# Topic C

## Addition Word Problems

### 1.OA.1, 1.OA.6, 1.OA.5

<table>
<thead>
<tr>
<th>Focus Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.OA.1</td>
<td>Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions, e.g., by using objects, drawings and equations with a symbol for the unknown number to represent the problem.</td>
</tr>
<tr>
<td>1.OA.6</td>
<td>Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).</td>
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**Instructional Days:** 5  
**Coherence -Links from:** GK–M4  
**-Links to:** G2–M4  
Number Pairs, Addition and Subtraction of Numbers to 10  
Addition and Subtraction of Numbers Within 200 with Two-Step Word Problems to 100

In Topic C, students develop a more robust understanding of addition word problems, moving beyond the Kindergarten problem types (K.OA.2) by reviewing put together with result unknown and add to with result unknown problems, and then moving to the more complex change unknown version of the earlier problem types.

In Lesson 9, students solve both add to with result unknown and put together with result unknown problems with their classmates. The lesson begins with a cadre of students engaged in a dance party, and then a number of students join them—how fun! Students then record this action-based problem as an equation, and move on to the put together with result unknown problem type where they are faced with a set of students whose characteristics invite decomposition, much like in Topic B. Students end with a debrief where they explore the connections between these two problem types, ultimately understanding that they used the operation of addition to solve both problem types.

Lesson 10 has students using 5-group cards to solve put together with result unknown problems that are represented by stories stemming from pictures. The 5-group cards again make the expectation clear that students will be practicing counting on (Level 2 strategy), but may use the strategy of counting all (Level 1 strategy) if necessary.

The introduction of the add to with change unknown problem type (1.OA.6) occurs in Lesson 11. This lesson allows students explorations with problems where the action, which represents the change, is unknown. For
example, “Ben has 5 pencils. He got some more from his mother. Now he has 9 pencils. How many pencils did Ben get from his mother?” Students physically add more to the starting quantity, counting on until they reach the total; for the first time in Module 1, students simply must use the valuable Level 2 strategy of counting on in order to determine the unknown part.

Lesson 12 continues with solving add to with change unknown problems, as students use their 5-group cards to count on to find the unknown change in quantity. Throughout these two lessons, students explore the symbol for the unknown \(1.OA.1\) as both a question mark and an open box. The topic ends with students creating their own put together with result unknown, add to with result unknown, and add to with change unknown problems from equations, and having their peers solve them through drawings and discussions. These problems set the foundation early in the module for relating addition to subtraction in Topic G \(1.OA.4\).¹

### A Teaching Sequence Towards Mastery of Addition Word Problems

| Objective 1: Solve add to with result unknown and put together with result unknown math stories by drawing, writing equations, and making statements of the solution. (Lesson 9) |
| Objective 2: Solve put together with result unknown math stories by drawing and using 5-group cards. (Lesson 10) |
| Objective 3: Solve add to with change unknown math stories as a context for counting on by drawing, writing equations, and making statements of the solution. (Lesson 11) |
| Objective 4: Solve add to with change unknown math stories using 5-groups. (Lesson 12) |
| Objective 5: Tell put together with result unknown, add to with result unknown, and add to with change unknown stories from equations. (Lesson 13) |

¹ For an analysis of addition and subtraction word problem types used in Grades K–2 please refer to the Counting and Cardinality Progression, pages 7 and 9 and the Common Core State Standards, page 88.
Lesson 9

Objective: Solve *add to with result unknown* and *put together with result unknown* math stories by drawing, writing equations, and making statements of the solution.

Suggested Lesson Structure

<table>
<thead>
<tr>
<th>Activity</th>
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<tr>
<td>Fluency Practice</td>
<td>20 min</td>
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<tr>
<td>Application Problem</td>
<td>5 min</td>
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<tr>
<td>Concept Development</td>
<td>25 min</td>
</tr>
<tr>
<td>Student Debrief</td>
<td>10 min</td>
</tr>
<tr>
<td>Total Time</td>
<td>60 min</td>
</tr>
</tbody>
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**Fluency Practice (20 minutes)**

- Sparkle: The Say Ten Way 1.NBT.2 (5 minutes)
- 5-Group Flash: Partners to 10 1.OA.6 (5 minutes)
- X-Ray Vision: Partners to 10 1.OA.6 (5 minutes)
- Sprint: Number Bond Dash: 10 1.OA.6 (5 minutes)

**Sparkle: The Say Ten Way (5 minutes)**

Note: By providing students with ongoing practice with counting throughout the year, they build and maintain their counting skills, which are foundational for later first grade work on using the Level 3 strategies of making ten and taking from ten when adding and subtracting.

See instructions in Lesson 7.

**5-Group Flash: Partners to 10 (5 minutes)**

Materials: (T/S) 5-Group Cards

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Teacher flashes 5-group cards for 2-3 seconds and instructs students to say the number when the teacher snaps. On the second snap, ask students to identify the partner to 10. Remind students they can use their fingers to help. Flash higher numbers first to facilitate finding the partner to 10 so that all students can feel successful.

Next, break students into partners and instruct them to take turns flashing their 5-group cards with each
other.

**X-Ray Vision: Partners to 10 (5 minutes)**

Materials: (T) 10 counters, container

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

1. Tell students you heard a rumor that some of the children in your class are superheroes and you are wondering if any of them have x-ray vision. Place 10 counters on the floor next to a container.
2. Tell the students to close their eyes.
3. Put 1 of the items into the container.
4. Tell students to open their eyes and identify how many counters you put inside it.
5. When a student figures it out, deem her a superhero with x-ray vision!
6. Continue the game, eliciting all partners to 10.

**Sprint: Number Bond Dash: 10 (5 minutes)**

Materials: (T) Stopwatch or timer (S) Number Bond Dash: 10 (Save a master for use in later lessons), marker to correct work.

Note: By using the same system, the Number Bond Dash, students focus on the mathematics, rather than figuring out the sprint. The activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Follow procedure for Number Bond Dash (see G1-M1-Lesson 5).

**Application Problem (5 minutes)**

Kiera was making a number bracelet with a total of 10 beads on it. She put on 3 red beads so far. How many more beads does she need to add to the bracelet? Explain your thinking in a picture and number sentence.

