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Think Math! Common Core Resource Guide

This guide is your Think Math! road map for meeting the Common Core State Standards for Mathematics for your grade. It contains teaching resources that extend existing Think Math! chapters, deepening the program’s coverage of Common Core concepts and skills.

Think Math! and the Common Core State Standards

Think Math! is a comprehensive K–5 core curriculum created by Education Development Center (EDC) that builds strong computational skills, engages students and teachers in understanding mathematics, and prepares all learners to use mathematics to make sense of the world.

The Common Core State Standards for Mathematics provide clear statements of purpose, set high expectations for students, and emphasize mathematical habits of mind. This focus on mathematical ways of thinking fits EDC’s research-based approach to mathematics education. Members of EDC’s Science and Mathematics Programs staff craft their curriculum and professional development work accordingly, while establishing connections between topics and promoting multiple approaches to topics.

The authors of Think Math!, along with other EDC staff, provided commentary during the development of the Common Core State Standards and continue to be involved in identifying and addressing issues of curriculum design to support improved teaching and learning across the country.

Common Core Standards for Mathematical Content

Think Math! balances skill practice with developing conceptual understanding in the five Common Core domains:

- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations—Fractions
- Measurement and Data
- Geometry

Common Core Standards for Mathematical Practice

Think Math! emphasizes problem solving and reasoning, supporting the Common Core practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.
Using This Guide

Whenever you begin a new chapter in Think Math!, turn to the table of contents of this Common Core Resource Guide to see if additional teaching resources have been provided for that chapter. As necessary, familiarize yourself with those pages as you plan your lessons.

Teaching Resources pages in this guide always begin with a Lesson Planner page. This page includes Lesson Notes that tell you exactly how to use the Common Core teaching resource with your Think Math! teacher guide.

Two types of teaching resources are provided:

- **Extended lessons** include either an added or an extended Teach and Practice Activity and may include Activity and/or Explore masters.
- **Added lessons** contain all the features of existing Think Math! lessons, including student pages.
Use the following Teaching Resources pages in conjunction with your *Think Math!* teacher guide. Be sure to refer to the Lesson Planner page at the start of each resource for important information about how and when to use it.
Lesson Planner

STUDENT OBJECTIVE
* To identify, draw, and describe two-dimensional figures

Teach and Practice

**MATERIALS**

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</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Describing Circles, Triangles, and Rectangles (CCRG p. CC 3)</td>
</tr>
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<td><strong>B</strong></td>
<td>Describing Squares (TG p. 21)</td>
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<td><strong>D</strong></td>
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</tbody>
</table>

**Extended Activity**

Examining Two-Dimensional Figures

NCTM Standards 3, 6, 7, 8, 9, 10
Common Core State Standards 1.G.1

Lesson Notes

Replace the current Teach and Practice Activity A in Lesson 1.2 with this extended activity.

About the Activity

Activity A has been extended so that children are asked to distinguish between defining attributes and non-defining attributes of shapes.
Teach and Practice

A Describing Circles, Triangles, and Rectangles

Purpose To identify and describe two-dimensional figures

Introduce Prepare cutouts of circles, triangles, and rectangles (including squares) in different sizes or shapes or reproduce the cutouts from Activity Master 1, on at least two different colors of paper. Provide enough cutouts so that each child will be able to choose one.

Review the names of the figures by holding one up and asking the class to name it. Display the figures by attaching them to a magnetic board or by attaching them to the chalkboard with reusable tape. Challenge children to find examples of circles, triangles, and rectangles in the classroom.

Task Have small groups decide how to describe a particular figure. Organize children into three groups. Assign a name (circle, triangle, and rectangle—squares will be discussed in the next activity) to each group. Have each child choose an example of that figure from your collection. Give them a minute or two together to discuss how their figures are the same.

