number or even number?
Materials
Student page 155
Blank paper

Concept and Handbook Reference
Use a table to solve a word problem.
(MTL 155)

Get Started
Direct children’s attention to the table on student page 155. Read and discuss the meaning of the column headings and the table as a whole.

Student page 155 To introduce the activity, work through the first problem on student page 155. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (hamburgers) is wrong because “it did not get the most votes.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 155 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 155: 1. D 2. A

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 155 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children use a table to solve a word problem?
Materials
Student page 156
Student book inside back cover (hundred chart)

Concept and Handbook References
Find 9 more or 9 less than a given number.
(MTL 114–117, 120–121)

Get Started
Ask students to turn to the hundred chart on the inside of the back cover of their book. Draw three squares from the hundred chart on the board. Direct children to look for clues to figure out the missing numbers. For example, draw three boxes (squares) in an upward steps position and write the number 44 in the middle box. Ask:

- Which number belongs in the box to the right of and above 44? (35)
- Which number belongs in the box to the left of and below 44? (53)
- How are the numbers 35 and 53 related to the number 44? (35 is 9 less than 44; 53 is 9 more than 44.)

Continue with a few more examples so that each child has a chance to participate.

Today’s Challenge
Student page 156 Have children complete the activity on the student page.

Answers for student page 156:

1. 6
   15
   24
   42
   51

2. 27
   36
   45
   65
   74

3. 59
   68
   77
   72
   81

4. 38
   47
   56
   65
   81

5. 13
   22
   31
   42
   74

6. 80
   89
   98
   72
   63

Go Further
Student page 156 Have children complete the activity on the student page.

Answers for student page 156:

7. 24
   33
   42
   51

8. 47
   56
   65
   74

9. 54
   63
   72
   81

Assessment
Student self-assessment page 156 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to find a number that is 9 more or 9 less than a given number?
Materials
Student page 157
Math Maze cards (Week 32 Activity 157)

Concept and Handbook References
Review concepts presented in previous Math Mazes. (MTL 62, 114–117, 120–121, 164)

Today’s Challenge
Distribute the 18 Math Maze cards for Week 32. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 208.

Student page 157 When the group has finished playing the game, have children open their books and complete the Today’s Challenge activity on page 157 in the student book.


Go Further
Student page 157 Have children complete this section on the student page.

Answers for student page 157: 11. Answers will vary. Two possible responses: 8 + 8 = 16 and 3 + 3 = 6

12.

Assessment
Student self-assessment page 157 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tips Are children able to add and subtract with ease? Can children determine the value of a group of coins?

Children who experience any difficulties with this Math Maze should review the concepts covered in Weeks 6–9.
Materials
Student page 158
Blank paper

Concept and Handbook Reference
Practice subtraction through 20. (MTL 72–81)

Get Started
Remind students that they can use a number line to subtract.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Today's Challenge
Explain that today the class will be playing a game called “Fantastic Finalist.” Give each child a piece of paper with a number from 0 to 20. You do not have to use all the numbers, but be sure that one child receives the number 0, since that number will be the “Fantastic Finalist.”

Have all children hold their numbers and stand in a large circle. Explain that the object of the game is to be the “Fantastic Finalist,” the last child to remain standing.

Read each of the following challenges, one at a time.
• If your number is the difference between 15 and 5, sit down. (10)
• If your number is equal to one dime minus 1 penny or 2 pennies, sit down. (9, 8)
• If your number is eight numbers away from 10 on a number line, sit down. (2, 18)
• If you can take away 1, 2, 3, or 4 from your number and get an answer of 10, sit down. (11, 12, 13, 14)
• If your number is the difference between 20 and 5, sit down. (15)
• Skip count by 5s from 5 to 25. If you say your number, sit down. (5, 20)
• If your number has the digit “1” in the tens place, sit down. (16, 17, 19)
• If your number is the difference between 8 and 7, sit down. (1)
• If you have the numbers in the fact family 7 – 3 = 4, sit down. (7, 3, 4)
• If you have the difference between 8 and 2, sit down. (6)

At this point, only the child holding the number 0 should still be standing. That child is the “Fantastic Finalist.”

Go Further
Student page page 158 Have children complete the activity on the student page.

Answer for student page 158: 30

Assessment
Student self-assessment page 158 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children understand how to use a number line to subtract?
Materials
Student page 159
Math Jumble activity poster and coin cards

Concept and Handbook References
Find combinations of coins that add up to 100¢ or $1.00. (MTL 84–85, 166–171)

Get Started
Begin by brainstorming ways to make $1.00 using pennies, nickels, dimes, and quarters. One child calls out a money amount less than $1. Another child calls out a second amount. Then, a third child says an addition sentence using the two amounts. For example, one child calls out “35¢,” the second child calls out “65¢,” and the third child says, “35¢ + 65¢ = 100¢ or $1.00.” If the sum is not $1, the three children try again. Repeat until all children have a chance to participate.

Today’s Challenge
Using the coin cards, randomly position the cards on the 4 by 4 grid. Be sure there are 4 quarters, 3 dimes, 4 nickels, and 5 pennies. Separate children into groups. Explain that the object is to find as many combinations of coins as possible whose total value is 100¢ or $1.00. The coins do not have to be adjacent to each other. The group with the most addition sentences wins the round.

Student page 159 Using the coin cards, randomly reposition the cards in the 4 by 4 grid. Be sure there are 4 quarters, 3 dimes, 4 nickels, and 5 pennies. Direct children to copy the coin values to the grid in their books. Encourage children to find as many coin combinations as possible whose total value is 100¢ or $1.00. The coins do not have to be adjacent to each other. Ask children to compare their sums.

Answers for student page 159: Answers will vary. Check children’s work.

Go Further

Student page 159 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 159: Answers will vary. Check children’s work.

Assessment

Student self-assessment page 159 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find coin combinations that add up to 100¢ or $1.00?
Materials
Student page 160
Assorted containers, if available
Blank paper

Concept and Handbook Reference
Compare the capacities of different containers. (MTL 222–225)

Get Started
Gather a collection of everyday containers, such as a milk jug, a juice box, a water bottle, and a soda can. Ask children to position the containers by size from smallest to largest. Encourage children to predict which container would contain more or less than another. For example, the soda can would contain less than the milk jug.

Student page 160 To introduce the activity, work through the first problem on student page 160. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say D (a 1-liter bottle) is wrong because “a soda bottle is much bigger than a tablespoon.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (A). Be sure children understand why A is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 160 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 160 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children compare the capacities of different containers?
Materials
Student page 161
Pennies, nickels, dimes, and quarters

Concept and Handbook References
Recognize patterns in an organized list. (MTL 280–281, 170–171)

Background
Making an organized list is a valuable strategy for solving a problem that has a many-part solution. For this activity, children can look for patterns relating coin values to the number of coins used to make a certain amount.

Get Started
Show children a penny, nickel, dime, and quarter. Review the value of each of these coins. Ask them which coins could be used to make an amount of 20¢.

Draw a table on the board like the one below to help children record the solutions in an organized list. Ask them to use the coins with the greatest values first.

Have the children look at the table. Ask:
- What pattern do you see for the nickels? (They decrease by one.)
- What pattern do you see for the pennies? (They increase by five.)
- What pattern do you see for nickels and pennies together? (As the number of nickels decreases by one, the number of pennies increases by five.)

Repeat this activity using dimes, nickels, and pennies to make 25¢.

Today's Challenge
Student page 161 Have children complete the table on the student page.

Answers for student page 161:

<table>
<thead>
<tr>
<th>Quarters</th>
<th>Dimes</th>
<th>Nickels</th>
<th>Pennies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
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<td></td>
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<tr>
<td>1</td>
<td>30</td>
<td></td>
<td></td>
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</tbody>
</table>

Go Further
Student page 161 Have children answer the question on the student page.

Answer for student page 161: 2. The number of pennies increases by five, as the number of nickels decreases by one.

Assessment
Student self-assessment page 161 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize patterns in an organized list?
Materials
Student page 162
Math Maze cards (Week 33 Activity 162)

Concept and Handbook References
Review concepts presented in previous Math Mazes.
(MTL 43, 84–85, 114–117, 120–121, 196–197,
204–205)

Today's Challenge
Distribute the 18 Math Maze cards for Week 33.
Each child should receive at least one card, but
since all cards need to be distributed, some children
may need to get more than one card. Use the cards
to play the Math Maze game.

Instructions for playing Math Maze Ask children to
look at their cards. Ask one child to read the ques-
tion that is written on his or her card. Next ask,
"Who has the card with the answer to the question
just read?" Ask that child to read the answer, and
then read the question on his or her card. Play con-
tinues until all questions have been answered. The
last answer to be read should be the answer on the
first child's card.

The correct sequence of questions and answers is
shown on page 209.

Student page 162 When the group has finished
playing the game, have children open their books
and complete the Today's Challenge activity on
page 162 in the student book.


Go Further
Student page 162 Have children complete this sec-
tion on the student page.

Answers for student page 162: Answers will vary.
Possible looping might show:

11.  
12.  

Assessment
Student self-assessment page 162 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tips Do children understand various
units of measure? Can children identify shapes by
their attributes?

Children who experience any difficulties with this
Math Maze should review the concepts covered in
Weeks 11–15.
Materials
Student page 163
Blank paper (heavyweight if possible) or index cards complete

Concept and Handbook Reference
Review names and attributes of square pyramids, cubes, cones, and prisms. (MTL 204–205)

Get Started
Review names and attributes of square pyramids, cubes, cones, and rectangular prisms.

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have children use one slip of paper or card to copy the information from each box on student page 163.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Each player turns over a card. The player with the solid with the greater number of square faces goes first. Turn the cards over so that all cards are again facedown. The first player turns over two cards. If the cards match (show a solid and its name), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 163 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the attributes of square pyramids, cubes, rectangular prisms, and cones?
Materials
Student page 164
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Subtract from a two-digit number. (M7L 142–147)

Get Started
Begin by brainstorming subtraction facts. One child calls out a number from 10 to 20. Another child calls out a second number less than the first number. Then a third child says a subtraction sentence beginning with the larger number. For example, one child calls out “17,” the second child calls out “14,” and the third child says, “17 − 14 = 3.” Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find strings of numbers to make as many two-digit subtraction problems as possible. The group with the most subtraction problems wins the round.

Answers for student page 164: Answers will vary. Check children’s work.

Go Further
Student page 164 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 164: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 164 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize two-digit subtraction facts?
Rule Out Two

Week 33•Activity 165

Materials
Student page 165
Blank paper

Concept and Handbook Reference
Identify multiplication as a process for repeated addition. (MTL 96)

Get Started
Help children understand that multiplication is a shortcut for repeated addition. For example, gather 6 backpacks. Place them in 3 groups of 2 backpacks. Ask:
• How many backpacks are in each group? (2)
• How many groups are there? (3)
• How many backpacks are there in all? (6)

Write the multiplication fact 2 x 3 = 6 on the board. Continue with similar examples using every day objects.

Student page 165 To introduce the activity, work through the first problem on student page 165. Read or ask a child to read the problem. Next, explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (5 x 5) is wrong because “there are only 4 children at each table.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (D). Be sure children understand why D is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 165 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 165: 1. C 2. C

When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 165 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify multiplication as a process for repeated addition?
Materials
Student page 166
Student book inside back cover (hundred chart)

Concepts and Handbook References
Find matching sums on diagonals on the hundred chart. (MTL 84–85)
Find missing addends for a given sum of the diagonals on the hundred chart. (MTL 114–115)

Get Started
Have children turn to the hundred chart on the inside of the back cover of their books. On the board, draw the 2 by 2 square from the upper left-hand corner with the numbers 1, 2, 11, and 12. Direct children to find those numbers on the hundred chart.

Draw one diagonal double-headed arrow to connect 1 and 12. Ask:
• What is 1 + 12? (13)
Then draw another diagonal double-headed arrow to connect 11 and 2. Ask:
• What is 2 + 11? (13)

Next, draw the 2 by 2 square under the previous one with the numbers 11, 12, 21, and 22. Direct children to find these numbers on the hundred chart.

Draw one diagonal double-headed arrow to connect 11 and 22. Ask:
• What is 11 + 22? (33)
Then draw another diagonal double-headed arrow to connect 21 and 12. Ask:
• What is 12 + 21? (33)

Draw the 2 by 2 square at the bottom left-hand corner of the hundred chart to include the numbers 81, 82, 91, and 92. Direct children to find the sums on the diagonals. (173, 173)

Direct children to look at all three of the 2 by 2 squares and accompanying addition sentences. Ask:
• What do you notice about all of these sums? (The digit in the ones place is a 3.)
• Why is this so? (The addends have a 1 and a 2 in the ones place.)
• Do you think all the sums in the 1s and 2s columns will have the digit 3 in the ones place? Why? (Yes; the addends have a 1 and a 2 in the ones place.)
• Look at the 2 by 2 square on the hundred chart for 2, 3, 12, and 13. For the sums in the 2s and 3s columns, what do you think the digit in the ones place will be? Why? (Since 2 + 13 = 15 and 3 + 12 = 15, the digit in the ones place will be 5.)

Find other sums on the diagonals for 2 by 2 squares for the 4s and 5s columns. Note: The sums for the 5s through 10s columns will be found in Week 36.

Today's Challenge
Student page 166 Have children complete the activity on the student page.

Answers for student page 166: 1. 17, 17; 2. 77, 77; 3. 137, 64 + 73 = 137; 4. 177, 84 + 93 = 177; 5. 19, 5 + 14 = 19; 6. 95, 43 + 52 = 95

Go Further
Student page 166 Have children complete the activity on the student page.