Early finishers: If Kiera wants to use 5 red beads and 5 yellow beads for her bracelet, how many red beads and how many yellow beads will she need to add?

Note: This problem is designed as a bridge from the previous lesson’s focus on decompositions of 10.
Concept Development (25 minutes)

Materials: (S) Personal white boards with a number bond and equation boxes template, personal white board marker and eraser

Have students sit in a big semi-circle facing front. The teacher will be using students to act out math stories. Begin the lesson with Add to story problems.

T: Good morning, boys and girls. Welcome to Math Stories Theater! You will be watching some math stories and have a hand at solving them. First, close your eyes. When I tap you on the shoulder, quietly come up to the front.

S: (Close eyes.)

T: (Tap 5 students to come up. Have 1 of the students hide behind the bookcase.)

T: Open your eyes. How many students do you see?

S: 4 students.

T: There are 4 students dancing at a party. After a little while, along came their dancing friend, [name of the hiding student]. How many students are dancing at the dance party now?

S: 5 students.

T: How many students were dancing at first?

S: 4 students. (Teacher records on the number bond.)

T: How many more students came over to dance?

S: 1 more student. (Teacher records on the number bond.)

T: Think about the math story you just watched. Turn and tell your partner the number sentence that tells how many students were dancing in all.

S: (Turn and talk.)

T: Say the number sentence.

S: 4 + 1 = 5. (Teacher writes on the board.)

T: What is the total?

S: 5.

T: What does 5 equal? What are the 2 parts that make 5?

S: 4 and 1.

T: Say the number sentence starting with 5 equals.

S: 5 = 4 + 1. (Teacher writes on the board.)

NOTES ON MULTIPLE MEANS FOR ACTION AND EXPRESSION:

When choosing numbers to use in a story, start at a simple level and change the choice of numbers after students have solved it with easy numbers to harder numbers. Here is a suggested sequence starting from simple to more complex:

- add within 5 (e.g., 4 + 1 = 5),
- add adding 1 (e.g., 8 + 1 = 9),
- add using 5 (e.g., 5 + 2 = 7),
- add with the smaller addend first (e.g., 3 + 5 = 8),
- add to 9 and 10 (e.g., 7 + 3 = 10),
- add to 9 and 10 with smaller addend first, (e.g., 3 + 7 = 10),
- add including 0, (e.g., 0 + 8 = 8 or 8 + 0 = 8).

NOTES ON MULTIPLE MEANS FOR ACTION AND EXPRESSION:

For those students who have moved into abstract thinking, ask them to solve the subsequent problems without drawing. Ensure that they’re still making sense of the problems by having them write or talk about how they solved each one.
Analyze the referents for each number ensuring that students understand what each number represents in the story. You might continue with \(8 + 1 = 9\), but without writing in the number bond on the board.

Choose a group of new actors to act out put together math stories (e.g., 5 students sitting, 2 students standing: \(5 + 2 = 7\); 3 students facing sideways, 5 students facing forward: \(3 + 5 = 8\)).

T: We will now make math drawings. (Distribute personal white boards, markers, and 1 eraser per student.)

T: I will tell you a story and you draw. There are 4 inch worms on a giant leaf.

S: (Draw 4 worms on a leaf.)

T: 3 more inch worms crawled onto the leaf.

S: (Draw 3 more worms.)

T: Does your drawing show the two parts of our story clearly? (Have students share how to make their drawings match the story by drawing two distinct groups.)

T: Write a number sentence to show what happened in your picture and find the total.

T: Turn and talk to your partner about what each number tells about the story.

S: (Share with their partners.)

T: Write the rest of the number sentences that go with your story.

You might continue with the following suggested sequence: \(7 + 3 = 10\), \(3 + 6 = 9\), \(0 + 2 = 2\).

T: This time, I will only write the number sentence on the board. Your job is to draw a picture with math drawings to match the number sentence and to find the total. (Writes \(5 + 2 = 7\).)

S: (Draw 5 circles with one color and 2 circles with another color and write \(5 + 2 = 7\).)

Repeat the process for \(6 + 4 = 10\), \(2 + 7 = 9\) and \(4 + 0 = 4\).

**Problem Set (10 minutes)**

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.
Lesson Objective: Solve add to/result unknown and put together/result unknown math stories by drawing, writing equations, and making statements of the solution.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- How are the problem set stories the same? What did we do to solve them? How are the ball and frog examples different from the flag and flower examples?
- Which of our Math Story Theater situations was like the ball and frog examples? Which situations were like the flag and flower examples?
- Use your picture from your personal white board, or think of your own story for us to act out for Math Stories Theater!
- How was today’s lesson related to our ways to make 9 lesson? (You may also cite the ways to make 6, 7, 8 or 10 lessons.)

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
Number Bond Dash!

Directions: Do as many as you can in 90 seconds. Write the amount you finished here:

1. 10
   10
   10

2. 10
   9
   9

3. 10
   8
   8

4. 10
   9
   9

5. 10
   10
   10

6. 10
   9
   9

7. 10
   8
   8

8. 10
   7
   7

9. 10
   8
   8

10. 10
    7
    7

11. 10
    6
    6

12. 10
    7
    7

13. 10
    6
    6

14. 10
    5
    5

15. 10
    4
    4

16. 10
    6
    6

17. 10
    4
    4

18. 10
    3
    3

19. 10
    4
    4

20. 10
    3
    3

21. 10
    0
    0

22. 10
    1
    1

23. 10
    2
    2

24. 10
    4
    4

25. 10
    2
    2
Lesson 9:

Solve add to with result unknown and put together with result unknown math stories by drawing, writing equations, and making statements of the solution.

Date: 5/9/13

1. _____ balls are here. _____ more roll over. Now, there are _____ balls.

   Make a number bond to match the story.

2. _____ frogs are here. _____ more hops over. Now, there are _____ frogs.

   Make a number bond to match the story.
3. There are _____ dark flags. There are ___ white flags.
Altogether, there are ____ flags.

Make a number bond to match the story.