Talk Math Let each group describe its figure to the class. Record their descriptions on the board. If necessary, ask prompting questions like the following:

- Do all the figures have the same color? No.
- Do all the figures have the same size? No.
- Do your figures have curves? The circles have curves; the others do not have curves. (For the circle’s description, write, “curved.”)
- Do your figures have straight sides? How many? Triangles have three straight sides; rectangles have four straight sides.

Finally, discuss how the shape of each figure is different from the others. For example, a circle has curves and the other shapes do not. Ask children how they can tell if a shape is a triangle, a rectangle, or a circle. If necessary, add to the recorded descriptions to make these differences clear.

Practice On the board, add another column to the descriptions of the shapes. Have volunteers draw 2 examples for each shape.

Save the cutouts and descriptions for Activities B and C.

Common Core Resource Guide

2 Teach and Practice

A Describing Circles, Triangles, and Rectangles

Purpose To identify and describe two-dimensional figures

Introduce Prepare cutouts of circles, triangles, and rectangles (including squares) in different sizes or shapes or reproduce the cutouts from Activity Master 1, on at least two different colors of paper. Provide enough cutouts so that each child will be able to choose one.

Review the names of the figures by holding one up and asking the class to name it. Display the figures by attaching them to a magnetic board or by attaching them to the chalkboard with reusable tape. Challenge children to find examples of circles, triangles, and rectangles in the classroom.

Task Have small groups decide how to describe a particular figure. Organize children into three groups. Assign a name (circle, triangle, and rectangle—squares will be discussed in the next activity) to each group. Have each child choose an example of that figure from your collection. Give them a minute or two together to discuss how their figures are the same.

Talk Math Let each group describe its figure to the class. Record their descriptions on the board. If necessary, ask prompting questions like the following:

- Do all the figures have the same color? No.
- Do all the figures have the same size? No.
- Do your figures have curves? The circles have curves; the others do not have curves. (For the circle’s description, write, “curved.”)
- Do your figures have straight sides? How many? Triangles have three straight sides; rectangles have four straight sides.

Finally, discuss how the shape of each figure is different from the others. For example, a circle has curves and the other shapes do not. Ask children how they can tell if a shape is a triangle, a rectangle, or a circle. If necessary, add to the recorded descriptions to make these differences clear.

Practice On the board, add another column to the descriptions of the shapes. Have volunteers draw 2 examples for each shape.

Save the cutouts and descriptions for Activities B and C.
Lesson 4

Subtracting Ten on the Number Line Hotel

NCTM Standards 1, 2, 6, 7, 8, 9, 10
Common Core State Standards 1.NBT 5, 6

Lesson Planner

<table>
<thead>
<tr>
<th>STUDENT OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To add multiples of ten to two-digit multiples of ten</td>
</tr>
<tr>
<td>• To subtract multiples of ten from two-digit multiples of ten</td>
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</tbody>
</table>

Teach and Practice

Materials

- TR: Activity Master, AM27
- Number Line Hotel poster

<table>
<thead>
<tr>
<th>Writing Room Numbers on the Number Line Hotel (TG p. 424)</th>
</tr>
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<tbody>
<tr>
<td>Adding and Subtracting 10 (TG p. 425)</td>
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</tr>
<tr>
<td>Adding and Subtracting Multiples of Ten (CCRG p. CC 5)</td>
</tr>
</tbody>
</table>

Lesson Notes

Activity D has been added to Lesson 7.4. Introduce Activity D after children complete Activity C.

About the Activity

In Activity D, children continue to develop their knowledge of the base-ten number system as they use the Number Line Hotel to add and subtract multiples of ten.

About the Mathematics

This work prepares children for adding and subtracting two-digit numbers by breaking numbers apart into tens and ones.
Adding and Subtracting Multiples of Ten

Purpose  To practice adding and subtracting multiples of ten using the Number Line Hotel

Introduce  Review adding and subtracting ten on the Number Line Hotel by writing a few incomplete number sentences on the board.

```
20 + 10 = 30  60 - 10 = 50
```

Have children find the missing numbers by drawing jumps on Activity Master 27 from Lesson 7.3.