Answers for student page 166:
7. 32, 33, 42, 43; 32 + 43 = 75; 33 + 42 = 75
8. 54, 55, 64, 65; 54 + 65 = 119; 55 + 64 = 119
9. 43, 44, 53, 54; 43 + 54 = 97; 44 + 53 = 97

Assessment
Student self-assessment page 166 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find matching sums on diagonals on the hundred chart, and find missing addends for a given sum of the diagonals?
Materials
Student page 167
Math Maze cards (Week 34 Activity 167)

Concept and Handbook References
Review concepts presented in previous Math Mazes.

Today's Challenge
Distribute the 18 Math Maze cards for Week 34. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 210.

Student page 167 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 167 in the student book.


Go Further
Student page 167 Have children complete this section on the student page.

Answer for student page 167:
11. $5\$ $1\$ $1\$ $1\$

Assessment
Student self-assessment page 167 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tips Can children read time to the half hour? Can children apply numbers to real-life situations?

Children who experience any difficulties with this Math Maze should review the concepts covered in Weeks 16–20.
Materials  
Student page 168  
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference  
Select appropriate tools for measuring.  
(MTL 230–231)

Get Started  
Explain to children that there are many tools for measuring length, capacity, weight, mass, time, and temperature. Have children share their own experiences with measuring. Ask:  
- What tool is used to find your weight or the weight of an object? (a scale)  
- How do we measure temperature? (Use a thermometer.)  
- How can you find the length, width, or height of an object? (Use a ruler.)  
- How do we record the days in a year? (Use a calendar.)  
- What tool is used to measure time? (a clock or watch)

Continue with similar questions until each child has had an opportunity to participate.

Today’s Challenge  
Student page 168 Have children look at page 168 in the student book. Explain that the first and third columns show a measuring activity. The second and fourth columns show various tools used to measure. Ask children to circle the correct tool.  

Answers for student page 168:  
1. Thermometer  
2. Yardstick  
3. Yardstick  
4. Calendar  
5. Scale  
6. Clock  
7. Calendar  
8. Gallon

Go over answers with the whole group or check children’s papers individually.

Go Further  
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 20 small pieces of paper or 20 index cards. Have the children use one slip of paper or card to copy the information from each box on student page 168.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Players decide who goes first. The first player turns over two cards. If the cards match (show an activity and the correct tool for measuring), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment  
Student self-assessment page 168 Have children circle one of the three choices to describe how they feel about this activity.  

Assessment tip Are children able to select appropriate tools for measuring?
Materials
Student page 169
Math Jumble activity poster and digit cards

Concept and Handbook References
Recognize addition facts for sums of 21.
(MTL 70–71, 114–117)

Get Started
Begin by brainstorming addition facts for sums of 21. One child calls out a number. Another child calls out a second number. Then, a third child gives the addition fact. For example, one child calls out “12,” the second child calls out “9,” and the third child says, “12 + 9 = 21.” If the sum is not 21, then the three children try again. Repeat until all children have had a chance to participate.

Today’s Challenge
Using 16 of the 0–20 digit cards, randomly position the cards on the 4 by 4 grid. Be sure no digit card is used more than once. Separate children into groups. Explain that the object is to find as many numbers whose sum is 21 as possible. Children can use two or more addends. The group with the most addition sentences wins the round.

Student page 169 Using 16 of the 0–20 digit cards, randomly reposition the cards in the 4 by 4 grid. Be sure no digit card is used more than once. Direct children to copy the numbers in the grid to their books. Encourage children to find as many numbers as possible whose sum is 21. Children can use two or more addends. Ask students to compare their sums.

Answers for student page 169: Answers will vary. Check children’s work.

Go Further
Student page 169 Using the grid on the student page, have each student create a Math Jumble to share with a friend.

Answers for student page 169: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 169 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the addition facts for sums of 21?
Materials
Student page 170
Blank paper

Concept and Handbook Reference
Use grouping to solve a division problem.
(ML 108–110)

Get Started
Help children visualize grouping. Use a cluster of
everyday objects such as backpacks, cups, napkins,
or pencils. Ask children to separate the items into
equal groups.

Student page 170 To introduce the activity, work
through the first problem on student page 170.
Read or ask a child to read the problem. Next
explain that when you have a problem and you are
given several answers to choose from, it helps if you
can “rule out” some of the answers. Ask for a volun-
teer to choose an answer that he or she knows is
wrong and tell why the answer is wrong. For exam-
ple, a child might say A (1 egg carton) is wrong
because “1 carton holds only 12 eggs.” (If members
of the group do not agree with the volunteer’s
response or reason, discuss until a consensus is
reached.) Have each child cross out the volunteer’s
choice and write the reason on the line next to the
incorrect answer. Ask for a second volunteer to rule
out another answer and proceed in the same way.
Then ask children to choose the correct answer
from the remaining two choices and fill in the circle
that shows the letter of the correct answer (C). Be
sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children
will be able to consult with members of the group,
but each child will complete the page and will
receive an individual score.

Then explain how points will be scored in today’s
activity. Each child will receive 10 points for each
answer (up to 2) that was ruled out for a good rea-
son (a maximum of 20 points) and 10 points for
choosing the correct answer. So, the maximum
number of points for each question is 30 and the
maximum number of points for the day is 60.

Student page 170 Have children work through each
problem, ruling out two answers, giving reasons,
and then choosing the correct answer. When a
group has completed both problems, the members
should bring you their papers for scoring. Discuss
errors with individuals or the group if necessary.

Answers for student page 170: 1. C 2. A
When all children’s papers have been scored, deter-
mine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write
his or her name and then create a multiple-choice
problem similar to the problems just solved. Ask
each child to share the problem with another child.
The second child solves the problem and signs his
or her name.

Assessment
Student self-assessment page 170 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tip Can children use grouping to solve
a division problem?
Materials
Student page 171
Blue, orange, green, and yellow markers or crayons

Concept and Handbook References
Work with number patterns on a calendar. (MTL 190–191, 254)

Background
A calendar can be used to be more than a display of
days of the month. By using a coloring scheme
based on a repeated pattern unit many number pat-
tterns can be revealed. Children are challenged to
search for connections between the color and num-
ber patterns that appear.

Get Started
Draw the calendar on
the board. Direct the
children to look at the
numbers in a down-
ward diagonal direc-
tion from right to left.
Ask:
• If you start with the
number 2, what
four numbers do
you see? (8, 14, 20 and 26)
• What do you notice about these four numbers?
(Each number is 6 more than the previous
number.)
Suggest to children that they look at the diagonals
that start with 1, 3 and 4. See if a similar pattern
exists with other numbers on the diagonal.

Today's Challenge
Student page 171 Have children complete the activ-
ity on the student page.

Answers for student page 171:
1. blue: 1, 2, 7, 8, 13, 14, 19, 20, 25, 26, 31;
orange: 3, 9, 15, 21, 27; green: 4, 5, 10, 11, 16,
17, 22, 23, 28, 29; yellow: 6, 12, 18, 24, 30

2. 6, 12, 18, 24, 30; counting by 6s
3. 4, 10, 16,
22, 28; starting with 4, add 6 to get the next
number

Go Further
Student page 171 Have children complete the activ-
ity on the student page.

Answers for student page 171: 4. 4, 10, 16, 22, 28;
5, 11, 17, 23, 29; or 6, 12, 18, 24, 30

Assessment
Student self-assessment page 171 Have children cir-
cle one of the three choices to describe how they
feel about the activity.

Assessment tip Can children work with number pat-
tterns on a calendar?
Materials
Student page 172
Math Maze cards (Week 35 Activity 172)

Concept and Handbook References
Review concepts presented in previous Math Mazes
(MTL 43, 62, 84–85, 96, 114–117).

Today's Challenge
Distribute the 18 Math Maze cards for Week 35.
Each child should receive at least one card, but
since all cards need to be distributed, some children
may need to get more than one card. Use the cards
to play the Math Maze game.

Instructions for playing Math Maze Ask children to
look at their cards. Ask one child to read the ques-
tion that is written on his or her card. Next ask,
"Who has the card with the answer to the question
just read?" Ask that child to read the answer, and
then read the question on his or her card. Play con-
tinues until all questions have been answered. The
last answer to be read should be the answer on the
first child's card.

The correct sequence of questions and answers is
shown on page 211.

Student page 172 When the group has finished
playing the game, have children open their books
and complete the Today's Challenge activity on
page 172 in the student book.

Answers for student page 172: 1. 715 2. 12 3. 6
4. 75 5. 10 6. 10 + 13 7. 11 8. 15 + 4 9. 502
10. 21

Go Further
Student page 172 Have children complete this sec-
tion on the student page.

Answers for student page 172: 11. 358 12. 249

Assessment
Student self-assessment page 172 Have children cir-
cle one of the three choices to describe how they
feel about this activity.

Assessment tips Can children add and subtract
numbers with ease? Do children use multiplication
to solve problems?

Children who experience any difficulties with this
Math Maze should review the concepts covered in
Weeks 21–25.
Materials
Student page 173
Blank paper (heavyweight if possible) or index cards

Concept and Handbook Reference
Identify faces and bases of geometric solids.
(M7L 204–205)

Get Started
Review the names of the faces and bases of pyramids, prisms, and cylinders.

Today’s Challenge
Student page 173 Have children look at page 173 in the student book. Explain that the first and third columns show a solid. The second and fourth columns show the names of the solids. Ask children to fill in the blanks.

- 4 triangular faces
- 6 rectangular faces
- 2 circular bases
- square pyramid
- rectangular prism
- cylinder

Go Further
Have pairs of children make a set of cards to play the game “Concentration.” Each pair of children will need 16 small pieces of paper or 16 index cards. Have children use one slip of paper or card to copy the information from each box on student page 173.

Instructions for playing “Concentration”: Shuffle the cards and lay them facedown in equal columns. Players decide who goes first. The first player turns over two cards. If the cards match (show a solid and its name), the player keeps the cards and goes again. If the cards do not match, the player turns the cards back over and the other player takes a turn. Play continues until all cards have been taken. The player with more cards at the end wins.

Assessment
Student self-assessment page 173 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Do children know the faces and bases of square pyramids, rectangular prisms, and cylinders?

Answers for student page 173: 1. square pyramid
2. cylinder 3. rectangular prism 4. triangular prism
5. 6. rectangular prism
7. triangular pyramid 8.

Go over answers with the whole group or check children’s papers individually.
Materials
Student page 174
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize that a repeated addition sentence can be written as a multiplication fact.
(MTL 96)

Get Started
Pull out three identical digit cards. For example, show three sevens. Ask:
• How many sevens do you see? (three sevens)
• How would you write an addition sentence using these cards? (7 + 7 + 7 = 21)
• How would you write a multiplication sentence about these cards? (3 × 7 = 21)
• What do you notice about the answers for both sentences? (They are the same.)

Continue with other digit cards.

Today's Challenge
Using the 4-8 digit cards, and one other digit card, construct the 4 by 4 grid poster shown. Explain that the object of today’s Math Jumble is to recognize repeating numbers. Children will use the repeating numbers to write an addition sentence. Children will also rewrite each sentence as a multiplication fact.

Strings of numbers are made by joining numbers that share a common side. For example, point to the three sixes in the upper left corner. First, combine the repeating numbers to write an addition sentence, 6 + 6 + 6 = 18. Then, rewrite the addition sentence as a multiplication fact, 3 × 6 = 18.

The table below lists the addition sentences and their related multiplication facts.

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Multiplication fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 + 4 + 4 = 12</td>
<td>3 × 4 = 12</td>
</tr>
<tr>
<td>5 + 5 + 5 = 15</td>
<td>3 × 5 = 15</td>
</tr>
<tr>
<td>6 + 6 + 6 = 18</td>
<td>3 × 6 = 18</td>
</tr>
<tr>
<td>7 + 7 + 7 = 21</td>
<td>3 × 7 = 21</td>
</tr>
<tr>
<td>8 + 8 + 8 = 24</td>
<td>3 × 8 = 24</td>
</tr>
</tbody>
</table>

Student page 174 Have children complete Today's Challenge on student page 174.

Answers for student page 174:

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Multiplication fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 + 4 + 4 = 12</td>
<td>3 × 4 = 12</td>
</tr>
<tr>
<td>5 + 5 + 5 = 15</td>
<td>3 × 5 = 15</td>
</tr>
<tr>
<td>6 + 6 + 6 = 18</td>
<td>3 × 6 = 18</td>
</tr>
<tr>
<td>7 + 7 + 7 = 21</td>
<td>3 × 7 = 21</td>
</tr>
<tr>
<td>8 + 8 + 8 = 24</td>
<td>3 × 8 = 24</td>
</tr>
</tbody>
</table>

Note: Some children might write addition sentences with fewer addends. For example, the sentences 6 + 6 = 12 and 2 × 6 = 12 are acceptable. Check children's work to be sure that the addition and multiplication facts correspond.