4. There are _____ white flowers. There are ___ dark flowers.
Altogether, there are ____ flowers.

Make a number bond to match the story.
Name ________________________________  Date ________________

Draw a picture and write a number sentence to match the story.

1. Ben has 3 red balls and gets 5 green balls. How many balls does he have now?

[Blank space for drawing]

[Blank space for number sentence]

Ben has _______ balls.

Date: 5/9/13

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Lesson 9 Homework

Name ________________________________
Date _________________

1. Use the picture to tell a math story.

Write a number bond to match your story.

[Diagram of sharks]

Write a number sentence to tell the story.

\[ \square + \square = \square \]

There are _______ sharks.

2. Use the picture to tell a math story.

Write a number bond to match your story.

[Diagram of students]

Write a number sentence to tell the story.

\[ \square + \square = \square \]

There are _______ students.

Lesson 9: Solve add to with result unknown and put together with result unknown math stories by drawing, writing equations, and making statements of the solution.

Date: 5/9/13
3. Jim has 4 big dogs and 3 small dogs. How many dogs does Jim have?

\[
\begin{array}{ccc}
\phantom{+} & \phantom{+} & = \\
\phantom{+} & \phantom{+} &= \phantom{+}
\end{array}
\]

Jim has _______ dogs.

4. Liv plays at the park. She plays with 3 girls and 6 boys. How many kids does she play with at the park?

\[
\begin{array}{ccc}
\phantom{=} & \phantom{=} & \phantom{=} \\
\phantom{=} & \phantom{=} & \phantom{=}
\end{array}
\]

Liv plays with _______ kids.
Lesson 9: Solve add to with result unknown and put together with result unknown math stories by drawing, writing equations, and making statements of the solution.

Date: 5/9/13
Lesson 10

Objective: Solve *put together with result unknown* math stories by drawing and using 5-group cards.

Suggested Lesson Structure

- **Fluency Practice**: (15 minutes)
  - Happy Counting: The Say Ten Way *1.NBT.2* (2 minutes)
  - Cold Call: 1 More *1.OA.5* (2 minutes)
  - Target Practice: 5 & 6 *1.OA.6* (11 minutes)

**Fluency Practice (15 minutes)**

- **Happy Counting: The Say Ten Way (2 minutes)**
  
  Note: By providing students with ongoing practice with counting throughout the year, they build and maintain their counting skills, which are foundational for later first grade work of using the Level 3 strategy of making ten and taking from ten to add and subtract.


- **Cold Call: 1 More (2 minutes)**
  
  Note: This activity supports the connection of counting on 1 and adding 1.

  Tell students you are going to say a number aloud and instruct them to think about the number that is one more. Let them know you will *cold call* one student to say the number aloud as quickly as possible.

- **Target Practice: 5 & 6 (11 minutes)**
  
  Materials: (S) Each set of partners needs one Target Practice board (in a plastic sleeve) (Save for use with future lessons.), a dry erase marker, an eraser, 6 counters and a die.

  Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

  See directions on Target Practice board. First use 5 as the target number. Then distribute 1 more counter.
and use 6 as the target number.

**Application Problem (10 minutes)**

The class is collecting canned food to help those in need. The teacher brings in 3 cans to start the collection. On Monday, Becky brings in 2 cans. On Tuesday, Talia brings in 2 cans. On Wednesday, Brendan brings in 2 cans. How many cans were there after each day?

Draw a picture to show your thinking. What do you notice about what happened each day?

Early Finishers: If this pattern continues, how many cans will our class have on Friday?

Note: This problem serves as a bridge from the previous lesson as students solved *add to* problems. Students will discuss their strategies during the debrief and connect the work with today’s lesson of using drawing and 5-group cards to solve.

**Concept Development (25 minutes)**

Materials: (T) Picture card of the classroom (from Lesson 5) and the playground (S) 5-group cards, personal white boards with equation boxes template, white board markers and eraser, picture card of the playground (from Lesson 8) per pair

T: When I tell the math story from the picture, you draw a picture to match it. In a first grade classroom, some students are sitting down and learning. Use *simple math drawings* like circles to draw how many students are sitting down.

S: (Draw 5 circles.)

T: Some students are standing up and learning. Draw this

NOTES ON MULTIPLE MEANS OF REPRESENTATION:
As you tell the math story, make sure to have it written on the board or hand out a piece of paper for students who need information presented visually. Presenting material in more than one way helps different styles of learners. In this part of the lesson, auditory and visual learners will benefit.
Lesson 10: Solve put together with result unknown math stories by drawing and using 5-group cards.

Date: 5/9/13

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Circulate around the room as students are telling their story problems and solving using 5-group cards. Guide and encourage students to use math vocabulary in discussion. When you hear these words being used, you know students are applying what they are learning.
make up story problems and solve them by using 5-group cards. Circulate and choose a pair of students to share their story for the class to solve at the end of this lesson.

**Problem Set (10 minutes)**

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.

**Student Debrief (10 minutes)**

**Lesson Objective:** Solve put together/result unknown math stories by drawing and using 5-group cards.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- In our lesson, we used simple math drawings like circles to draw the students in our problem. Why would we use circles instead of drawing out the students?
- Look at your problem set and your application problem. What strategies have you been using to tell and solve our stories today?
- What patterns do you see in your application problem?
- Share with a partner how you solved it. In what ways did you solve it differently? In what ways did you solve it similarly?
- What do you think was an efficient strategy to use to solve this problem? What made that strategy efficient?
- I heard many of you say that you counted on 2
each time. Help me write a number sentence that shows what happened on Monday. (3 + 2 = 5.) Let’s circle the part that shows that we counted on 2.

- How could we use 5-group cards to show how to solve this?
- Was counting on the same as adding today? How do you know? (The numbers were increasing, we were counting up, etc.)