Task  Introduce adding or subtracting multiples of ten on the Number Line Hotel.

```
40 + 30 = 70  50 - 40 = 10
```

Ask for volunteers to come to the board to complete each number sentence. Have them explain their thinking by acting out a number line jump on the Number Line Hotel poster.

Talk Math

- How would you describe adding 30 to a number? Possible answers: Start at the number then move up 3 floors.
- How is subtracting 30 different from adding 30 on the Number Line Hotel? When you add 30 you move up 3 floors. When you subtract 30, you move down 3 floors.

Then, write several addition and subtraction number sentences on the board. Have children draw jumps on their Activity Master 27 sheets to complete the number sentences.

Once children have completed the number sentences, bring the class back together to share results.

Extend  Some children may be ready to add multiples of ten to numbers that are not multiples of ten. Give children number sentences such as $38 + 20 = \square$ and have them demonstrate how they would use the Number Line Hotel to find the solution.

Concept Alert

Watch for children that have difficulty or make careless errors in determining if a number sentence calls for a jump up or down the Number Line Hotel. These students may need practice simply stating which jump direction a number sentence signals.

Ongoing Assessment

Watch children translate number sentences into actions on the Number Line Hotel.

- Can they use a number sentence to determine the starting point?
- Can they use a number sentence to determine the direction of the jump?
- Can they complete all steps and arrive at the correct room?
Half of a Half

Lesson Planner

STUDENT OBJECTIVES
- To partition circles and rectangles into two and four equal shares
- To describe the shares using the words and phrases halves, fourths, quarters, half of, fourth of, and quarter of
- To understand that decomposing into more equal shares creates smaller shares

Lesson Notes
Replace the current Teach and Practice Activity B in Lesson 8.7 with this extended activity.

About the Activity
The extended Activity B asks children to compare halves and fourths of the same whole to see that decomposing into more equal shares creates smaller shares.
**Modeling and Writing Fourths**

**Purpose** To understand and write fourths

**Introduce** Sketch a circle on the board and ask a child to come up and draw a line that would cut the circle in half.

**Talk Math**

- **What do you know about an object that is cut up this way?** Possible answers: Two people can share it; Each person gets two equal pieces; It is cut into halves.

Sketch the circle again divided into halves but do not label the halves. Have another child come up and draw a line that would cut each half in half. Explain that the circle is now cut into four equal parts. Each of these parts is one of four equal parts or one fourth of the whole.

**Talk Math**

- **What do you know about an object that is cut up this way?** Possible answers: Four people can share it; Each person gets one out of four equal pieces; It is cut into quarters.

- **When an object is cut up into fourths instead of halves, what can you say about the shares?** Possible answer: The shares are smaller.

Explain how to write the fraction that represents one of the four equal pieces of the circle.

- Start with a line to show that you split the circle.
- Write the number of pieces you made under the line. \(\frac{1}{4}\)
- Write the number of pieces you are talking about above the line. \(\frac{1}{4}\)

Tell children that this number is called either *one fourth* or *one quarter*. Then write \(\frac{1}{4}\) on each part of the circle you drew.

---

**Concept Alert**

It is important to emphasize that in order for an object or a set of objects to be divided into fourths, each part of the object or set must be the same size. It is not enough for the whole to be divided into four parts. It can be helpful for children to think of sharing an object or a set of objects equally among four people.

**Possible Discussion**

Discuss the term *quarter* as it relates to money and time.

Children will likely mention the coin and a quarter of an hour, as in "We will leave at a quarter to 3." Have children count by 25s to show that four quarters make 100¢ or $1.00. Set a demonstration clock to the quarter hour and ask why the term *quarter* is appropriate. It is one quarter or \(\frac{1}{4}\) of the hour.
**Task** Have children model halves and fourths. Distribute a sheet of paper and 12 counters to each pair. First have children work with a partner to fold a sheet of paper into fourths. If children need help getting started, remind them that they divided the circle by dividing it in half and then in half again. You may wish to have children label each fourth. Ask, “How many fourths are there in a whole?”