Go Further
Student page 174 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 174: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 174 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that a repeated addition sentence can be written as a multiplication fact?
Materials
Student page 175
Blank paper

Concept and Handbook Reference
Identify a cube, a cylinder, and a pyramid by name. (MTL 204–205)

Get Started
Review with children the difference between a 2-dimensional figure and a 3-dimensional figure. Ask,

- What is another name for a 3-dimensional figure? (a solid)
- Which one is a solid: a square or a cube? (cube)

- Which one is a solid: a circle or a sphere? (sphere)

- Which one is a solid: a triangle or a pyramid? (pyramid)

Student page 175 To introduce the activity, work through the first problem on student page 175. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say B (square) is wrong because “a square is not a solid.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (C). Be sure children understand why C is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 175 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 175: 1. A   2. D
When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 175 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify a cube, a cylinder, and a pyramid by name?
Materials
Student page 176
Student book inside back cover (hundred chart)

Concepts and Handbook References
Find matching sums on the hundred chart. (MTL 68–69)
Find missing addends for a given sum on the hundred chart. (MTL 84–85)

Background
This activity is a continuation of the hundred chart activity for Week 34. In that activity, children find sums on the diagonal of a 2 by 2 square for numbers in columns 1 through 5. The addition did not need regrouping in the ones place of the sum. In this activity, children will find the sums for numbers in columns 5 through 10.

Get Started
Have children turn to the hundred chart on the inside of the back cover of their books. On the board, draw the 2 by 2 square with the numbers 5, 6, 15, and 16. Direct children to find those numbers on the hundred chart.

Draw one diagonal double-headed arrow to connect 5 and 16. Ask:
• What is $5 + 16$? (21)

Then draw another diagonal double-headed arrow to connect 6 and 15. Ask:
• What is $6 + 15$? (21)

Next, draw the 2 by 2 square under the previous one with the numbers 15, 16, 25, and 26. Direct children to find those numbers on the hundred chart.

Draw one diagonal double-headed arrow to connect the numbers. Ask:
• What is $15 + 26$? (41)
• What is $16 + 25$? (41)

Draw the 2 by 2 square with the numbers 85, 86, 95, and 96. Direct children to find the sums on the diagonals. (181; 181)

Direct children to look at all three of the 2 by 2 squares and accompanying addition sentences. Ask:
• What do you notice about all of these sums? (The digit in the ones place is a 1.)
• Why is this so? (The addends have a 5 and a 6 in the ones place, so the sum equals 11.)
• Do you think this is true for all the sums in the 5s and 6s columns? Why? (Yes; the addends all have a 5 and a 6 in the ones place.)
• Look at the 2 by 2 square on the hundred chart for 7, 8, 17, and 18. For the sums in the 7s and 8s columns what do you think the digit in the ones place will be? Why? (Since $7 + 8 = 15$, the digit in the ones place will be 5.)

Find other sums on the diagonals of 2 by 2 squares for the 6s and 7s columns or for the 8s and 9s columns.

Today’s Challenge
Student page 176 Have children complete the activity on the student page.

Answers for student page 176: 1. 27, 27 2. 67, 67 3. 147; 69 + 78 = 147 4. 167; 79 + 88 = 167 5. 23; $7 + 16 = 23$ 6. 105; 48 + $57 = 105$

Go Further
Student page 176 Have children complete the activity on the student page.

Answers for student page 176:
7. 9, 10, 19, 20; $9 + 20 = 29$, 10 + 19 = 29
8. 19, 20, 29, 30; $19 + 30 = 49$, 20 + 29 = 49
9. 7, 8, 17, 18; $7 + 18 = 25$, 8 + 17 = 25

Assessment
Student self-assessment page 176 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children find matching sums on diagonals on the hundred chart, and find missing addends for a given sum of the diagonals?
Materials
Student page 177
Math Maze cards (Week 36 Activity 177)

Concept and Handbook References
Review concepts presented in previous Math Mazes. (MLT 82–85, 96)

Today's Challenge
Distribute the 18 Math Maze cards for Week 36. Each child should receive at least one card, but since all cards need to be distributed, some children may need to get more than one card. Use the cards to play the Math Maze game.

Instructions for playing Math Maze: Ask children to look at their cards. Ask one child to read the question that is written on his or her card. Next ask, “Who has the card with the answer to the question just read?” Ask that child to read the answer, and then read the question on his or her card. Play continues until all questions have been answered. The last answer to be read should be the answer on the first child’s card.

The correct sequence of questions and answers is shown on page 212.

Student page 177 When the group has finished playing the game, have children open their books and complete the Today's Challenge activity on page 177 in the student book.


Go Further
Student page 177 Have children complete this section on the student page.

Answer for student page 177: Answers will vary. Check children’s riddles.

Assessment
Student self-assessment page 177 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tips Can children add or subtract subtract multiples of 100 mentally? Can children solve number riddles?

Children who experience any difficulties with this Math Maze should review the concepts covered in Weeks 26–30.
Materials  
Student page 178  
Blank paper  

Concept and Handbook Reference  
Divide without remainders.  
(MTL 108–110)  

Get Started  
Explain to children that we can think of division as sharing. This is something that we do every day. Use everyday objects to demonstrate sharing. For example, display 12 paper cups. Ask:  
• What happens if we share these paper cups between 2 friends? (Each friend gets 6 cups.)  
• What happens if we share these paper cups among 3 friends? (Each friend gets 4 cups.)  
• What happens if we share these paper cups among 4 friends? (Each friend gets 3 cups.)  
• What happens if we share these paper cups among 6 friends? (Each friend gets 2 cups.)  
• What happens if we share these paper cups with 5 friends? (Each friend gets 2 cups, and there will be 2 extras left over.)  
Continue with other numbers that can be divided evenly.  

Today’s Challenge  
Explain that today the class will be playing a game called “Fantastic Finalist.” Give each child a piece of paper with a number between 10 and 20. You do not have to use all the numbers, but be sure that one child receives the number 11, since that number will be the “Fantastic Finalist.”  
Have all children hold their numbers and stand in a circle. Explain that the number on their card represents how many cookies they have to share. Explain that the object of the game is to be the “Fantastic Finalist,” the last child to remain standing.  
Read each of the following challenges, one at a time.  
• If 5 people can share your number of cookies evenly, sit down. (10, 15, 20)  
• If 4 people can share your number of cookies evenly, sit down. (12, 16)  
• If 2 people can share your number of cookies evenly, sit down. (14, 18)  
• If the number of cookies you have is greater than 12, sit down. (13, 17, 19)  
At this point, only the child holding the number 11 should still be standing. That child is the “Fantastic Finalist.”  

Go Further  
Student page 178 Have children complete the activity on the student page.  

Assessment  
Student self-assessment page 178 Have children circle one of the three choices to describe how they feel about this activity.  
Assessment tip Do children understand how to divide without remainders?
Materials
Student page 179
Math Jumble activity poster and digit cards

Concept and Handbook Reference
Recognize that a repeated addition sentence can be written as a multiplication fact. (MTL 96)

Get Started
Pull out three identical digit cards. For example, show three eights. Ask:
• How many eights do you see? (three eights)
• How would you write an addition sentence using these cards? (8 + 8 + 8 = 24)
• How would you write a multiplication sentence about three eights? (3 × 8 = 24)
• What do you notice about the answers for both sentences? (They are the same.)

Continue with other digit cards in groups.

Today’s Challenge
Using the 4-9 digit cards, construct the 4 by 4 grid shown. Explain that the object of today’s Math Jumble is to recognize repeating numbers. Children will use the repeating numbers to write an addition sentence. Children will also rewrite each sentence as a multiplication fact.

Strings of numbers are made by joining numbers that share a common side. For example, point to the three nines in the upper left corner. First, combine the repeating numbers to write an addition sentence, 9 + 9 + 9 = 27. Then rewrite the addition sentence as a multiplication fact, 3 × 9 = 27. The table below lists the addition sentences and their related multiplication facts.

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Multiplication fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 + 5 + 5 = 15</td>
<td>3 × 5 = 15</td>
</tr>
<tr>
<td>6 × 6 + 6 = 18</td>
<td>3 × 6 = 18</td>
</tr>
<tr>
<td>7 + 7 + 7 = 21</td>
<td>3 × 7 = 21</td>
</tr>
<tr>
<td>8 + 8 + 8 = 24</td>
<td>3 × 8 = 24</td>
</tr>
<tr>
<td>9 + 9 + 9 = 27</td>
<td>3 × 9 = 27</td>
</tr>
</tbody>
</table>

Student page 179 Have children complete Today’s Challenge on student page 179.

Answers for student page 179:

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Multiplication fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 + 5 + 5 = 15</td>
<td>3 × 5 = 15</td>
</tr>
<tr>
<td>6 + 6 + 6 = 18</td>
<td>3 × 6 = 18</td>
</tr>
<tr>
<td>7 + 7 + 7 = 21</td>
<td>3 × 7 = 21</td>
</tr>
<tr>
<td>8 + 8 + 8 = 24</td>
<td>3 × 8 = 24</td>
</tr>
<tr>
<td>9 + 9 + 9 = 27</td>
<td>3 × 9 = 27</td>
</tr>
</tbody>
</table>

Note: Some children might write addition sentences with fewer addends. For example, the sentences 6 + 6 = 12 and 2 × 6 = 12 are acceptable. Check children’s work to be sure that the addition and multiplication facts correspond.

Go Further
Student page 179 Using the grid on the student page, have each child create a Math Jumble to share with a friend.

Answers for student page 179: Answers will vary. Check children’s work.

Assessment
Student self-assessment page 179 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children recognize that a repeated addition sentence can be written as a multiplication fact?
Materials
Student page 180
Blank paper

Concept and Handbook Reference
Identify the properties of a number.
(MTL 26–37)

Get Started
Help children understand what it means to have a statement that is true or not true. Ask children to answer true or not true to the statements below.
• You are a student. (true)
• You are 7 feet tall. (not true)
• Independence Day is on July 4. (true)
• Valentine’s Day is on February 14. (true)
• You are going to eighth grade tomorrow. (not true)

Continue with other similar statements. Or, ask children to create statements of their own.

Student page 180 To introduce the activity, work through the first problem on student page 180. Read or ask a child to read the problem. Next explain that when you have a problem and you are given several answers to choose from, it helps if you can “rule out” some of the answers. Ask for a volunteer to choose an answer that he or she knows is wrong and tell why the answer is wrong. For example, a child might say A (it is an odd number.) is wrong because “any number with zero in the ones place is an even number.” (If members of the group do not agree with the volunteer’s response or reason, discuss until a consensus is reached.) Have each child cross out the volunteer’s choice and write the reason on the line next to the incorrect answer. Ask for a second volunteer to rule out another answer and proceed in the same way. Then ask children to choose the correct answer from the remaining two choices and fill in the circle that shows the letter of the correct answer (B). Be sure children understand why B is correct.

Today’s Challenge
Divide children into groups of 2, 3, or 4. Children will be able to consult with members of the group, but each child will complete the page and will receive an individual score.

Then explain how points will be scored in today’s activity. Each child will receive 10 points for each answer (up to 2) that was ruled out for a good reason (a maximum of 20 points) and 10 points for choosing the correct answer. So, the maximum number of points for each question is 30 and the maximum number of points for the day is 60.

Student page 180 Have children work through each problem, ruling out two answers, giving reasons, and then choosing the correct answer. When a group has completed both problems, the members should bring you their papers for scoring. Discuss errors with individuals or the group if necessary.

Answers for student page 180: 1. C  2. C
When all children’s papers have been scored, determine the high scorer(s) for the day.

Go Further
On a separate sheet of paper, have each child write his or her name and then create a multiple-choice problem similar to the problems just solved. Ask each child to share the problem with another child. The second child solves the problem and signs his or her name.

Assessment
Student self-assessment page 180 Have children circle one of the three choices to describe how they feel about this activity.

Assessment tip Can children identify properties of a number?
Questions and Answers for Math Maze Cards

The tables below show the sequence that the questions and answers should follow. Find the starting question. Look across the row for the correct answer. Then go on to the next question below and continue until you reach the end of the table. Then go to the top of the table and read down until you reach the starting question again.