**Exit Ticket**

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
Target Practice

Directions: Choose a target number between 6 and 10 and write it in the middle of the circle on the top of the page. Roll a die. Write the number rolled in the circle at the end one of the arrows. Then, make a bull's-eye by writing the number needed to make your target in the other circle.
Name ______________________________ Date ____________

1. Use the picture to write the number sentence and the number bond.

_____ little turtles + _____ big turtles = _____ turtles

2. _____ dogs that are awake + _____ sleeping dogs = _____ dogs

3. _____ pigs + _____ pigs in mud = _____ pigs
4. Draw a line from the picture to the matching 5-group cards.
Name ____________________________  Date ______________

Draw to show the story. There are 3 large balls and 4 small balls.

□ + □ = □

How many balls are there? There are ______ balls.

Circle the set of numeral tiles that match your picture.

[Diagram of numeral tiles: 3 large balls and 4 small balls]
Lesson 10: Solve *put together with result unknown* math stories by drawing and using 5-group cards.

1. Use your 5-group cards to solve.

![Smiley face drawings](image1)

\[
\square + \square = \square
\]

Draw the other 5-group card to show what you did.

1. Use your 5-group cards to solve.

![Cat drawings](image2)

\[
\square = \square + \square
\]

Draw the other 5-group card to show what you did.
3. There are 4 tall boys and 5 short boys. Draw to show how many boys there are in all.

There are _______ boys in all.

Write a number bond to match the story.

Write a number sentence to show what you did.

\[
\square + \square = \square
\]

4. There are 3 girls and 5 boys. Draw to show how many children there are altogether.

There are _______ children altogether.

Write a number bond to match the story.

Write a number sentence to show what you did.

\[
\square + \square = \square
\]
Lesson 11

Objective: Solve *add to with change unknown* math stories as a context for counting on by drawing, writing equations, and making statements of the solution.

**Suggested Lesson Structure**
- Fluency Practice (8 minutes)
- Application Problem (5 minutes)
- Concept Development (30 minutes)
- Student Debrief (17 minutes)
- Total Time (60 minutes)

**Fluency Practice (8 minutes)**
- Count On Cheers: 2 More 1.OA.5 (3 minutes)
- Sprint: Number Bond Dash: 6 1.OA.5 (5 minutes)

**Count On Cheers: 2 More (3 minutes)**
Note: This activity supports the connection of counting on by 2 and adding 2.
Teacher says the number aloud. Students repeat the number, touching their heads and counting on as they put their fists in the air, one at a time. Alternately, students can count on with boxing punches.

**Sprint: Number Bond Dash: 6 (5 minutes)**
Materials: (T) Stopwatch or timer (S) Sprint: Number Bond Dash: 6, marker to correct work

Note: By using the same system, the Number Bond Dash, students focus on the mathematics, rather than figuring out the sprint. The activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Use the sprint you saved from G1-M1-L5 and follow the procedures for Number Bond Dash. Tell students to remember how many problems they get correct so they can try to improve their scores tomorrow.
Application Problem (5 minutes)

There are 8 children in the afterschool cooking club. How many boys and how many girls might be in the class? Draw a picture and write a number sentence to explain your thinking.

Early finishers: How many other combinations of boys and girls could be made? Write a number bond for each combination you can think of.

Note: This problem serves as a bridge from the previous lesson’s focus on solving put together stories. The problem serves as a context for counting on during the debrief.

Concept Development (30 minutes)

Materials: (T) Mystery box (shoe box or other available box with a question mark on it), counting bears (or another engaging classroom material that allows you to tell stories), large blank equation template, number sentence cards and 2” x 2” sticky notes labeled with ? (S) Personal white board with number sentence template, white board marker and eraser, sets of bear counters & paper bags with question marks labeled on the front per pair, a yellow colored pencil or a crayon

Before the lesson, privately place 2 counting bears in the mystery box so that students can’t see. Set the box out of sight. Have students bring their personal white boards and sit in a semi-circle. Display 3 counting bears before you.

T: Once upon a time, 3 little bears went to play tag in the forest. (Places 3 bear counters on the template on the floor.) Then, some more bears came over. (Places the box with the question mark next to the bears.) In the end, there were 5 little bears playing tag in the woods altogether.

T: How many bears do you think came to play (while pointing to the box)? Turn and talk to a partner.

S: (As students discuss, circulates and listens.)

T: How many bears joined the group to play tag? (Have students share ideas.) What strategy did you use to decide? (Ask a few students to share varying ideas.) Let’s use counting on to test our ideas.

S/T: (Gestures over the 3.) Threeeee, (taps the box while drawing dots below the box for each count) 4, 5!

T: How many more bears came to play?

S: 2 bears!

T: Let’s find out if we were right. (Opens up the box and reveals 2 bears.) You were right! There were 2 more bears that came to play tag. (Closes the box and places the 2 bears on top of the box.)

T: Write the number sentence and number bond for the story. If you need a hint, look here (point to the teacher number sentence template).

S: (Write the number sentence while the teacher circulates.)
Analyze the referents for each number ensuring that students understand what each number represents in the story. Emphasize the unknown in the number sentence and number bond as being the change.

Repeat this process with a decomposition number sentence such as 9 = 6 + ?. Nine bears were playing tag. At first, there had been 6 bears playing. How many more bears joined in?

Provide sets of bears and a paper bag to each pair. Then distribute 1 to 2 number sentence cards with a question mark sticky note covering the second addend. Have students use the bears and the paper bag to tell a story that matches their number sentence card and figure out the mystery number. Circulate and listen to students sharing strategies, solutions, and writing the corresponding number sentence on their template. Encourage students to talk about what’s happening in each story so that they can contextualize the numbers in the action of the story.

**Problem Set (10 minutes)**

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.

**Student Debrief (17 minutes)**

**Lesson Objective:** Solve add to/change unknown math stories as a context for counting on by drawing, writing equations, and making statements of the solution.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

Have students bring their worksheets with a yellow colored pencil or a crayon to the meeting area.
- Look at Problem 1. Where was the mystery number in your number sentence? (Have students color in the box with a yellow crayon.) Repeat the process for the rest of the worksheet.
- What other strategy did you use to solve these problems?
- Look at Problem 3. How can you show the starting part and the mystery part in the picture?
- How are Problem 1 and Problem 3 different and similar?
- How are these number stories different from other number stories we’ve solved?
- Select student application problem samples that represent all decompositions of 8. There are so many different answers. Are these all correct? How can we figure out if we came up with all of the ways to make 8 boys and girls?
- There were 8 boys and girls in our application problem, 2 more boys join the cooking club. How can we count on to find out how many students are in the club now? How would you change your number sentence?
- What if there were still 8 students in the afterschool cooking club, and we knew that there were 5 boys, but we didn’t know how many girls? How can you write that as a new number sentence?