Then challenge children to find half and then a fourth of a set of objects. Guide children to see that a fourth of a set of objects is a smaller share than half of that set of objects. Begin by giving each child four counters. Have children make equal groups on their papers. Ask, “How many counters make \( \frac{1}{4} \) of the group of 4?” You may wish to repeat the activity with sets of 8, 12, or more counters. Each time, ask children to identify one of the four equal groups, two of the four equal groups, and so on.
Lesson Planner

STUDENT OBJECTIVES
• To use three-dimensional shapes to build composite shapes
• To compose new shapes from composite shapes

Teach and Practice

A **Naming and Describing Three-Dimensional Figures** (TG pp. 700–701)
B **Shape Hunt** (TG p. 720)
C **Sorting Three-Dimensional Figures**
   Silent Teaching (TG p. 703)
D **Identifying Attributes** (TG p. 704)
E **Building Composite Shapes** (CCRG p. CC 11)

MATERIALS

• CCRG: Activity Master, Three-Dimensional Figures
• blocks or other examples of three-dimensional figures including rectangular prisms, cubes, cylinders, and cones

Lesson Notes

Activity E has been added to Lesson 10.11. Introduce Activity E after children complete Activity D.

About the Activity

In Activity E, children continue their explorations of three-dimensional figures. Children will combine three-dimensional shapes to make composite shapes and compose composite shapes to make new composite shapes.
2 Teach and Practice

E Building Composite Shapes

Purpose To compose three-dimensional shapes

Introduce Display a selection of three-dimensional blocks. Show children a cube and a rectangular prism. Ask a volunteer to put the two blocks together to make a new shape. Have children put a cube and a rectangular prism together in different ways to make composite shapes.

Task Have children build a structure using four or five blocks. On a separate sheet of paper, ask them to draw their structure or cut out figures from Activity Master: Three-Dimensional Figures and glue them to the page to represent their structure on the page.

Share Bring the class back together and share the composite shapes that children made.

Talk Math

What blocks did you use to make your shape? Possible answers: The most likely answers are cubes, rectangular prisms, and cylinders. Cones may have been used in the top layer.

How would you describe your shape? Possible answers: It looks like a castle with towers. It looks like a big box.

Collect the drawings of the structures. Select one or two drawings and ask the class to match the drawings to the actual structures.

Extend Have pairs of children build a new structure by composing their composite shapes. Ask each pair to identify the different types of shapes in their new structure and the number of each.

Materials

- For each child: AM: Three-Dimensional Figures, blocks or other examples of three-dimensional figures including rectangular prisms, cubes, cylinders, and cones

NCTM Standards 3, 6, 7, 8, 9, 10
CCSS 1.G 2

Ongoing Assessment

- Are children able to differentiate between different types of three-dimensional shapes?
- Do children demonstrate an understanding that three-dimensional shapes can be composed in many different ways?
Three-Dimensional Figures

- Cones
- Cylinders
- Cubes

CC 12  Common Core Resource Guide
Lesson Notes

Lesson 11.4-1 has been added. Use Lesson 11.4-1 after children complete Lesson 11.4.

About the Lesson
In this lesson, children compare expressions in a particular way. Instead of using the symbols for less than, greater than, or equal, children will decide whether the expressions before and after the equal sign are equal or not equal. In other words, they will determine whether mathematical sentences are true or false.

About the Mathematics
The problems in this lesson review and preview properties of equality. It isn’t necessary for you to point out and name these properties for your class. They are:

- **The Reflexive Property:**
  For any expression \( x \), \( x = x \).

- **The Symmetric Property:**
  For any two expressions \( x \) and \( y \),
  if \( x = y \), then \( y = x \).