<table>
<thead>
<tr>
<th>Who has a way of expressing 13?</th>
<th>I have</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has a way of expressing 21?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 11?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 6?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 16?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 18?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 7?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 12?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 22?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 19?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 24?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 14?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 5?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 20?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 23?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 17?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has a way of expressing 9?</td>
<td>I have</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the special name for 12 inches?</td>
<td>I have 1 foot.</td>
</tr>
<tr>
<td>Who has the sum of 1 foot + 1 foot?</td>
<td>I have 2 feet.</td>
</tr>
<tr>
<td>Who has the length in inches of a foot-long ruler?</td>
<td>I have 12 inches.</td>
</tr>
<tr>
<td>Who has the sum of 12 inches and 3 inches?</td>
<td>I have 15 inches.</td>
</tr>
<tr>
<td>Who has a different name for 1 yard?</td>
<td>I have 3 feet.</td>
</tr>
<tr>
<td>Who has the sum of 1 yard and 1 foot?</td>
<td>I have 4 feet.</td>
</tr>
<tr>
<td>Who has the length of a football field?</td>
<td>I have 100 yards.</td>
</tr>
<tr>
<td>Who has the length of a new crayon?</td>
<td>I have 3 inches.</td>
</tr>
<tr>
<td>Who has the distance across the United States?</td>
<td>I have 3000 miles.</td>
</tr>
<tr>
<td>Who has the sum of 1 foot and 1 inch?</td>
<td>I have 13 inches.</td>
</tr>
<tr>
<td>Who has the length of a thumb?</td>
<td>I have 2 inches.</td>
</tr>
<tr>
<td>Who has the distance for a marathon?</td>
<td>I have 26 miles.</td>
</tr>
<tr>
<td>Who has the sum of 10 miles + 2 miles?</td>
<td>I have 12 miles.</td>
</tr>
<tr>
<td>Who has the height of a man?</td>
<td>I have 6 feet.</td>
</tr>
<tr>
<td>Who has the height of a mountain?</td>
<td>I have 3000 feet.</td>
</tr>
<tr>
<td>Who has the special name for 3 feet?</td>
<td>I have 1 yard.</td>
</tr>
<tr>
<td>Who has the length of an inchworm?</td>
<td>I have 1 inch.</td>
</tr>
<tr>
<td>Who has the length of half a foot?</td>
<td>I have 6 inches.</td>
</tr>
</tbody>
</table>

### Week 3•Activity 12

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the number you add to 4 to get a sum of 6?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the number you add to 5 to get a sum of 8?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has two equal addends with a sum of 8?</td>
<td>I have 4 + 4.</td>
</tr>
<tr>
<td>Who has the number you add to 7 to get a sum of 7?</td>
<td>I have 0.</td>
</tr>
<tr>
<td>Who has the sum of 1 + 6?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the numbers between 2 and 5 that add up to 7?</td>
<td>I have 3 + 4.</td>
</tr>
<tr>
<td>Who has the least and greatest addends that have a sum of 7?</td>
<td>I have 0 and 7.</td>
</tr>
<tr>
<td>Who has the number you add to 3 to get a sum of 8?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has two equal addends with a sum 6?</td>
<td>I have 3 + 3.</td>
</tr>
<tr>
<td>Who has the numbers between 0 and 5 that have a sum of 6?</td>
<td>I have 2 and 4.</td>
</tr>
<tr>
<td>Who has the number you add to 5 to get a sum of 6?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has the sum of 4 + 2?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has two different even addends between 1 and 7 with a sum of 8?</td>
<td>I have 6 and 2.</td>
</tr>
<tr>
<td>Who has the least and greatest addends with a sum of 8?</td>
<td>I have 0 and 8.</td>
</tr>
<tr>
<td>Who has the number you add to 0 to get a sum of 8?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has two different numbers between 2 and 6 that add up to 8?</td>
<td>I have 3 and 5.</td>
</tr>
<tr>
<td>Who has the least and greatest addends that have a sum of 6?</td>
<td>I have 0 and 6.</td>
</tr>
<tr>
<td>Who has the number you add to 2 to get a sum of 6?</td>
<td>I have 4.</td>
</tr>
</tbody>
</table>
### Week 4•Activity 17

**Questions and Answers for Math Maze Cards**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the odd number between 9 and 13?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has the even number closest to and greater than 30?</td>
<td>I have 32.</td>
</tr>
<tr>
<td>Who has an even number with 4 in the tens place?</td>
<td>I have 42.</td>
</tr>
<tr>
<td>Who has the even number closest to and less than 75?</td>
<td>I have 74.</td>
</tr>
<tr>
<td>Who has the odd number that is closest to and less than 50?</td>
<td>I have 49.</td>
</tr>
<tr>
<td>Who has the first odd number after 80?</td>
<td>I have 81.</td>
</tr>
<tr>
<td>Who has the second odd number after 10?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has an odd number less than 10?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has an odd number with both digits the same?</td>
<td>I have 55.</td>
</tr>
<tr>
<td>Who has an even number with zero in the ones place?</td>
<td>I have 90.</td>
</tr>
<tr>
<td>Who has the odd number that is halfway between 30 and 40?</td>
<td>I have 35.</td>
</tr>
<tr>
<td>Who has the odd number that is halfway between 70 and 80?</td>
<td>I have 75.</td>
</tr>
<tr>
<td>Who has the largest even number less than 100?</td>
<td>I have 98.</td>
</tr>
<tr>
<td>Who has the even number that is between 16 and 20?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has the even number closest to and greater than 50?</td>
<td>I have 52.</td>
</tr>
<tr>
<td>Who has the odd number that is between 86 and 88?</td>
<td>I have 87.</td>
</tr>
<tr>
<td>Who has the second even number after 60?</td>
<td>I have 64.</td>
</tr>
<tr>
<td>Who has the even number between 25 and 27?</td>
<td>I have 26.</td>
</tr>
</tbody>
</table>

### Week 5•Activity 22

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the sum of 9 + 2?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has the sum of 10 + 10?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has the sum of 3 + 3 + 3?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has the sum of 7 + 7?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the sum of 2 + 2 + 2 + 2?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the sum of 6 + 7?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has the sum of 13 + 4?</td>
<td>I have 17.</td>
</tr>
<tr>
<td>Who has the sum of 5 + 5 + 5?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has the sum of 0 + 5?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the sum of 8 + 8?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has the sum of 3 + 3?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has the sum of 5 + 5?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has the sum of 1 + 1 + 1 + 1?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has the sum of 15 + 4?</td>
<td>I have 19.</td>
</tr>
<tr>
<td>Who has the sum of 9 + 9?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has the sum of 6 + 6?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the sum of 7 + 0?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the sum of 1 + 1 + 1?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Who has doubles that have a sum of 10?</td>
<td>I have 5 + 5.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 80 and an answer that equals 10?</td>
<td>I have 80 – 70.</td>
</tr>
<tr>
<td>Who has an addition problem with 8 and an answer that equals 10?</td>
<td>I have 2 + 8.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 14 and an answer that equals 10?</td>
<td>I have 14 – 4.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 12 and an answer that equals 10?</td>
<td>I have 12 – 2.</td>
</tr>
<tr>
<td>Who has 5 identical addends with an answer that equals 10?</td>
<td>I have 2 + 2 + 2 + 2 + 2.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 20 and an answer that equals 10?</td>
<td>I have 20 – 10.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 17 and an answer that equals 10?</td>
<td>I have 17 – 7.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 15 and an answer that equals 10?</td>
<td>I have 15 – 5.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 11 and an answer that equals 10?</td>
<td>I have 11 – 1.</td>
</tr>
<tr>
<td>Who has an addition problem with 6 and an answer that equals 10?</td>
<td>I have 6 + 4.</td>
</tr>
<tr>
<td>Who has an addition problem with zero and an answer that equals 10?</td>
<td>I have 10 + 0.</td>
</tr>
<tr>
<td>Who has an addition problem with 7 and an answer that equals 10?</td>
<td>I have 7 + 3.</td>
</tr>
<tr>
<td>Who has a subtraction problem with 100 and an answer that equals 10?</td>
<td>I have 100 – 90.</td>
</tr>
<tr>
<td>Who has an addition problem with 2 plus a pair of doubles and an answer that equals 10?</td>
<td>I have 2 + 4 + 4.</td>
</tr>
<tr>
<td>Who has an addition problem with 1 and an answer that equals 10?</td>
<td>I have 1 + 9.</td>
</tr>
<tr>
<td>Who has a subtraction problem with zero and an answer that equals 10?</td>
<td>I have 10 – 0.</td>
</tr>
<tr>
<td>Who has a subtraction problem with the number 13 and an answer that equals 10?</td>
<td>I have 13 – 3.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Who has</th>
<th>I have</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 coins worth a total of 6 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>twin coins worth a total of 20 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 different coins worth a total of 40 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 coins worth a total of 7 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>4 coins worth a total of 1 dollar?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>6 coins worth a total of 10 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>2 coins with one worth twice as much as the other?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 different coins worth a total of 31 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 coins worth a total of 21 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>5 coins worth a total of 50 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>4 coins worth a total of 25 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>2 coins worth a total of 50 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>2 coins worth a total of 10 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>4 coins worth a total of 8 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 of the same coins worth a total of 30 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>4 coins worth a total of 80 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 coins worth a total of 75 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
<tr>
<td>3 coins worth a total of 15 cents?</td>
<td><img src="image" alt="coin" /> <img src="image" alt="coin" /> <img src="image" alt="coin" /></td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 10 more than 43?</td>
<td>I have 53.</td>
</tr>
<tr>
<td>Who has 60 more than 25?</td>
<td>I have 85.</td>
</tr>
<tr>
<td>Who has 10 less than 64?</td>
<td>I have 54.</td>
</tr>
<tr>
<td>Who has 20 less than 53?</td>
<td>I have 33.</td>
</tr>
<tr>
<td>Who has 30 more than 33?</td>
<td>I have 63.</td>
</tr>
<tr>
<td>Who has 40 more than 55?</td>
<td>I have 95.</td>
</tr>
<tr>
<td>Who has 10 more than 71?</td>
<td>I have 81.</td>
</tr>
<tr>
<td>Who has 30 less than 76?</td>
<td>I have 46.</td>
</tr>
<tr>
<td>Who has 20 less than 46?</td>
<td>I have 26.</td>
</tr>
<tr>
<td>Who has 10 less than 26?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has 80 more than 16?</td>
<td>I have 96.</td>
</tr>
<tr>
<td>Who has 40 less than 96?</td>
<td>I have 56.</td>
</tr>
<tr>
<td>Who has 20 less than 90?</td>
<td>I have 70.</td>
</tr>
<tr>
<td>Who has 10 more than 55?</td>
<td>I have 65.</td>
</tr>
<tr>
<td>Who has 20 less than 93?</td>
<td>I have 73.</td>
</tr>
<tr>
<td>Who has 30 more than 34?</td>
<td>I have 64.</td>
</tr>
<tr>
<td>Who has 50 less than 73?</td>
<td>I have 23.</td>
</tr>
<tr>
<td>Who has 10 less than 53?</td>
<td>I have 43.</td>
</tr>
</tbody>
</table>