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
1. Jill was given a total of 5 flowers for her birthday. Draw more flowers in the vase to show Jill’s birthday flowers.

How many flowers did you have to draw? ___ flowers

Write a number sentence and a number bond to match the story.

2. Kate and Nana were baking cookies. They made 2 heart cookies and then made some square cookies. They made 8 cookies altogether. How many square cookies did they make?  

Draw and count on to show the story.

Write a number sentence and a number bond to match the story.

Show the parts. Write a number bond to match the story.
3. Bill has 2 trucks. His friend, James came over with some more. Together they had 5 trucks. How many trucks did James bring over?

James brought over ______ trucks.

Write a number sentence to explain the story.

\[ 2 + \square = 5 \]

4. Jane caught 7 fish before she stopped to eat lunch. After lunch she caught some more. At the end of the day she had 9 fish. How many fish did she catch after lunch?

Jane caught ______ fish after lunch.

Write a number sentence to explain the story.

\[ \square + \square = \square \]

Name ___________________________  Date ____________
1. Draw more bears to show that Jen has 8 bears total.

I added _____ more bears.

Write a number sentence to show how many bears you drew.

\[
\square + \square = \square
\]
Name ________________________________ Date ____________

1. Use the 5-group cards to count on to find the missing number in the number sentences.

\[
\begin{align*}
2 + \boxed{} &= 7 \\
8 &= 5 + \boxed{} \\
9 &= 7 + \boxed{} \\
9 &= \boxed{} + 9
\end{align*}
\]

Match the number sentence to the math story. Draw a picture or use your 5-group
cards to solve.

Scott has 3 cookies. His mom gives him some more. Now he has 8 cookies. How many cookies did his mom give him?

\[ 6 + ? = 9 \]

Now Scott has \_\_\_\_\_\_\_\_\_\_\_\_ cookies.

\[ 3 + ? = 8 \]

Kim sees 6 birds in the tree.
Some more birds fly in.
Kim sees 9 birds in the tree. How many birds fly to the tree?

\[ 4 + ? = 8 \]

\_\_\_\_\_\_\_\_\_\_\_\_ birds fly to the tree.
Number Sentence Cards

- $3 + 2 = 5$
- $7 + 1 = 8$
- $6 + 1 = 7$
- $4 + 2 = 6$
- $6 = 5 + 1$
- $10 = 7 + 3$
- $8 = 6 + 2$
- $7 = 5 + 2$
Lesson 12

Objective: Solve *add to with change unknown* math stories using 5-group cards.

Suggested Lesson Structure

- Fluency Practice  (15 minutes)
- Application Problem  (5 minutes)
- Concept Development  (30 minutes)
- Student Debrief  (10 minutes)
- Total Time  (60 minutes)

**Fluency Practice (15 minutes)**

- Slam: Partners to 6  **1.OA.6**  (10 minutes)
- Number Bond Dash: 6 (Day 2)  **1.OA.6**  (5 minutes)

**Slam: Partners to 6 (10 minutes)**

Materials: (T/S) 5-group cards

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10. In this engaging context, be sure to help students focus on the mathematics of this activity.

Tell students to order cards 0–6 on their desks, beginning with 0. Flash a 5-group card and instruct students to *slam* the card with the partner to 6 (students carefully slap the card on the table). Tell students to say the partners they found when you snap, beginning with the card they just slammed (5 and 1 make 6). Then tell them to say it again, beginning with the card you flashed (1 and 5 make 6). Continue playing until students have found all possible partners to 6. Then give them time to play the game with partners.

**NOTES ON MULTIPLE MEANS FOR ACTION AND EXPRESSION:**

When playing games with your students, provide a variety of ways to respond. Oral fluency games should be adjusted for students who are deaf or students with hearing impairments. This can be done in many ways including showing the answer with fingers, using student boards to write answers, or using a visual signal or vibration.
Sprint: Number Bond Dash: 6 (Day 2) (5 minutes)

Materials: (T) Stopwatch or timer (S) Number Bond Dash: 6 Sprint, marker to correct work

Note: Reviewing number bonds allows students to build and maintain fluency with addition and subtraction facts within 10.
Follow procedure for Number Bond Dash. Remember that today is the second day with making 6. Students should recall their scores from yesterday to see and celebrate improvement (see G1–M1–Lesson 5).

Application Problem (5 minutes)

Tanya has 7 books on her shelf. She borrowed some books from the library and now there are 9 books on her shelf. How many books did she get at the library? Explain your thinking in pictures, words, or with a number sentence. Draw a box around the mystery number in your number sentence.

Note: This problem is designed both as a bridge and a lead-up in that it focuses students on solving a change unknown problem. Students come back to the problem in the debrief, applying the use of 5-group cards as another resource for supporting problem solving as they count on to solve.

Concept Development (30 minutes)

Materials: (T) Mystery box (see Lesson 11), counting bears (or another engaging classroom material that allows you to tell stories), large blank equation template (S) Personal white board with number sentence template, white board marker and eraser, 5-group cards plus a blank card, number sentence cards with sticky notes labeled with ? for pairs of students

Before the lesson, privately place 3 counting bears in the mystery box. Have students sit in a semi-circle with their 5-group cards and number sentence template.

T: Use the number side of your 5-group cards to help me solve a story. Once upon a time, 5 little bears came out of hibernation. (Place 5 bear counters above the first addend space on the teacher number sentence template.)

S: (Place the numeral 5 card on their number sentence.)

T: Then, some more bears came out of hibernation. (Bring out mystery box.)

T: What should we do in our number sentence here? Turn and talk to your partner, and show it on your number sentence.

S: (Discuss. Acceptable responses are leaving second square blank or inserting a question mark.)
Lesson 12: Solve add to with change unknown math stories using 5-group cards.