- **The Transitive Property:**
  For any three expressions \( x \), \( y \), and \( z \),
  if \( x = y \) and \( y = z \), then \( x = z \).

Children will also see that if the same number is added to or subtracted from both sides of a true equation then the new equation will still be true.
Developing Mathematical Language

Vocabulary: equal, not equal, true, false

Tell children that number sentences with an equal sign can be either true or false. If the amounts on both sides of an equal sign are the same, then the number sentence is true. If the amounts on both sides of an equal sign are not the same, then the equation is false. The amounts are not equal. Show examples of true and false number sentences and have children identify them.

ELL

Help English language learners understand the terms true and false.

Beginning Help children evaluate sentences in everyday vocabulary with the terms true and false. For example, say to a student wearing a red shirt, “You are wearing a blue shirt. Is that sentence true or false?”

Intermediate Ask children to give examples of true and false statements. Record their statements on the board with the word “true” or “false” beside each one.

Advanced Make a table with two columns marked “true” and “false” on the board. Have children give examples of true and false number sentences and record them in the table.

Open-Ended Problem Solving

Share this headline story with your class. Encourage children to give examples that match the story.

Headline Story

Taylor and Meg did not have the same number of marbles. Taylor gave Meg 2 of his marbles. Then they had the same number.

Possible responses:
If Taylor had 10 and Meg had 8… Wait! That won’t work. Say Taylor has 12 and Meg has 8. Then if he gives her 2, she has 10 and he has 10. Taylor has to have 4 more marbles than Meg at the beginning.

Skills Practice and Review

More or Less

Tell the class that you are going to say a two-digit number. Then you will call on children and ask either for a number that is more than the number you said or a number that is less. You may call on two children after saying a single number, and get both a number that is more and a number that is less for the same number. You may want to keep track of the numbers that have been said, and add the rule that none of the numbers that have already been used can be used again.
### A True or False

**Purpose** To evaluate number sentences as true or false

**Introduce** Write the words “true” and “false” on the board. Ask children to read the words and to tell you what they know about them. Children will likely begin to give examples of statements that are true and false. Take some time to have children make cards with these words on them.

**Task** Making “true” and “false” cards. Give each child two cards. Have them copy the words “true” and “false” from the board, one on each card. You may want them to write the words in two different colors, for example writing “true” in green and “false” in red.

**Practice** Allow children to take turns at the front of the class. The child makes a statement and then the class shows either the “true” or “false” in response. At first, the statements can be about everyday things, such as the color of someone’s shirt, but help children transition to mathematical statements. Work toward number sentences with an addition or subtraction expression on both sides of the equal sign, such as the false sentence $2 + 7 = 8 - 3$.

### Talk Math

1. **How do you know whether the number sentence $4 + 7 = 7 + 4$ is true or false?** Possible answer: It’s the same amount on both sides. You can do the addition either way and you get the same answer, 11.

2. **Why is the sentence $8 - 3 = 7 - 2$ true?** Possible answer: With $7 - 2$, you start with one less than 8, but you take away one less than 3, so it’s the same.

### Concept Alert

Some children may be confused by seeing sentences such as $2 + 2 = 6$ on the board. The idea of a false sentence can be a tricky one. You may want to cross out these sentences with a single line, as in $2 + 2 = 6$. Then children can still read the sentence, but it is clearly marked as false.
Playing a Game: Heads or Tails?

Purpose  To reinforce the meaning of the equal sign and practice identifying number sentences as true or false

Goal  The object of this game, Heads or Tails?, is to identify addition and subtraction number sentences as either true or false. Have two or three children bring their “true” and “false” cards up to the front to help you demonstrate the game.

Materials  Each group of four children needs one coin, one cup, one folder, and each child needs index cards marked “true” and “false,” as well as paper and a pencil.

How to Play

1. Choose one of the four players to be the first Sentence Writer. (You might suggest that the person whose name is last in alphabetical order go first, or use some other simple rule.) This player flips a coin using a cup, and hides the result from the other players with the cup.