### Week 9 • Activity 42

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 5 minus 4?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has 4 plus 5?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has 11 take away 8?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has 2 take away 2?</td>
<td>I have 0.</td>
</tr>
<tr>
<td>Who has 7 minus 5?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has 6 plus 6?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has 0 plus 20?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has 3 plus 8?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has 12 minus 6?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has 9 take away 4?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has 5 plus 2?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has 11 minus 3?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has 12 take away 2?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has 7 plus 7?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has 9 take away 5?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has 6 plus 7?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has 8 plus 8?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has 7 plus 8?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Question</td>
<td>Time shown</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Who has 10:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 12 noon?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes past 8 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 6 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 10 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 11:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 3 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half past 4?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 15 minutes to 9 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 1 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes past 2 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 6:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes past 10 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 12:45?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 45 minutes past 4 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes past 1 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 5 o'clock?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 7:15?</td>
<td>I have</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Who has a flat object that is round?</th>
<th>I have <img src="image" alt="Clock" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has an object that is made up of squares on all sides?</td>
<td>I have <img src="image" alt="Cube" /></td>
</tr>
<tr>
<td>Who has a flat object with 4 square corners?</td>
<td>I have <img src="image" alt="Rectangular prism" /></td>
</tr>
<tr>
<td>Who has a solid with 4 triangles and 1 square?</td>
<td>I have <img src="image" alt="Pyramid" /></td>
</tr>
<tr>
<td>Who has an object the shape of a cylinder?</td>
<td>I have <img src="image" alt="Cylinder" /></td>
</tr>
<tr>
<td>Who has an oval-shaped object?</td>
<td>I have <img src="image" alt="Oval" /></td>
</tr>
<tr>
<td>Who has a kite-shaped object?</td>
<td>I have <img src="image" alt="Kite" /></td>
</tr>
<tr>
<td>Who has a flat object with 3 sides that are connected?</td>
<td>I have <img src="image" alt="Triangular Prism" /></td>
</tr>
<tr>
<td>Who has an object that is round all over?</td>
<td>I have <img src="image" alt="Sphere" /></td>
</tr>
<tr>
<td>Who has an object that is round on one end and pointed on the other?</td>
<td>I have <img src="image" alt="Cone" /></td>
</tr>
<tr>
<td>Who has an object that has 4 rectangles and 2 squares?</td>
<td>I have <img src="image" alt="Box" /></td>
</tr>
<tr>
<td>Who has an object with 3 different rectangles?</td>
<td>I have <img src="image" alt="Rectangular Prism" /></td>
</tr>
<tr>
<td>Who has the name of this shape? <img src="image" alt="Triangle" /></td>
<td>I have triangle.</td>
</tr>
<tr>
<td>Who has the name of this shape? <img src="image" alt="Square" /></td>
<td>I have square.</td>
</tr>
<tr>
<td>Who has the name of this shape? <img src="image" alt="Rectangle" /></td>
<td>I have rectangle.</td>
</tr>
<tr>
<td>Who has the name of this shape? <img src="image" alt="Oval" /></td>
<td>I have oval.</td>
</tr>
<tr>
<td>Who has the name of this solid? <img src="image" alt="Cone" /></td>
<td>I have sphere.</td>
</tr>
<tr>
<td>Who has the name of this solid? <img src="image" alt="Cylinder" /></td>
<td>I have cylinder.</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has half the number of inches in 12 inches?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has half the number of legs on a cat?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has half the number of minutes in 60 minutes?</td>
<td>I have 30.</td>
</tr>
<tr>
<td>Who has half the number of weeks in 52 weeks?</td>
<td>I have 26.</td>
</tr>
<tr>
<td>Who has half the number of wings on an airplane?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has half the number of hours in 24 hours?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has half the number of ounces in 8 ounces?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has half the number of inches in 36 inches?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has half the number of pennies in 10 pennies?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has half the number of legs on a 16-legged monster?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has half the number of pages in a 48-page book?</td>
<td>I have 24.</td>
</tr>
<tr>
<td>Who has half the number of quarts in 6 quarts?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has half the number of seconds in 90 seconds?</td>
<td>I have 45.</td>
</tr>
<tr>
<td>Who has half the number of cents in 50 cents?</td>
<td>I have 25.</td>
</tr>
<tr>
<td>Who has half the number of bagels in 20 bagels?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has half the number of days in 30 days?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has half the number of yards in 100 yards?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has half the number of wheels on an 18-wheeler truck?</td>
<td>I have 9.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th><strong>Who has</strong></th>
<th><strong>Question</strong></th>
<th><strong>I have</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily</td>
<td>practices the piano 20 minutes a day. How long does she practice in 3 days?</td>
<td>60 minutes.</td>
</tr>
<tr>
<td>Ben</td>
<td>earns $1 a day dog walking. He works for 15 days. How much money will he have?</td>
<td>$15.</td>
</tr>
<tr>
<td>Caitlin</td>
<td>uses 2 cups of flour to bake cookies. Sarah uses another 7 cups to make pancakes. How many cups of flour do they use?</td>
<td>9 cups.</td>
</tr>
<tr>
<td>Meg</td>
<td>Meg’s desk measures 3 feet long. Dave’s desk is the same length. What is the length if Meg and Dave put their desks end-to-end?</td>
<td>6 feet.</td>
</tr>
<tr>
<td></td>
<td>Each song on the CD is 2 minutes long. How long will it take to play all 10 songs?</td>
<td>20 minutes.</td>
</tr>
<tr>
<td>Mansun</td>
<td>runs 3 miles each day. How many miles will he run in 4 days?</td>
<td>12 miles.</td>
</tr>
<tr>
<td>Pearl</td>
<td>The stick is 18 inches long. Pearl paints 11 inches red. How many inches are left unpainted?</td>
<td>7 inches.</td>
</tr>
<tr>
<td>Susan</td>
<td>needs 13 feet of ribbon to make the costume. She has 9 feet. How much more does she need?</td>
<td>4 feet.</td>
</tr>
<tr>
<td></td>
<td>At noon, the outside temperature is 60 degrees. Later, it drops 5 degrees. What is the new temperature?</td>
<td>55 degrees.</td>
</tr>
<tr>
<td>Ed</td>
<td>Ed’s new car weighs 2 tons. Justine’s new car weighs the same. How much do the two cars weigh together?</td>
<td>4 tons.</td>
</tr>
<tr>
<td>Debbie</td>
<td>Each gallon of orange juice costs $4. Debbie buys 4 gallons. How much will that cost?</td>
<td>$16.</td>
</tr>
<tr>
<td>Maggie</td>
<td>As a puppy, Maggie weighed 3 pounds. Now she weighs 17 pounds. How much weight did she gain?</td>
<td>14 pounds.</td>
</tr>
<tr>
<td>Ella</td>
<td>goes to swim class at 3 o’clock. The class ends at 3:45. How long is the lesson?</td>
<td>45 minutes.</td>
</tr>
<tr>
<td>An inchworm</td>
<td>measures one inch. How many inches are 16 inchworms?</td>
<td>16 inches.</td>
</tr>
<tr>
<td></td>
<td>The flight from Boston to Cleveland is 2 hours long. From Cleveland to Seattle is 4 hours long. How many hours is this in all?</td>
<td>6 hours.</td>
</tr>
<tr>
<td></td>
<td>According to the weather report, it snowed 2 inches per hour yesterday. How many inches fell if it snowed for 7 hours?</td>
<td>14 inches.</td>
</tr>
<tr>
<td></td>
<td>John can type 30 words per minute. How long will it take him to type 90 words?</td>
<td>3 minutes.</td>
</tr>
<tr>
<td>Leslie</td>
<td>has 32 pennies. She puts them in 8 equal groups. How many pennies are in each group?</td>
<td>4 pennies.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 27 + 10?</td>
<td>I have 37.</td>
</tr>
<tr>
<td>Who has 14 + 10?</td>
<td>I have 24.</td>
</tr>
<tr>
<td>Who has 59 + 10?</td>
<td>I have 69.</td>
</tr>
<tr>
<td>Who has 31 + 10?</td>
<td>I have 41.</td>
</tr>
<tr>
<td>Who has 10 + 28?</td>
<td>I have 38.</td>
</tr>
<tr>
<td>Who has 62 + 10?</td>
<td>I have 72.</td>
</tr>
<tr>
<td>Who has 18 + 10?</td>
<td>I have 28.</td>
</tr>
<tr>
<td>Who has 85 + 10?</td>
<td>I have 95.</td>
</tr>
<tr>
<td>Who has 10 + 64?</td>
<td>I have 74.</td>
</tr>
<tr>
<td>Who has 29 + 10?</td>
<td>I have 39.</td>
</tr>
<tr>
<td>Who has 82 + 10?</td>
<td>I have 92.</td>
</tr>
<tr>
<td>Who has 70 + 10?</td>
<td>I have 80.</td>
</tr>
<tr>
<td>Who has 54 + 10?</td>
<td>I have 64.</td>
</tr>
<tr>
<td>Who has 21 + 10?</td>
<td>I have 31.</td>
</tr>
<tr>
<td>Who has 33 + 10?</td>
<td>I have 43.</td>
</tr>
<tr>
<td>Who has 10 + 44?</td>
<td>I have 54.</td>
</tr>
<tr>
<td>Who has 40 + 10?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has 72 + 10?</td>
<td>I have 82.</td>
</tr>
</tbody>
</table>