Date: 5/9/13

Here’s a blank card for everyone. (Distribute a blank card.) Place it in your number sentence to show that this part is a mystery.

At the end, there were 8 little bears playing together in the woods. Where should we show that number of bears in our number sentence? (Give students time to discuss and place 8-card in the final box. Then place numeral 8 in the teacher equation template.)

How can we use the 5-group cards to figure out how many more bears came out of hibernation? With your partner, use your cards to show how many bears are in the box.

As students discuss and solve, circulate and listen. For example, students may turn over the 8 to the dot-side, gesture to the five and count on, “Fiiiive, 6, 7, 8”.

How many bears joined the group? (Students share ideas.) How did you use your 5-group cards to figure this out? (Ask students with dot-side up to demonstrate. Some students may use the cards to check their solution by creating the number sentence 5 + 3 = 8 with the numeral cards and then flipping the 3 to the dot-side to count on.)

Let’s count on as we point to each dot.

Fiiiiive, 6, 7, 8!

How many more bears came out of hibernation?

3 bears!

Let’s open the box and see how many more bears came out of hibernation! Write the number sentence using the 5-group cards in front of you to help.

Explain to the students that this type of a story problem is a “mystery change” problem since the change that results in the total is a mystery (the unknown).

(Show 4 + ? = 7.) This time I want you to think of a mystery change story with your partner. Try to solve the mystery using your 5-group cards.

Choose a number sentence card with a sticky note covering the second added, such as 9 = 5 + ?. Have the students create a mystery change story to go with the number sentence. When the students are ready to work more independently, give partners 2 or 3 number sentence cards with sticky notes already covering the second addend to continue telling stories and solving.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.
Student Debrief (10 minutes)

Lesson Objective: Solve *add to with change unknown* math stories using 5-group cards.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience. Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- How did the 5-group cards help you with today’s work?
- Were some problems faster to solve than others? Why? Share an example.
- Compare the different strategies we used yesterday and today. Which strategy was easier for you, and why?
- On your problem set, how are Problem 5 and Problem 6 different? How are they the same?
- Look at your application problem. How can you use 5-group cards to solve this problem?
- Share with your partner an *I can* statement, based on something you can now do on your own. For example, “I can.....make up mystery change problems and write number sentences with sticky notes,” or “I can...use 5-group cards to help me solve mystery change problems.”

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.

- Solve *add to with change unknown* math stories using 5-group cards.
Fill in the missing numbers.

1. 3 + ____ = 5

2. 5 + ____ = 9

3. 4 + ____ = 10
4. Kate and Bob had 6 balls at the park. Kate had 2 of the balls. How many balls did Bob have?

\[
\begin{align*}
\text{_______ balls} & = \text{_______balls} + \text{_______balls} \\
\text{Bob had _______ balls at the park.}
\end{align*}
\]

5. I had 3 apples. My mom gave me some more. Then I had 10 apples. How many apples did my mom give me?

\[
\begin{align*}
\text{_______ apples} + \text{_______ apples} & = \text{_______ apples} \\
\text{Mom gave me _______ apples.}
\end{align*}
\]
Draw a picture and count on to solve the math story.

Bob caught 5 fish. John caught some more fish. They had 7 fish in all. How many fish did John catch?

Write a number sentence to match your picture.

John caught _________ fish.
Use your 5-group cards to count on to find the missing number in the number sentences.

1. \[ 5 + \square = 7 \]
   - The mystery number is \_

2. \[ 2 + \square = 8 \]
   - The mystery number is \_

3. \[ 6 + \square = 9 \]
   - The mystery number is \_
Use your 5-group cards to count on and solve the math stories. Use the boxes to show your 5-group cards.

4. Jack read 4 books on Monday. He reads some more on Tuesday. He reads 7 books total. How many books does Jack read on Tuesday?

5. Kate has 1 sister and some brothers. She has 7 brothers and sisters in all. How many brothers does Kate have?

6. There are 6 dogs in the park and some cats. There are 9 dogs and cats in the park altogether. How many cats are in the park?
Lesson 13

Objective: Tell put together with result unknown, add to with result unknown, and add to with change unknown stories from equations.

Suggested Lesson Structure

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
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**Fluency Practice (20 minutes)**

- Count By Tens 1.NBT.2 (5 minutes)
- Ten and Tuck 1.OA.6, 1.OA.3 (5 minutes)
- Memory: Partners to 10 1.OA.6 (10 minutes)

**Count By Tens (5 minutes)**

Materials: (T) 5-group cards

Note: By providing students with ongoing counting practice throughout the year, they build and maintain their counting skills, which are foundational for later first grade work with adding and subtracting tens.

Use the tens from your 5-group cards as a visual while students count by tens, first the regular way and then the Say Ten way.

Next, show students a 3 card and add 10 cards to count on by tens the Say Ten way, starting at three (three, ten-three, 2 ten three, 3 ten three...).

Repeat, starting at various numbers between 1 and 9.

**Ten and Tuck (5 minutes)**

Note: This activity addresses the core fluency objective for Grade 1.

Tell students to show 10 fingers. Instruct them to tuck 3 (students put down the pinky, ring finger and middle finger on their right hands). Ask them how many fingers are up (7) and how many are tucked (3). Then ask them to say the number sentence aloud, beginning with the larger part (7 + 3 = 10), beginning with the smaller part (3 + 7 = 10) and beginning with the whole (10 = 3 + 7 or 10 = 7 + 3).
Memory: Partners to 10 (10 minutes)

Materials: (S) 1 set of single-sided 5-group cards and single-sided numeral cards per partner group.

Note: This activity addresses the core fluency objective for Grade 1.

Give Partner A a set of single-sided 5-group cards and Partner B a set of single-sided numeral cards. Tell students to sit facing each other and line up their cards in front of them, face down. Instruct students to take turns flipping over 1 of their cards and 1 of their partner’s cards and trying to make a ten. When they make a ten, they place the cards in a separate pile and keep them until the end of the game. The player with the most cards at the end of the game wins.