2. The Sentence Writer will write either a true or false number sentence. The other players should not be able to see what is being written, so have the Writer use a folder to keep the other players from peeking. If the result of the flip was heads, the player writes a false number sentence using addition and/or subtraction, such as $4 - 1 = 3 + 2$. If the result is tails, the player writes a true number sentence, such as $2 + 2 = 5 - 1$.

3. The Sentence Writer shows the sentence to the other players. The other players quickly decide if the sentence is true or false. They show either their “true” or their “false” card to respond. The first player with the correct answer gets 1 point and becomes the next Sentence Writer.

4. Play continues until time is called. The player with the most points wins the game.
Reflect and Summarize the Lesson

How can you tell whether the sentence $13 - 8 = 3 + 10 - 8$ is true or false? Explain.

Possible answer: I can do the math on both sides of the equal sign. On the left you get 5. On the right you get 5. 5 = 5 is true, so the original sentence is also true.
### Leveled Problem Solving

#### Basic Level
Jan wrote 46 – 7 in the box. Is Jan’s sentence true or false? False

#### On Level
What number could you put in the box to make a true sentence? 29

#### Above Level
Mike wrote an addition expression in the box to make a true sentence. What could Mike have written? Answers will vary.

### Practice Master, CCRG p. CC 22

#### True or False?
1. Circle the true statements. Cross out the false statements.

   - \( 5 + 2 = 6 + 2 \)
   - \( 6 > 2 - 3 \)
   - \( 6 + 5 = 4 + 10 \)
   - \( 15 + 8 = 5 + 2 \)
   - \( 12 + 7 = 20 + 4 \)
   - \( 17 > 8 - 15 + 7 \)
   - \( 13 + 12 = 20 + 5 \)
   - \( 67 + 29 = 29 + 47 \)
   - \( 21 - 7 = 21 + 7 \)
   - \( 13 > 9 - 15 + 5 \)

   **Complete each sentence to make it true.**
   - \( 37 + 28 \) ______ 37
   - \( 58 - 29 = \) ______ 30
   - \( 57 + 25 = \) ______ 70 + 12
   - \( 64 - \) ______ 66 = 10
   - \( 52 + 38 = \) ______ 80 = 10

### Extension Master, CCRG p. CC 23

#### Make It True
Fill in the blank to make the sentence true.

1. \( 41 - 28 = 30 + 20 + 11 - 8 \)
2. \( 74 = \) ______ 37 = 60 - 30 + 14 = 7
3. \( 26 - 19 = \) ______ 10 = 10 + 16 = 9
4. \( 43 - 24 = 30 = \) ______ 20 + 13 = 4
5. \( 55 - 38 = 40 = 30 = \) ______ 15 = 8
6. \( 81 - 63 = 70 = 60 + 11 = \) ______ 3
7. \( 52 - 17 = 10 = \) ______ 12 = 7
8. \( 67 - 39 = 50 = \) ______ 30 + 17 = 9
9. \( 32 - 27 = \) ______ 20 = 20 + 12 = 7
10. \( 77 - 58 = 60 = 50 + 17 = 8 \)
11. \( 92 = 103 - 80 = 10 + 12 = \) ______ 3

**Make a sentence that follows the pattern.**

12. \( 85 - 36 = \) ______ 70 = 30 + 15 = 6

### Intervention Activity
**Equal Expressions**
Choose a two-digit number and write it at the top of a sheet of paper. Ask children to write as many addition and subtraction expressions as they can that are equal to the number.