### Week 15•Activity 72

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 10 plus □ equals 13?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 27?</td>
<td>I have 17.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 16?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has 15 plus □ equals 19?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has 20 plus □ equals 21?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 25?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 12?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 18?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has 17 plus □ equals 27?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has 22 plus □ equals 29?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 15?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has 14 plus □ equals 23?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has 10 plus □ equals 26?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has 20 plus □ equals 31?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has 12 plus □ equals 24?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has 29 plus □ equals 29?</td>
<td>I have 0.</td>
</tr>
<tr>
<td>Who has 13 plus □ equals 26?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has 14 plus □ equals 28?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Questions</td>
<td>I have</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Who has 10 cents?</td>
<td>[10]</td>
</tr>
<tr>
<td>Who has 30 cents?</td>
<td>[30]</td>
</tr>
<tr>
<td>Who has 24 cents?</td>
<td>[24]</td>
</tr>
<tr>
<td>Who has 1 cent?</td>
<td>[1]</td>
</tr>
<tr>
<td>Who has 26 cents?</td>
<td>[26]</td>
</tr>
<tr>
<td>Who has 8 cents?</td>
<td>[8]</td>
</tr>
<tr>
<td>Who has 3 cents?</td>
<td>[3]</td>
</tr>
<tr>
<td>Who has 31 cents?</td>
<td>[31]</td>
</tr>
<tr>
<td>Who has 5 cents?</td>
<td>[5]</td>
</tr>
<tr>
<td>Who has 4 cents?</td>
<td>[4]</td>
</tr>
<tr>
<td>Who has 2 cents?</td>
<td>[2]</td>
</tr>
<tr>
<td>Who has 36 cents?</td>
<td>[36]</td>
</tr>
<tr>
<td>Who has 25 cents?</td>
<td>[25]</td>
</tr>
<tr>
<td>Who has 9 cents?</td>
<td>[9]</td>
</tr>
<tr>
<td>Who has 15 cents?</td>
<td>[15]</td>
</tr>
<tr>
<td>Who has 20 cents?</td>
<td>[20]</td>
</tr>
<tr>
<td>Who has 75 cents?</td>
<td>[75]</td>
</tr>
<tr>
<td>Who has 50 cents?</td>
<td>[50]</td>
</tr>
<tr>
<td>Questions</td>
<td>Answers</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Who has 30 minutes after 11:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 10:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 8:30?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 5:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 5:30?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the time when it is noon?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 6:30?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 2:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 12:30?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after 8:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after noon?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 3:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 11:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after 9:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 4:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after 9:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after 7:15?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour past 5:15?</td>
<td>I have</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 10 more than 34?</td>
<td>I have 44.</td>
</tr>
<tr>
<td>Who has 10 less than 70?</td>
<td>I have 60.</td>
</tr>
<tr>
<td>Who has 3 more than 38?</td>
<td>I have 41.</td>
</tr>
<tr>
<td>Who has 10 more than 19?</td>
<td>I have 29.</td>
</tr>
<tr>
<td>Who has 4 less than 44?</td>
<td>I have 40.</td>
</tr>
<tr>
<td>Who has 2 more than 55?</td>
<td>I have 57.</td>
</tr>
<tr>
<td>Who has 5 more than 20?</td>
<td>I have 25.</td>
</tr>
<tr>
<td>Who has 10 more than 85?</td>
<td>I have 95.</td>
</tr>
<tr>
<td>Who has 1 less than 21?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has 3 less than 100?</td>
<td>I have 97.</td>
</tr>
<tr>
<td>Who has 20 more than 30?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has 5 less than 39?</td>
<td>I have 34.</td>
</tr>
<tr>
<td>Who has 2 more than 46?</td>
<td>I have 48.</td>
</tr>
<tr>
<td>Who has 4 more than 45?</td>
<td>I have 49.</td>
</tr>
<tr>
<td>Who has 20 less than 100?</td>
<td>I have 80.</td>
</tr>
<tr>
<td>Who has 2 more than 9?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has 4 more than 70?</td>
<td>I have 74.</td>
</tr>
<tr>
<td>Who has 2 more than 25?</td>
<td>I have 27.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Who has the date in December for New Year's Eve?</td>
<td>I have 31.</td>
</tr>
<tr>
<td>Who has the number of letters in the English alphabet?</td>
<td>I have 26.</td>
</tr>
<tr>
<td>Who has the number of days in February in a leap year?</td>
<td>I have 29.</td>
</tr>
<tr>
<td>Who has the number of states in the United States?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has the number of days in a week?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the number of people here more than 100 years old?</td>
<td>I have 0.</td>
</tr>
<tr>
<td>Who has the date in January for New Year's Day?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has the number of inches in 1 foot?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the number of pennies that equal 1 nickel?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the number of minutes in half an hour?</td>
<td>I have 30.</td>
</tr>
<tr>
<td>Who has the number of years in a decade?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has the number of sides on a STOP sign?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the number of socks in a pair?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the number of fingers and toes on each person?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has the date in February for Valentine's Day?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the number of years in a century?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has the number of cookies in a Baker's dozen?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has the number of years in a millennium?</td>
<td>I have 1000</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the double of 10?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has half of 2?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has the double of 11?</td>
<td>I have 22.</td>
</tr>
<tr>
<td>Who has half of 8?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has half of 22?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has half of 14?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has half of 18?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has the double of 9?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has half of 4?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the double of 7?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the double of 4?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the double of 6?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has half of 10?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the double of 8?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has the double of 20?</td>
<td>I have 40.</td>
</tr>
<tr>
<td>Who has half of 6?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has the double of 5?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has half of 12?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Who has the sum of $3 + 4$?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the sum of $7 + 3$?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has the sum of $9 + 2$?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has the number you add to 4 to get 9?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the number you add to 8 to get 10?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the number you add to 3 to get 11?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the sum of $2 + 7$?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has the number you double to get 8?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has the number you add to 7 to get 8?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has the number you add to 9 to get 12?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has the number you halve to get 6?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the number you double to get 12?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has the sum of $7 + 6$?</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has the sum of $9 + 7$?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has the answer you get when you double 9?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has the answer you get when you double 7?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the sum of $9 + 8$?</td>
<td>I have 17.</td>
</tr>
<tr>
<td>Who has the sum of $8 + 7$?</td>
<td>I have 15.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has an addition problem that equals 10 + 6?</td>
<td>I have 8 + 8.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 7 + 3?</td>
<td>I have 2 + 8.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 10 + 4?</td>
<td>I have 6 + 8.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 10 + 5?</td>
<td>I have 9 + 6.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 3 + 8?</td>
<td>I have 5 + 6.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 11 + 7?</td>
<td>I have 9 + 9.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 1?</td>
<td>I have 10 + 11.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 6 + 7?</td>
<td>I have 8 + 5.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 3?</td>
<td>I have 10 + 13.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 9 + 10?</td>
<td>I have 15 + 4.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 7?</td>
<td>I have 25 + 2.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 11 + 11?</td>
<td>I have 20 + 2.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 10 + 14?</td>
<td>I have 22 + 2.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 9?</td>
<td>I have 9 + 20.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 10 + 7?</td>
<td>I have 4 + 13.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 12 + 14?</td>
<td>I have 20 + 6.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 5 + 7?</td>
<td>I have 9 + 3.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 12 + 13?</td>
<td>I have 10 + 15.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has the number of sides in 1 triangle?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has the number of children in 2 sets of triplets?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has the number of sides in 3 triangles?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has the number of wheels on 4 tricycles?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the number of legs on 1 person?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the number of wings on 4 birds?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the number of sleeves on 7 sweaters?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the number of ears on 8 dogs?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has the number of wheels on 9 bicycles?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has the number of days in 3 weeks?</td>
<td>I have 21.</td>
</tr>
<tr>
<td>Who has the number of legs on 1 turtle?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has the number of paws on 5 cats?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has the number of tails on 10 dogs?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has the number of pennies in 2 dollars?</td>
<td>I have 200.</td>
</tr>
<tr>
<td>Who has the number of beaks on 15 ducks?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has the number of tires on 6 cars?</td>
<td>I have 24.</td>
</tr>
<tr>
<td>Who has the number of fingers on 7 hands?</td>
<td>I have 35.</td>
</tr>
<tr>
<td>Who has the number of toes on 8 feet?</td>
<td>I have 40.</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 40 + 18?</td>
<td>I have 58.</td>
</tr>
<tr>
<td>Who has 7 + 8?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has 8 + 60?</td>
<td>I have 68.</td>
</tr>
<tr>
<td>Who has 40 + 30?</td>
<td>I have 70.</td>
</tr>
<tr>
<td>Who has 10 + 15?</td>
<td>I have 25.</td>
</tr>
<tr>
<td>Who has 25 + 25?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has 10 + 37?</td>
<td>I have 47.</td>
</tr>
<tr>
<td>Who has 25 + 50?</td>
<td>I have 75.</td>
</tr>
<tr>
<td>Who has 9 + 11?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has 40 + 45?</td>
<td>I have 85.</td>
</tr>
<tr>
<td>Who has 60 + 80?</td>
<td>I have 140.</td>
</tr>
<tr>
<td>Who has 30 + 42?</td>
<td>I have 72.</td>
</tr>
<tr>
<td>Who has 20 + 46?</td>
<td>I have 66.</td>
</tr>
<tr>
<td>Who has 25 + 75?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has 80 + 17?</td>
<td>I have 97.</td>
</tr>
<tr>
<td>Who has 46 + 50?</td>
<td>I have 96.</td>
</tr>
<tr>
<td>Who has 50 + 5?</td>
<td>I have 55.</td>
</tr>
<tr>
<td>Who has 20 + 20?</td>
<td>I have 40.</td>
</tr>
</tbody>
</table>
**Questions and Answers for Math Maze Cards**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 100 + 20 + 3?</td>
<td>I have 123.</td>
</tr>
<tr>
<td>Who has 200 + 60 + 3?</td>
<td>I have 263.</td>
</tr>
<tr>
<td>Who has 700 + 10 + 5?</td>
<td>I have 715.</td>
</tr>
<tr>
<td>Who has 100 + 60?</td>
<td>I have 160.</td>
</tr>
<tr>
<td>Who has 600 + 10 + 3?</td>
<td>I have 613.</td>
</tr>
<tr>
<td>Who has 200 + 40 + 6?</td>
<td>I have 246.</td>
</tr>
<tr>
<td>Who has 400 + 20 + 8?</td>
<td>I have 428.</td>
</tr>
<tr>
<td>Who has 300 + 10 + 4?</td>
<td>I have 314.</td>
</tr>
<tr>
<td>Who has 100 + 10 + 1?</td>
<td>I have 111.</td>
</tr>
<tr>
<td>Who has 100 + 50?</td>
<td>I have 150.</td>
</tr>
<tr>
<td>Who has 500 + 40 + 8?</td>
<td>I have 548.</td>
</tr>
<tr>
<td>Who has 300 + 7?</td>
<td>I have 307.</td>
</tr>
<tr>
<td>Who has 200 + 50 + 8?</td>
<td>I have 258.</td>
</tr>
<tr>
<td>Who has 600 + 9?</td>
<td>I have 609.</td>
</tr>
<tr>
<td>Who has 100 + 70 + 9?</td>
<td>I have 179.</td>
</tr>
<tr>
<td>Who has 100 + 5?</td>
<td>I have 105.</td>
</tr>
<tr>
<td>Who has 700 + 4?</td>
<td>I have 704.</td>
</tr>
<tr>
<td>Who has 500 + 2?</td>
<td>I have 502.</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Question</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Who has $19 + \square = 20?$</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has $17 + \square = 20?$</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has $18 + \square = 20?$</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has $10 + \square = 20?$</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has $10 + \square = 50?$</td>
<td>I have 40.</td>
</tr>
<tr>
<td>Who has $15 + \square = 30?$</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has $45 + \square = 50?$</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has $25 + \square = 50?$</td>
<td>I have 25.</td>
</tr>
<tr>
<td>Who has $92 + \square = 100?$</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has $93 + \square = 100?$</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has $96 + \square = 100?$</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has $10 + \square = 100?$</td>
<td>I have 90.</td>
</tr>
<tr>
<td>Who has $40 + \square = 100?$</td>
<td>I have 60.</td>
</tr>
<tr>
<td>Who has $70 + \square = 100?$</td>
<td>I have 30.</td>
</tr>
<tr>
<td>Who has $50 + \square = 100?$</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has $80 + \square = 100?$</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has $20 + \square = 100?$</td>
<td>I have 80.</td>
</tr>
<tr>
<td>Who has $30 + \square = 100?$</td>
<td>I have 70.</td>
</tr>
</tbody>
</table>
## Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 100 more than 200?</td>
<td>I have 300.</td>
</tr>
<tr>
<td>Who has 300 more than 300?</td>
<td>I have 600.</td>
</tr>
<tr>
<td>Who has 200 less than 900?</td>
<td>I have 700.</td>
</tr>
<tr>
<td>Who has 100 more than 300?</td>
<td>I have 400.</td>
</tr>
<tr>
<td>Who has 400 more than 400?</td>
<td>I have 800.</td>
</tr>
<tr>
<td>Who has 100 less than 600?</td>
<td>I have 500.</td>
</tr>
<tr>
<td>Who has 500 more than 400?</td>
<td>I have 900.</td>
</tr>
<tr>
<td>Who has 800 less than 1000?</td>
<td>I have 200.</td>
</tr>
<tr>
<td>Who has 100 more than 0?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has 100 less than 750?</td>
<td>I have 650.</td>
</tr>
<tr>
<td>Who has 100 less than 950?</td>
<td>I have 850.</td>
</tr>
<tr>
<td>Who has 100 more than 650?</td>
<td>I have 750.</td>
</tr>
<tr>
<td>Who has 200 less than 550?</td>
<td>I have 350.</td>
</tr>
<tr>
<td>Who has 300 more than 250?</td>
<td>I have 550.</td>
</tr>
<tr>
<td>Who has 500 less than 550?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has 500 more than 450?</td>
<td>I have 950.</td>
</tr>
<tr>
<td>Who has 500 less than 950?</td>
<td>I have 450.</td>
</tr>
<tr>
<td>Who has 500 less than 750?</td>
<td>I have 250.</td>
</tr>
</tbody>
</table>
### Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has 900 + □ = 1000?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has 800 + □ = 1000?</td>
<td>I have 200.</td>
</tr>
<tr>
<td>Who has 700 + □ = 1000?</td>
<td>I have 300.</td>
</tr>
<tr>
<td>Who has 300 + □ = 1000?</td>
<td>I have 700.</td>
</tr>
<tr>
<td>Who has 400 + □ = 1000?</td>
<td>I have 600.</td>
</tr>
<tr>
<td>Who has 200 + □ = 1000?</td>
<td>I have 800.</td>
</tr>
<tr>
<td>Who has 600 + □ = 1000?</td>
<td>I have 400.</td>
</tr>
<tr>
<td>Who has 100 + □ = 1000?</td>
<td>I have 900.</td>
</tr>
<tr>
<td>Who has 500 + □ = 1000?</td>
<td>I have 500.</td>
</tr>
<tr>
<td>Who has 250 + □ = 500?</td>
<td>I have 250.</td>
</tr>
<tr>
<td>Who has 250 + □ = 1000?</td>
<td>I have 750.</td>
</tr>
<tr>
<td>Who has 1000 + □ = 2000?</td>
<td>I have 1000.</td>
</tr>
<tr>
<td>Who has 950 + □ = 1000?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has 960 + □ = 1000?</td>
<td>I have 40.</td>
</tr>
<tr>
<td>Who has 930 + □ = 1000?</td>
<td>I have 70.</td>
</tr>
<tr>
<td>Who has 910 + □ = 1000?</td>
<td>I have 90.</td>
</tr>
<tr>
<td>Who has 920 + □ = 1000?</td>
<td>I have 80.</td>
</tr>
<tr>
<td>Who has 980 + □ = 1000?</td>
<td>I have 20.</td>
</tr>
<tr>
<td><strong>Who has</strong> the answer?</td>
<td><strong>I have</strong></td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>I am an even number, 2 less than 30.</td>
<td>28.</td>
</tr>
<tr>
<td>I am an odd number, 5 more than 40.</td>
<td>45.</td>
</tr>
<tr>
<td>I am an even number, 10 less than 30.</td>
<td>20.</td>
</tr>
<tr>
<td>I am an odd number, 6 more than 65.</td>
<td>71.</td>
</tr>
<tr>
<td>I am an even number, 10 less than 70.</td>
<td>60.</td>
</tr>
<tr>
<td>My ones digit is half of my tens digit. The sum of my digits is 6.</td>
<td>42.</td>
</tr>
<tr>
<td>I am an odd number, greater than 10 but less than 15. The sum of my digits is 4.</td>
<td>13.</td>
</tr>
<tr>
<td>If you double me, I am more than 5 but less than 10.</td>
<td>4.</td>
</tr>
<tr>
<td>I am a 2-digit number. My digits are the same. The sum of my digits is 8.</td>
<td>44.</td>
</tr>
<tr>
<td>I am a 2-digit number. My digits are the same. The sum of my digits is 6.</td>
<td>33.</td>
</tr>
<tr>
<td>I am a 2-digit number. My digits are the same. The sum of my digits is 10.</td>
<td>55.</td>
</tr>
<tr>
<td>I am a 2-digit number. My digits are the same. The sum of my digits is 12.</td>
<td>66.</td>
</tr>
<tr>
<td>I am halfway between 0 and 12.</td>
<td>6.</td>
</tr>
<tr>
<td>I am halfway between 0 and 20.</td>
<td>10.</td>
</tr>
<tr>
<td>I am halfway between 0 and 60.</td>
<td>30.</td>
</tr>
<tr>
<td>I am halfway between 0 and 50.</td>
<td>25.</td>
</tr>
<tr>
<td>I am halfway between 0 and 100.</td>
<td>50.</td>
</tr>
<tr>
<td>I am halfway between 0 and 80.</td>
<td>40.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Who has the number of stars on the American flag?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has the number of months in 1 year?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the number of stripes are on the American flag? (Hint: one more than a dozen)</td>
<td>I have 13.</td>
</tr>
<tr>
<td>Who has the number of nickels in 1 quarter?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the number of minutes in a quarter of an hour?</td>
<td>I have 15.</td>
</tr>
<tr>
<td>Who has the number of legs on an octopus?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the number of pennies in 25¢?</td>
<td>I have 25.</td>
</tr>
<tr>
<td>Who has the number of equators on Earth?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has the number of children in a set of triplets?</td>
<td>I have 3.</td>
</tr>
<tr>
<td>Who has the number of inches in 1 yard? (Hint: 3 feet = 1 yard)</td>
<td>I have 36.</td>
</tr>
<tr>
<td>Who has the number of digits in the number 89?</td>
<td>I have 2.</td>
</tr>
<tr>
<td>Who has the number of seasons in one year?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has the number of centimeters in 1 meter?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has the number of days in January?</td>
<td>I have 31.</td>
</tr>
<tr>
<td>Who has the number of days in a week?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the number of days in a year?</td>
<td>I have 365.</td>
</tr>
<tr>
<td>Who has the number of hours in one day?</td>
<td>I have 24.</td>
</tr>
<tr>
<td>Who has the number of dimes in 1 dollar?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Who has the special name for 12 inches?</td>
<td>I have 1 foot.</td>
</tr>
<tr>
<td>Who has the length that equals 1 yard?</td>
<td>I have 3 feet.</td>
</tr>
<tr>
<td>Who has the length of half a foot?</td>
<td>I have 6 inches.</td>
</tr>
<tr>
<td>Who has the distance between 2 cities?</td>
<td>I have 200 miles.</td>
</tr>
<tr>
<td>Who has the sum of 1 foot + 1 foot?</td>
<td>I have 2 feet.</td>
</tr>
<tr>
<td>Who has the length in inches of a foot-long ruler?</td>
<td>I have 12 inches.</td>
</tr>
<tr>
<td>Who has the least addend and the greatest addend that have a sum of 6?</td>
<td>I have 0 and 6.</td>
</tr>
<tr>
<td>Who has the number you add to 3 to get a sum of 8?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has the numbers between 2 and 5 that add up to 7?</td>
<td>I have 3 and 4.</td>
</tr>
<tr>
<td>Who has the number I add to 7 to get a sum of 7?</td>
<td>I have 0.</td>
</tr>
<tr>
<td>Who has the numbers between 2 and 6 that add up to 8?</td>
<td>I have 3 and 5.</td>
</tr>
<tr>
<td>Who has the number I add to 0 to get a sum of 8?</td>
<td>I have 8.</td>
</tr>
<tr>
<td>Who has the odd number between 9 and 13?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has the even number with 4 in the tens place?</td>
<td>I have 42.</td>
</tr>
<tr>
<td>Who has the first odd number after 80?</td>
<td>I have 81.</td>
</tr>
<tr>
<td>Who has the sum of 9 + 9?</td>
<td>I have 18.</td>
</tr>
<tr>
<td>Who has the sum of 8 + 8?</td>
<td>I have 16.</td>
</tr>
<tr>
<td>Who has the sum of 3 + 3 + 3?</td>
<td>I have 9.</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
<thead>
<tr>
<th>Question</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Who has doubles that equal a sum of 10?</td>
<td>I have 5 + 5.</td>
</tr>
<tr>
<td>Who has a subtraction problem with 100 and an answer that equals 10?</td>
<td>I have 100 − 90.</td>
</tr>
<tr>
<td>Who has an addition problem with 8 and an answer that equals 10?</td>
<td>I have 2 + 8.</td>
</tr>
<tr>
<td>Who has an addition problem with zero and an answer that equals 10?</td>
<td>I have 10 + 0.</td>
</tr>
<tr>
<td>Who has 2 coins worth a total of 50 cents?</td>
<td>I have 🐻 🐻</td>
</tr>
<tr>
<td>Who has twin coins worth a total of 20 cents?</td>
<td>I have 🐻 🐻</td>
</tr>
<tr>
<td>Who has 2 coins where one is worth twice as much as the other?</td>
<td>I have 🐻 🐻</td>
</tr>
<tr>
<td>Who has 4 coins worth a total of 1 dollar?</td>
<td>I have 🐻 🐻 🐻 🐻</td>
</tr>
<tr>
<td>Who has 10 more than 43?</td>
<td>I have 53.</td>
</tr>
<tr>
<td>Who has 60 more than 25?</td>
<td>I have 85.</td>
</tr>
<tr>
<td>Who has 10 fewer than 64?</td>
<td>I have 54.</td>
</tr>
<tr>
<td>Who has 20 fewer than 53?</td>
<td>I have 33.</td>
</tr>
<tr>
<td>Who has 30 more than 33?</td>
<td>I have 63.</td>
</tr>
<tr>
<td>Who has 6 plus 6?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has 0 plus 20?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has 3 plus 8?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has 12 minus 6?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has 7 plus 8?</td>
<td>I have 15.</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has a flat object that is round?</td>
<td>I have <img src="image" alt="clock" /></td>
</tr>
<tr>
<td>Who has an object that is made up of squares on all sides?</td>
<td>I have <img src="image" alt="cube" /></td>
</tr>
<tr>
<td>Who has a flat object with 4 square corners?</td>
<td>I have <img src="image" alt="rectangle" /></td>
</tr>
<tr>
<td>Who has an object that is round all over?</td>
<td>I have <img src="image" alt="globe" /></td>
</tr>
<tr>
<td>Who has the name of this shape?</td>
<td>I have oval.</td>
</tr>
<tr>
<td>Who has the name of this solid?</td>
<td>I have sphere.</td>
</tr>
<tr>
<td>Who has the name of this solid?</td>
<td>I have cylinder.</td>
</tr>
<tr>
<td>Who has half the number of inches in 12 inches?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has half the number of pennies in 10 pennies?</td>
<td>I have 5.</td>
</tr>
<tr>
<td>Who has half the number of minutes in 60 minutes?</td>
<td>I have 30.</td>
</tr>
<tr>
<td>Who has the answer? Each song on the CD is 2 minutes long. How long will it take to play all 10 songs?</td>
<td>I have 20 minutes.</td>
</tr>
<tr>
<td>Who has the answer? As a puppy, Maggie weighed 3 pounds. Now she weighs 17 pounds. How much weight did she gain?</td>
<td>I have 14 pounds.</td>
</tr>
<tr>
<td>Who has 10 + 64?</td>
<td>I have 74.</td>
</tr>
<tr>
<td>Who has 10 + 44?</td>
<td>I have 54.</td>
</tr>
<tr>
<td>Who has 17 plus ( \square ) equals 27?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has 15 plus ( \square ) equals 19?</td>
<td>I have 4.</td>
</tr>
<tr>
<td>Who has 22 plus ( \square ) equals 29?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has 14 plus ( \square ) equals 23?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Who has 25 cents?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 10 cents?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 5 cents?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 15 cents?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 2:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the time when it is noon?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half an hour after 8:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 30 minutes after 4:00?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 5 less than 39?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 2 more than 55?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has 5 more than 20?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the number of letters in the English alphabet?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the number of states in the United States?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the number of years in a century?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the number of socks in a pair?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has the double of 20?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half of 22?</td>
<td>I have</td>
</tr>
<tr>
<td>Who has half of 18?</td>
<td>I have</td>
</tr>
</tbody>
</table>
Questions and Answers for Math Maze Cards