Application Problem (5 minutes)

Sammi had 6 bunnies. One of them had babies. Now she has 10 bunnies. How many babies were born? Draw a picture to show how you know. Write a number bond and a number sentence to match your picture.

Note: This problem is designed both as a bridge and a lead-up, in that it focuses students on solving a change unknown problem.

Concept Development (27 minutes)

Materials: (S) Number sentence cards with sticky notes labeled with a ? per pair, personal white boards with equation box template, white board marker and eraser

T: (Projects 5 + 1 = 6 number sentence card with the 6 covered with a sticky note.) What do we need to find in this number sentence?
S: The total!
T: With your partner, make up a math story using this number sentence. As you make up the story, draw a picture to help you solve for the number that hides under the question mark.
S: (Make up math stories and illustrate while the teacher circulates.)
T: (Chooses 2 to 3 pairs to share their stories. After each pair tells the story, invites the class to say the answer and the number sentence. Emphasizes the importance of naming the unit: 5 lions + 1 lion = 6 lions.)

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Never underestimate the use of manipulatives when students are learning a new skill. Students should use their 5-group cards or other manipulative such as counting bears when they need extra support. Allow students to use the extra support as long as they need it.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

When asking students to draw an object, check for understanding that they know what it is. You might need to provide a picture of the object for your ELL students. At the same time, remind your students they are always to do math drawings and not spend time on their illustrations.
Lesson 13:
Tell put together with result unknown, add to with result unknown, and add to with change unknown stories from equations.

Date: 5/9/13

T: (Project 6 + 2 = 8 number sentence card with the 2 covered with a sticky note.) What do we need to find in this number sentence?

S: The missing part! It’s like finding what’s in the mystery box.

Repeat the earlier sequence to allow students to share and solve their Change Unknown story problems.

Distribute a set of number sentence cards to each pair of students and assign each student to be A or B.

T: You and your partner will take turns being math storytellers. Each partner will pick their own number sentence card and make it special by placing a sticky note either on the total or on the second part of the number sentence. (Model the two different types as they are being presented.) Then come up with a story that matches your number sentence creation. Tell your partner your story as you show your number sentence. The partner will have to draw a math picture to show what is happening in the story and to solve the problem.

S: (Participate in creating their own math story problems and take turns solving their partner’s problem by drawing a picture.)

Problem Set (12 minutes)

Distribute the Problem Set and allow students to work independently or in small groups. While students are working, the teacher circulates and listens. Some students may need encouragement to vary between “Add To” and “Put Together” stories.

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.

Student Debrief (8 minutes)

Lesson Objective: Tell put together/result unknown, add to/result unknown and add to/change unknown stories from equations.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.
Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

You may choose to use any combination of the questions below to lead the discussion.

- Which 2 problems from your worksheet did you think were similar? Why?
- Which 2 problems from your worksheet did you think were different? Why?
- Which of your stories was the most difficult for you to make? Which story was the easiest for you? Why?
- (Project a sample of a student application problem on the board.) Which problem was our application problem similar to? In what way(s) are they similar?

**Exit Ticket**

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students' understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
With a partner, create a story for each of the number sentences below. Draw a picture to show. Write the number bond to match the story.

1. \[6 + 2 = \square\]

2. \[5 + 5 = \square\]
3. \[5 + \square = 7\]

4. \[6 + \square = 10\]
Tell a math story for each number sentence by drawing a picture.

1. \(5 + 1 = 6\)

2. \(3 + ? = 8\)
Lesson 13: Tell put together with result unknown, add to with result unknown, and add to with change unknown stories from equations.

Name ____________________________ Date ______________

Use the number sentences to draw a picture, and fill in the number bond to tell a math story.

1. $5 + 2 = 7$

2. $3 + 6 = 9$

3. $7 + ? = 9$
Topic D
Strategies for Counting On

1.OA.5, 1.OA.8, 1.OA.6

Focus Standard: 1.OA.5, 1.OA.8

- Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = □ – 3, 6 + 6 = □.

Instructional Days: 3

Coherence -Links from: GK–M4
-Number Pairs, Addition and Subtraction of Numbers to 10

-Links to: G2–M4
-Addition and Subtraction of Numbers Within 200 with Two-Step Word Problems to 100

Topic D affords students the opportunity to solve problems within the simplicity of equations, moving on from the context of story problems. Continuing on the momentum gained with counting on as it relates to addition in Topic C, students begin Topic D with tracking the number of counts on from a given number by using their fingers and 5-group cards (1.OA.5).

In Lessons 14 and 15, students begin with an embedded quantity represented by both a picture and a numeral, and then tap pictures, tap the dots on their 5-group cards, draw more, and finally, replace these pictorial strategies to extending their fingers as an effective strategy for keeping track of the change. They apply these strategies to track changes of 0, 1, 2, and 3, thus limiting their use of tracking to quantities that will maintain efficiency. Students use these same strategies in Lesson 16, in both result unknown and the more complex change unknown equations, solving problems such as 4 + ___ = 7 as they say, “5, 6, 7” (1.OA.8).

A Teaching Sequence Towards Mastery of Strategies for Counting On

Objective 1: Count on up to 3 more using numeral and 5-group cards and fingers to track the change. (Lesson 14–15)

Objective 2: Count on to find the unknown part in missing addend equations such as 6 + __ = 9. Answer, “How many more to make 6, 7, 8, 9, and 10?” (Lesson 16)
Lesson 14

Objective: Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

Suggested Lesson Structure

- Fluency Practice (11 minutes)
- Application Problem (4 minutes)
- Concept Development (30 minutes)
- Student Debrief (15 minutes)
- Total Time (60 minutes)

Fluency Practice (11 minutes)

- Skip-Counting Squats: Forward and Back to 20 1.OA.5 (2 minutes)
- Count On Cheers: 2 More 1.OA.5 (3 minutes)
- Mind Reader: Partners to 10 1.OA.6 (6 minutes)

Skip-Counting Squats (2 minutes)

Note: This activity supports the connection of counting on by 2 and adding 2, and counting back by 2 and subtracting 2.

Have students count from 0-20 and back 2 times, squatting down and touching the floor on odd numbers, and standing up for even numbers.