### Extension Activity
**True or False**
Challenge children to create number sentences with at least two operations on each side. Have them trade papers with a partner and mark the number sentences “true” or “false.”
I. Circle the **true** statements.
Cross out the **false** statements.

```
5 + 2 = 5 + 2  \[\text{True}\]
6 - 3 ≠ 7 - 3  \[\text{False}\]
9 + 4 = 9 - 4  \[\text{False}\]
10 + 6 = 11 + 7 \[\text{True}\]
12 - 9 = 10 - 7 \[\text{False}\]
3 + 8 = 8 + 3  \[\text{False}\]
10 + 6 = 9 + 7  \[\text{True}\]
15 - 8 = 5 - 3  \[\text{False}\]
23 - 9 = 24 - 10 \[\text{False}\]
17 + 36 = 17 + 36 \[\text{True}\]
21 - 7 = 20 - 6 \[\text{False}\]
20 + 1 = 10 + 2 \[\text{False}\]
16 - 7 = 16 + 7 \[\text{False}\]
30 + 4 = 20 + 14 \[\text{False}\]
8 + 17 = 10 + 15 \[\text{True}\]
48 + 9 = 9 + 48 \[\text{True}\]
40 - 18 = 40 - 18 \[\text{True}\]
10 + 13 = 23 - 1 \[\text{False}\]
60 + 8 = 50 + 18 \[\text{False}\]
30 + 6 = 40 + 16 \[\text{False}\]
84 + 12 = 12 + 84 \[\text{True}\]
```

**NOTE:** Your child is learning to identify number sentences as “true” or “false.” You may wish to use these words around your home, such as, “You made your bed this morning—is that true or false?”
Complete each sentence to make it **true**.

2. \[36 + 7 = 33 + \phantom{10}\]

3. \[24 - 8 = \phantom{10} - 10\]

4. \[85 + 16 = 16 + \phantom{10}\]

Complete each sentence to make it **false**.

5. \[18 - 9 = 10 - \phantom{10}\]

6. \[52 + 13 = \phantom{10} + 52\]

7. \[26 + 32 = 66 + \phantom{10}\]

---

**Problem Solving**

8. Write a true number sentence to match this story.

Alice had 10 pencils. She gave 6 of them to Ben. Now she has 3 blue pencils and 1 red pencil.
**True or False?**

1. Circle the **true** statements.
   
   Cross out the **false** statements.

<table>
<thead>
<tr>
<th>5 + 2 = 5 + 2</th>
<th>6 - 3 = 7 - 3</th>
<th>6 + 8 = 4 + 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 - 8 = 5 + 2</td>
<td>12 + 17 = 20 + 9</td>
<td>17 + 6 = 18 + 7</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>4 + 12 = 5 + 11</td>
<td>16 - 8 = 15 - 9</td>
<td>13 + 12 = 20 + 5</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>47 + 29 = 29 + 47</td>
<td>21 - 7 = 21 + 7</td>
<td>13 - 6 = 14 - 5</td>
</tr>
</tbody>
</table>

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Complete each sentence to make it **true**.

2. \(37 + 28 = \underline{15} + 37\)

3. \(58 - 29 = 59 - \underline{30}\)

4. \(\underline{35} + 25 = 70 + 12\)

5. \(64 - \underline{24} = 66 - 40\)

6. \(52 + 38 = \underline{71} + 10\)
Make It True

Fill in the blank to make the sentence true.

1. _____ – 28 = 30 – 20 + 11 – 8
2. 74 – _____ = 60 – 30 + 14 – 7
3. 26 – 19 = _____ – 10 + 16 – 9
4. 43 – 24 = 30 – _____ + 13 – 4
5. 55 – 38 = 40 – 30 + _____ – 8
6. 81 – 63 = 70 – 60 + 11 – _____
7. 52 – 17 = 40 – 10 + _____ – 7
8. 67 – 39 = 50 – _____ + 17 – 9
9. 32 – 27 = _____ – 20 + 12 – 7
10. 77 – _____ = 60 – 50 + 17 – 8

11. _____ – 43 = 80 – 40 + 12 – 3

Make a sentence that follows the pattern.

12. 85 – 36 = _____ – _____ + _____ – _____
Lesson Notes

Replace the current Problem Solving Strategy Activity A in Lesson 13.10 with extended activity.