<table>
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<tr>
<th>Question</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Who has the number you double to get 12?</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has the sum of 2 + 7?</td>
<td>I have 9.</td>
</tr>
<tr>
<td>Who has half of the number 22?</td>
<td>I have 11.</td>
</tr>
<tr>
<td>Who has the number you add to 7 to get 8?</td>
<td>I have 1.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 6 + 7?</td>
<td>I have 8 + 5.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 3?</td>
<td>I have 10 + 13.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 9 + 10?</td>
<td>I have 15 + 4.</td>
</tr>
<tr>
<td>Who has an addition problem that equals 20 + 7?</td>
<td>I have 25 + 2.</td>
</tr>
<tr>
<td>Who has the number of wheels on 4 tricycles?</td>
<td>I have 12.</td>
</tr>
<tr>
<td>Who has the number of tails on 10 dogs?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has the number of sleeves on 7 sweaters?</td>
<td>I have 14.</td>
</tr>
<tr>
<td>Who has the number of days in 3 weeks?</td>
<td>I have 21.</td>
</tr>
<tr>
<td>Who has 30 + 42?</td>
<td>I have 72.</td>
</tr>
<tr>
<td>Who has 25 + 50?</td>
<td>I have 75.</td>
</tr>
<tr>
<td>Who has 20 + 46?</td>
<td>I have 66.</td>
</tr>
<tr>
<td>Who has 100 + 20 + 3?</td>
<td>I have 123.</td>
</tr>
<tr>
<td>Who has 700 + 10 + 5?</td>
<td>I have 715.</td>
</tr>
<tr>
<td>Who has 500 + 2?</td>
<td>I have 502.</td>
</tr>
</tbody>
</table>
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<tr>
<th>Question</th>
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</tr>
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<tbody>
<tr>
<td>Who has $10 + □ = 100$?</td>
<td>I have 90.</td>
</tr>
<tr>
<td>Who has $40 + □ = 100$?</td>
<td>I have 60.</td>
</tr>
<tr>
<td>Who has $70 + □ = 100$?</td>
<td>I have 30.</td>
</tr>
<tr>
<td>Who has $90 + □ = 100$?</td>
<td>I have 10.</td>
</tr>
<tr>
<td>Who has $80 + □ = 100$?</td>
<td>I have 20.</td>
</tr>
<tr>
<td>Who has 100 less than 600?</td>
<td>I have 500.</td>
</tr>
<tr>
<td>Who has 500 more than 400?</td>
<td>I have 900.</td>
</tr>
<tr>
<td>Who has 100 less than 950?</td>
<td>I have 850.</td>
</tr>
<tr>
<td>Who has 100 more than 650?</td>
<td>I have 750.</td>
</tr>
<tr>
<td>Who has 200 less than 550?</td>
<td>I have 350.</td>
</tr>
<tr>
<td>Who has $900 + □ = 1000$?</td>
<td>I have 100.</td>
</tr>
<tr>
<td>Who has $700 + □ = 1000$?</td>
<td>I have 300.</td>
</tr>
<tr>
<td>Who has $960 + □ = 1000$?</td>
<td>I have 40.</td>
</tr>
<tr>
<td>Who has the answer? I am halfway between 0 and 12.</td>
<td>I have 6.</td>
</tr>
<tr>
<td>Who has the answer? I am a 2-digit number. My digits are the same. The sum of my digits is 8.</td>
<td>I have 44.</td>
</tr>
<tr>
<td>Who has the number of days in a week?</td>
<td>I have 7.</td>
</tr>
<tr>
<td>Who has the number of stars on the American flag?</td>
<td>I have 50.</td>
</tr>
<tr>
<td>Who has the number of legs on an octopus?</td>
<td>I have 8.</td>
</tr>
</tbody>
</table>
See how many of these questions about numbers you can answer. Fill in the circle for the correct answer.

1. Which number comes just before 75?
   A 65  B 70  C 71  D 76

2. Which group of numbers is in order from least to greatest?
   A 456, 458, 454, 453  B 145, 146, 137, 138
   C 292, 294, 296, 298  D 581, 582, 588, 589

3. In the number 846, what does the 4 mean?
   A 4 ones  B 4 tens  C 4 hundreds  D 4 thousands

4. Which number is the same as four hundred five?
   A 4005  B 450  C 415  D 405

5. Which group of numbers has odd numbers?
   A 6 8 12  B 5 10 11  C 3 9 11  D 6 9 13

6. Circle all the numbers you would say if you were counting by twos.
   2 7 8 14 15 22 23

7. Write the number that is more than 62 and less than 64.
   65

8. Fill in the missing number in this pattern.
   110, 120, 130, 140, 150, 160, 170

9. Fill in the missing number in this pattern.
   24, 23, 22, 21, 20, 19, 18

10. Count the flowers. How many are there? 8
    Now draw a loop around half the flowers. Answers will vary.
    How many flowers are in the loop? 4

11. Which picture shows 1 part out of 3 equal parts shaded?
    A  B  C

12. Which fraction names the shaded part of the circle?
    A  B  C  D

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Basic Operations

Math can be used every day to find the answers to many kinds of questions. See if you can find the answers to these questions.

1. You want to buy a pencil that costs 17 cents. Circle the coins you will need to pay for the pencil. Answers will vary.

2. Katie ate 10 grapes. She was still hungry, so she ate 10 more. Katie wants to know how many grapes she ate altogether.
Katie ate 20 grapes altogether.

3. Matt is reading a book that has 46 pages in it. So far he has read 40 pages. Matt wants to know how many pages he has left to read.
Matt has 6 pages left to read.

These problems are all part of the same fact family. Add or subtract.

4. 8 + 6
   14
5. 14 - 6
   8
6. 14 + 6
   20
7. 14 - 6
   8

Add.

8. 12 + 13
   25
9. 14 + 25
   40

10. Fill in the circle for the correct answer. Which number is 20 more than 58?
    A 36
    B 58
    C 76
    D 86

Subtract.

11. 15
    - 4
    11
12. 25
    - 6
    19
13. 25
    - 7
    18

Be careful, this one may be tricky!

14. 42
    - 18
    24

15. Choose the picture that matches this multiplication sentence.
    4 x 3 = 12
    A
    B
    C
    D

16. There are 6 cookies in a package. How many cookies will Dana and her friend get if they share the cookies equally?
    They will each get 3 cookies.

17. Danny emptied his pockets and found 1 paper clip, 2 rocks, 1 quarter, 1 nickel, and 2 dimes. How much money did he have in his pockets?
    A 7c
    B 28c
    C 40c
    D 50c

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Measurement

Diagostic Test #4

Measuring is a fun way to find out about the world you live in. See how much you already know by answering as many questions as you can. Fill in the circle for the correct answer.

1. Which tool would you use to measure your weight?
   A. Cup
   B. Scale
   C. Ruler
   D. Meter

2. Which could be the weight of a cat?
   A. 10 pounds
   B. 10 ounces
   C. 10 inches
   D. 10 tons

3. Which tool would you use to measure the length of your arm?
   A. Container
   B. Measuring tape
   C. Ruler
   D. Meter

4. If the temperature outside is 20°F, which would you want to do?
   A. Have a picnic
   B. Go swimming
   C. Build a snowman
   D. Plant flowers

5. Kori has these coins in her pocket. How much money does she have?
   A. 14 cents
   B. 17 cents
   C. 20 cents
   D. 22 cents

6. About how many paper clips long is the pencil?
   A. 2
   B. 3
   C. 6
   D. 8

Which is which? Circle the best choice.

7. Which weighs about 1 pound?
   A. loaf of bread
   B. car
   C. dog
   D. egg

8. Which is about 1 foot long?
   A. loaf of bread
   B. car
   C. baseball bat
   D. jump rope

9. Which is about 3 centimeters long?
   A. paper clip
   B. baseball bat
   C. jump rope
   D. loaf of bread

10. What time is shown on the clock?
    A. 6:00
    B. 2:00
    C. 9:30
    D. 2:30

Circle the correct choice to answer each question about measuring.

11. How many pennies equal 1 nickel?
    A. 2
    B. 3
    C. 5
    D. 10

12. How many inches equal 1 foot?
    A. 12
    B. 24
    C. 36
    D. 48

13. How many quarts are in 1 gallon?
    A. 2
    B. 4
    C. 8
    D. 16

14. How many minutes are in 1 hour?
    A. 10
    B. 60
    C. 90
    D. 120

15. Three boys made a graph to show how many books they read last week.

   Who read the most books?
   Mark
   How many books did he read?

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1. Draw the next shape for this pattern.

2. Draw the next shape for this pattern.

3. Draw the figure that comes next for this pattern.

4. Write the number that comes next in this pattern.
   25, 30, 35, 40, 45, 50, ___________.

5. Write the number that comes next in this pattern.
   22, 24, 26, 28, 30, 32, ___________.

6. Fill in the blanks in this pattern.

7. Circle the problem that will have an answer of 0.
   \[23 + 7\]  \[18 - 18\]  \[18 - 9\]  \[18 - 17\]

---

**Activity Correlation**

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See how many of these questions about numbers you can answer. Fill in the circle for the correct answer.

1. Which number comes just before 66?
   A. 65  
   B. 70  
   C. 74  
   D. 76

2. Which group of numbers is in order from greatest to least?
   A. 456, 455, 454, 453
   B. 292, 294, 296, 298
   C. 145, 146, 137, 138
   D. 584, 582, 588, 583

3. In the number 846, what does the 8 mean?
   A. 8 ones
   B. 8 tens
   C. 8 hundreds
   D. 8 thousands

4. Which number is the same as four hundred fifty?
   A. 4005
   B. 450
   C. 415
   D. 405

5. Which group of numbers has all even numbers?
   A. 6 8 12
   B. 3 9 11
   C. 5 10 11
   D. 6 9 13

6. Circle all the numbers you would say if you were counting by fives.
   2 5 8 10 15 22 25
7. Write the number that is more than 42 and less than 44. ________

8. Fill in the missing number in this pattern.
   70, 80, 90, 100, ________, 120, 130

9. Fill in the missing number in this pattern.
   34, 33, 32, 31, ________, 29, 28

10. Count the flowers. How many are there? ________

    Now draw a loop around half the flowers.