About the Activity

Activity A has children solve word problems by adding three whole numbers while also using the associative property of addition to make a ten.
Problem Solving Strategy

Discussing the Problem Solving Strategy: Solve a Simpler Problem

Purpose To share strategies for solving problems and focus on the problem solving strategy, solve a simpler problem

Introduce Discuss the different ways children have solved simpler problems throughout this chapter. Children may say that they solved simpler problems when they thought of a doubles fact to help them find the sum of a near doubles fact. They may say that they solved a simpler problem by finding groups of five and ten when adding numbers. Write the following problem on the board.

Problem Fidel picked 3 apples on Monday, 5 apples on Tuesday, and 7 apples on Wednesday. How many apples did Fidel pick?

Have children work independently or in pairs to solve the problem. If children do not know where to begin, encourage children to try to find a simpler problem to solve. You might suggest that they list the groups of apples they are trying to combine. Then suggest that they look for pairs of numbers that are easy to add.

Share After children have had a chance to solve the problem, have them share strategies they used. Some children might have used counters to act out the problem. Others might have drawn a picture to show each group of apples.

Talk Math

What pairs of numbers are easy to add? Possible answers: Pairs of numbers with a sum of ten are easy to add, such as 7 and 3.

How many groups of ten can you make? Explain. 1; 7 + 3 = 10; there are 5 apples left which are not enough to make another group of ten.

How many apples did Fidel pick? 15 apples
Make It True

Fill in the blank to make the sentence true.

1. _____ – 28 = 30 – 20 + 11 – 8
2. 74 – _____ = 60 – 30 + 14 – 7
3. 26 – 19 = _____ – 10 + 16 – 9
4. 43 – 24 = 30 – _____ + 13 – 4
5. 55 – 38 = 40 – 30 + _____ – 8
6. 81 – 63 = 70 – 60 + 11 – _____
7. 52 – 17 = 40 – 10 + _____ – 7
8. 67 – 39 = 50 – _____ + 17 – 9
9. 32 – 27 = _____ – 20 + 12 – 7
10. 77 – _____ = 60 – 50 + 17 – 8
11. _____ – 43 = 80 – 40 + 12 – 3

Make a sentence that follows the pattern.

12. 85 – 36 = _____ – _____ + _____ – _____
Lesson Notes

Replace the current Problem Solving Strategy Activity A in Lesson 13.10 with extended activity.

About the Activity

Activity A has children solve word problems by adding three whole numbers while also using the associative property of addition to make a ten.
Problem Solving Strategy

Discussing the Problem Solving Strategy: Solve a Simpler Problem

Purpose To share strategies for solving problems and focus on the problem solving strategy, *solve a simpler problem*

Introduce Discuss the different ways children have solved simpler problems throughout this chapter. Children may say that they solved simpler problems when they thought of a doubles fact to help them find the sum of a near doubles fact. They may say that they solved a simpler problem by finding groups of five and ten when adding numbers. Write the following problem on the board.

Problem Fidel picked 3 apples on Monday, 5 apples on Tuesday, and 7 apples on Wednesday. How many apples did Fidel pick?

Have children work independently or in pairs to solve the problem. If children do not know where to begin, encourage children to try to find a simpler problem to solve. You might suggest that they list the groups of apples they are trying to combine. Then suggest that they look for pairs of numbers that are easy to add.

\[
\begin{align*}
3 + 5 + 7 &= ? \\
3 + 7 &= 10 \\
10 + 5 &= 15
\end{align*}
\]

Share After children have had a chance to solve the problem, have them share strategies they used. Some children might have used counters to act out the problem. Others might have drawn a picture to show each group of apples.

Talk Math

- What pairs of numbers are easy to add? Possible answers: Pairs of numbers with a sum of ten are easy to add, such as 7 and 3.
- How many groups of ten can you make? Explain. 1; 7 + 3 = 10; there are 5 apples left which are not enough to make another group of ten.
- How many apples did Fidel pick? 15 apples