    How many flowers are in the loop? ________

11. Which picture shows 1 part out of 3 equal parts shaded?

    [A] \[
    \begin{array}{c}
    \text{part} \\
    \hline
    \text{part} \\
    \text{part}
    \end{array}
    \]  
    [B] \[
    \begin{array}{c}
    \text{part} \\
    \text{part} \\
    \text{part}
    \end{array}
    \]  
    [C] \[
    \begin{array}{c}
    \text{part} \\
    \text{part} \\
    \text{part}
    \end{array}
    \]  
    [D] \[
    \begin{array}{c}
    \text{part} \\
    \text{part}
    \end{array}
    \]

12. Which fraction names the shaded part of the circle?

    [A] \[
    \frac{1}{2}
    \]  
    [B] \[
    \frac{1}{3}
    \]  
    [C] \[
    \frac{1}{3}
    \]  
    [D] \[
    \frac{3}{4}
    \]
Math can be used every day to find the answers to many kinds of questions. See if you can find the answers to these questions.

1. You want to buy a pencil that costs 21 cents.
   Circle the coins you will need to pay for the pencil.

2. Katie ate 20 grapes. She was still hungry, so she ate 20 more.
   Katie wants to know how many grapes she ate altogether.
   Katie ate _______ grapes altogether.

3. Matt is reading a book that has 64 pages in it. So far he has read 60 pages. Matt wants to know how many pages he has left to read.
   Matt has _______ pages left to read.

These problems are all part of the same fact family.
Add or subtract.

4. 9
   \[ +6 \]

5. 15
   \[ -9 \]

6. 15
   \[ -6 \]

7. 6
   \[ +9 \]

Add.

8. 16
   \[ +13 \]

9. 45
   \[ +15 \]
10. Fill in the circle for the correct answer.
Which number is 20 more than 66?
A 36  B 58  C 76  D 86

Subtract.
11. 25
   −4
12. 35
   −4
13. 35
   −14

Be careful, this one may be tricky!
14. 52
   −18

15. Choose the picture that matches this multiplication sentence.
   \[6 \times 2 = 12\]
   A ☺☺ ☺☺ ☺☺ ☺☺ ☺☺ ☺☺
   B ❤❤ ❤❤ ❤❤ ❤❤ ❤❤ ❤❤
   C ★★ ★★ ★★ ★★ ★★ ★★
   D ◦◦ ◦◦ ◦◦ ◦◦ ◦◦ ◦◦ ◦◦ ◦◦

16. There are 10 cookies in a package. How many cookies will Dana and her friend get if they share the cookies equally?
They will each get _______ cookies.

17. Danny emptied his pockets and found 1 paper clip, 2 rocks, 1 quarter, 2 nickels, and 2 dimes. How much money did he have in his pockets?
A 8¢  B 28¢  C 55¢  D 50¢
Draw a line from each of these shapes to its name.

1. □ rectangle
2. △ triangle
3. □ square

4. Shapes come in all sizes. Circle the figure that is the same size and shape as the first one.

5. Circle the triangle that is the same size and shape as the first one.

6. Put an X on the shape that does not belong.

7. If Jayna wanted to walk all the way around the park in the picture, how far would she have to walk altogether? Jayna would have to walk _______ miles.

8. Draw lines to match the hats to the word that tells how the hats were moved.

   Flip

   Slide
9. Draw a line on this shape to show how you could cut it into two parts that are exactly the same.

Here are some pictures of solid shapes. They all have special names, too. Can you draw a line from each shape to its name?

10. cylinder

11. cube

12. sphere

13. cone

14. Blocks with different shapes can be used in different ways. Draw a square around the shapes that can be stacked.

15. Draw a circle around the shapes that can roll.
Measuring is a fun way to find out about the world you live in. See how much you already know by answering as many questions as you can. Fill in the circle for the correct answer.

1. Which tool would you use to measure your height?
   - A [scale]
   - B [ruler]
   - C [pencil]
   - D [clock]

2. Which could be the length of a cat?
   - A 18 pounds
   - B 18 inches
   - C 18 ounces
   - D 18 tons

3. Which tool would you use to measure your weight?
   - A [scale]
   - B [ruler]
   - C [pencil]
   - D [clock]

4. If the temperature outside is 80°F, which would you want to do?
   - A Have a picnic.
   - B Go ice skating.
   - C Build a snowman.
   - D Rake leaves.

5. Kari has these coins in her pocket. How much money does she have?
   - A 4 cents
   - B 27 cents
   - C 20 cents
   - D 22 cents

6. About how many paper clips long is the pencil?
   - A 2
   - B 4
   - C 6
   - D 8
Which is which? Circle the best choice.

7. Which is about 1 inch long?
   a paper clip       a baseball bat       a jump rope

8. Which is about 6 centimeters long?
   a loaf of bread     a car               an egg

9. Which weighs about 1 pound?
   a loaf of bread     a car               a dog

10. What time is shown on the clock?
    [A] 6:00    [B] 2:00    [C] 9:30    [D] 10:30

Circle the correct choice to answer each question about measuring.

11. How many pennies equal 1 dime?  2  5  10

12. How many feet equal 12 inches?  1  2  12

13. How many cups are in 1 quart?   2  4  16

14. How many minutes are in 1 hour? 10 60 100

15. Three boys made a graph to show how many books they read last week.

   Who read the fewest books? ________

   How many books did he read? ________
1. Draw the next shape for this pattern.

2. Draw the next shape for this pattern.

3. Draw the figure that comes next for this pattern.

4. Write the number that comes next in this pattern.
   15, 20, 25, 30, 35, 40, ________

5. Write the number that comes next in this pattern.
   26, 28, 30, 32, 34, 36, ________

6. Fill in the blanks in this pattern.
   43, 42, 41, 40, ________, ________, 37, 36

7. Circle the problem that will have an answer of 0.
   23 + 23   18 − 18   18 − 9   71 − 17
8. Look at the three groups below. Write the number 33 in the ring where it belongs.

   13  17
   14  18

   25  26
   22  28

   36  34
   39  35

9. Look at the two groups below. Write the number 7 in the ring where it belongs.

   1  11
   3  9

   10  2
   4  8

Write <, >, or = in the circle.

10. 56 94
11. 6 + 8 8 + 6
12. 46 + 45 45 + 46
13. 65 + 12 21 + 37

Write the missing numbers.

14. 26 + _____ = 27
15. 24 + _____ = 24
16. _____ + 13 = 13
17. _____ + 29 = 30

Name

Date
See how many of these questions about numbers you can answer. Fill in the circle for the correct answer.

1. Which number comes just before 66?
   - A 65
   - B 70
   - C 74
   - D 76

2. Which group of numbers is in order from greatest to least?
   - A 455, 454, 453
   - B 145, 144, 137, 138
   - C 292, 294, 296, 298
   - D 584, 582, 588, 583

3. In the number 846, what does the 8 mean?
   - A 8 ones
   - B 8 tens
   - C 8 hundreds
   - D 8 thousands

4. Which number is the same as four hundred fifty?
   - A 4005
   - B 450
   - C 415
   - D 405

5. Which group of numbers has all even numbers?
   - A 6 8 12
   - B 3 9 11
   - C 5 10 11
   - D 6 9 13

6. Circle all the numbers you would say if you were counting by fives.
   - 2
   - 5
   - 8
   - 10
   - 15
   - 22
   - 25

7. Write the number that is more than 42 and less than 44.
   - 43

8. Fill in the missing number in this pattern.
   - 70, 80, 90, 100, 110, 120, 130

9. Fill in the missing number in this pattern.
   - 34, 33, 32, 31, 30, 29, 28

10. Count the flowers. How many are there? 10
     Now draw a loop around half the flowers. Answers will vary.
     How many flowers are in the loop? 5

11. Which picture shows 1 part out of 3 equal parts shaded?
    - A
    - B
    - C
    - D

12. Which fraction names the shaded part of the circle?
    - A \( \frac{1}{2} \)
    - B \( \frac{1}{3} \)
    - C \( \frac{2}{3} \)
    - D \( \frac{2}{4} \)
Basic Operations

Math can be used every day to find the answers to many kinds of questions. See if you can find the answers to these questions.

1. You want to buy a pencil that costs 21 cents.
   Circle the coins you will need to pay for the pencil. Answers will vary.
   
2. Katie ate 20 grapes. She was still hungry, so she ate 20 more.
   Katie wants to know how many grapes she ate altogether.
   Katie ate ___ 40 ___ grapes altogether.

3. Matt is reading a book that has 64 pages in it. So far he has read 60 pages. Matt wants to know how many pages he has left to read.
   Matt has ___ 4 ___ pages left to read.

These problems are all part of the same fact family.
Add or subtract.

4. 9 + 6 5. 15 6. 15 7. 6
   + 6 6 6 9
   15 6 6 15

Add.

8. 16 + 13 9. 45
   + 15
   29 60

10. Fill in the circle for the correct answer.
    Which number is 20 more than 66?
    A. 36  B. 58  C. 76  D. 86

Subtract.

11. 25 - 11 12. 35 - 14 13. 35 - 14
    21 31 21

Be careful, this one may be tricky!

14. 52 - 18
    34

15. Choose the picture that matches this multiplication sentence.

   A. 
   B. 
   C. 
   D. 

16. There are 10 cookies in a package. How many cookies will Dana and her friend get if they share the cookies equally?

   They will each get ___ 5 ___ cookies.

17. Danny emptied his pockets and found 1 paper clip, 2 rocks, 1 quarter, 2 nickels, and 2 dimes. How much money did he have in his pockets?

   A. 8¢  B. 28¢  C. 55¢  D. 50¢
Draw a line from each of these shapes to its name.

1. [Shape] rectangle
2. [Shape] triangle
3. [Shape] square

4. Shapes come in all sizes. Circle the figure that is the same size and shape as the first one.

5. Circle the triangle that is the same size and shape as the first one.

6. Put an X on the shape that does not belong.

7. If Joya wanted to walk all the way around the park in the picture, how far would she have to walk altogether?
   Joya would have to walk ___ miles.

8. Draw lines to match the hats to the word that tells how the hats were moved.

9. Draw a line on this shape to show how you could cut it into two parts that are exactly the same.

10. [Shape] cylinder
11. [Shape] cube
12. [Shape] sphere
13. [Shape] cone

14. Blocks with different shapes can be used in different ways. Draw a square around the shapes that can be stacked.

15. Draw a circle around the shapes that can roll.
1. Which tool would you use to measure your height?
   A  
   B  
   C  
   D  

2. Which could be the length of a cat?
   A  18 pounds
   B  18 ounces
   C  18 inches
   D  18 tons

3. Which tool would you use to measure your weight?
   A  
   B  
   C  
   D  

4. If the temperature outside is 80°F, which would you want to do?
   A  Have a picnic.
   B  Go ice skating.
   C  Build a snowman.
   D  Rake leaves.

5. Kari has these coins in her pocket. How much money does she have?
   A  4 cents
   B  27 cents
   C  20 cents
   D  22 cents

6. About how many paper clips long is the pencil?
   A  2
   B  4
   C  6
   D  8

7. Which is about 1 inch long?
   A  a paper clip
   B  a baseball bat
   C  a jump rope
   D  an egg

8. Which is about 6 centimeters long?
   A  a loaf of bread
   B  a car
   C  a dog
   D  a clock

9. Which weighs about 1 pound?
   A  a loaf of bread
   B  a car
   C  an egg
   D  a dog

10. What time is shown on the clock?
    A  6:00
    B  2:00
    C  9:30
    D  10:30

Circle the correct choice to answer each question about measuring.

11. How many pennies equal 1 dime?
    A  2
    B  5
    C  10

12. How many feet equal 12 inches?
    A  1
    B  2
    C  12

13. How many cups are in 1 quart?
    A  2
    B  4
    C  16

14. How many minutes are in 1 hour?
    A  10
    B  60
    C  100

15. Three boys made a graph to show how many books they read last week. Who read the fewest books? Nick
    How many books did he read? 2
1. Draw the next shape for this pattern.
   □ □ □ □ □

2. Draw the next shape for this pattern.
   △ △ △ △ △ △ △ △ △

3. Draw the figure that comes next for this pattern.
   □ □ □ □ □ □ □ □ □ □

4. Write the number that comes next in this pattern.
   15, 20, 25, 30, 35, 40, __, 45

5. Write the number that comes next in this pattern.
   26, 28, 30, 32, 34, 36, __

6. Fill in the blanks in this pattern.
   43, 42, 41, 40, __, 39, 38, __, 37, 36

7. Circle the problem that will have an answer of 0.
   23 + 23 = __
   18 - 18 = __
   18 - 9 = __
   71 - 17 = __

8. Look at the three groups below. Write the number 33 in the ring where it belongs.

9. Look at the two groups below. Write the number 7 in the ring where it belongs.

Write <, >, or = in the circles.

10. 56 __ 54

11. 6 + 8 __ 8 + 6

12. 46 + 45 __ 45 + 46

13. 65 + 12 __ 21 + 37

Write the missing numbers.

14. 26 + __ = 27

15. 24 + __ = 24

16. __ + 13 = 13

17. __ + 29 = 30