- For the first count, instruct students to whisper when they squat and talk normally when they stand.
- On the second count, encourage students to try thinking of the numbers in their heads when they squat and whisper when they stand.

Count On Cheers: 2 More (3 minutes)

Note: This activity supports the connection of counting on by 2 and adding 2, and counting back by 2 and subtracting 2.

Teacher says number aloud. Students repeat the number, touching their heads and counting on as they put their fists in the air, one at a time. Alternately, students can count on with boxing punches. Extend the game by counting back 2.
Lesson 14: Count on up to 3 more using numeral and 5-group tiles and fingers to track the change.

Date: 5/9/13

NOTES ON MULTIPLE MEANS OF REPRESENTATION:
As the class is counting, support those students who may need visual or auditory help. Using physical cues such as body movements (pointing, nodding the head, eye blinking, or foot tapping) will help students who need visual help. Using auditory cues such as a snap, clap, or stomp will help those students who need auditory support.

Missing Part: Make 10 (6 minutes)

Materials: (S) 5-group cards

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Students work with a partner, using 5-group cards. Each student puts a card his or her forehead. The partner tells how many more to make 10. Students must guess the cards on their foreheads. Partners can play simultaneously, each putting a card to his or her forehead. If appropriate, remind students that they may use their fingers to help.

Application Problem (4 minutes)

Beth went apple picking. She picked 7 apples and put them in her basket. Two more apples fell out of the tree right into her basket! How many apples does she have in her basket now? Draw a math picture and write a number bond and number sentence to match the story.

Note: This serves as a bridge from the change unknown stories of the previous topic, the concept development of this lesson which focuses on strategies for counting on.

Concept Development (30 minutes)

Materials: (T) Pictures of crayon and hot dog problems for projecting (S) 5-group cards, personal white boards and markers

T: Today, let’s try some of those same great strategies to help us solve missing numbers in math sentences. What are some of the ways we figured out the mystery number in our bear stories? Turn and talk with a partner.

T: (Give time for partner sharing, then call on students to share strategies such as counting on, using 5-group cards, and drawing.)

T: Let’s use those strategies with this situation. (Project a picture of a box of crayons, labeled 4 on the outside and 2 more crayons.) Look at this picture. How many crayons are outside of the box?

S: 2!

T: Let’s use our fingers to keep track of these. As I point, put out your fingers to follow along.

S/T: (Teacher touches crayons on projection.) Ooneeee (puts out one finger), 2 (puts out another finger).

T: How many fingers do you have out?
Lesson 14: Count on up to 3 more using numeral and 5-group tiles and fingers to track the change.

S: 2!
T: Those 2 fingers match these 2 crayons.
T: Let’s count on to find out how many crayons are in the picture. We’ll start with the box first. Use your fingers and count with me.
S/T: Fourrrrr (gestures to box), 5, 6. (Puts out fingers while counting.)
T: How many crayons are on the board?
S: 6 crayons!
T: Take out your 5-group cards and build the number sentence using the numeral side.
S: (Students share number sentences, such as 4 + 2 = 6, 2 + 4 = 6, 6 = 4 + 2, or 6 = 2 + 4)
T: Turn over your 2 to show the dot side. We will use the 5-group cards to check our solution.
S/T: Fourrr (Touch 4.), 5, 6. (Touch dots while counting.)
T: What is the total when we use the cards?
S: 6!
T: What is the total when we counted the crayons with our fingers?
S: 6 crayons!
T: Great job! Let’s try another. (Repeat the process with a picture of a package of 6 hot dogs and 2 more hot dogs.)
T: Turn and talk with your partner about the two strategies we just used. How are they similar?
S: When we count on using our fingers, it’s just like when we touch the dots. Each finger is like a dot.
T: (Project number sentence on the board: 4 + 3 = ☐.) Let’s try to solve one more with a partner. Talk quietly with your partner to decide what number belongs in the box. Remember that you can count on using your fingers or your 5-group cards to help you.

Problem Set (10 minutes)

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.
**Student Debrief (15 minutes)**

**Lesson Objective:** Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- For which problems did you need to add one? Let’s list those number sentences.
- What do you notice about these problems? Is there a pattern you can find?
- Look at the first 3 problems. What do you notice about what we are adding each time? Why might we be only counting on 1, 2 or 3 more with our fingers?
- Are there any problems that have the same total? Let’s list those number sentences.
- How can the totals be the same if we counted on different amounts?

**Exit Ticket**

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
Lesson 14 Problem Set

Name __________________________________________  Date ______________

1. Count on to add.

There are ____ flowers altogether.

There are ____ oranges in all.

There is a total of ____ crayons.
4. Use your 5-group cards to count on to add. Try to use as few dot cards as you can.

\[
\begin{align*}
6 + 1 &= \square \\
6 + 3 &= \square \\
7 + 2 &= \square \\
\square + 3 &= 5 \\
\end{align*}
\]

5. Use your 5-group cards, your fingers or your known facts to count on to add.

\[
\begin{align*}
8 + 2 &= \square \\
\square + 1 &= 4 \\
4 + 3 &= \square \\
\square + 3 &= 6 \\
\end{align*}
\]
Lesson 14 Exit Ticket 1.1

Name ________________________________ Date ____________

Count on to solve the number sentences.

6 + 2 = [ ]

I counted _______ more hats.

7 + 3 = [ ]

8 + 2 = [ ]

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Lesson 14: Count on up to 3 more using numeral and 5-group tiles and fingers to track the change.

Count on to add.

5 + 1 = ☐

Write what you say when you count on.

5 + 2 = ☐

7 + 2 = ☐

☐ = 6 + 3

☐ = 7 + ☐
Lesson 14: Count on up to 3 more using numeral and 5-group tiles and fingers to track the change.

Date:
5/9/13
Lesson 15

Objective: Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

Suggested Lesson Structure

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<td>Concept Development</td>
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<td>Student Debrief</td>
<td>15 minutes</td>
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<td><strong>Total Time</strong></td>
<td><strong>60 minutes</strong></td>
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Fluency Practice (15 minutes)

- Happy Counting: Tens 1.OA.5 (2 minutes)
- Sprint: Counting On 1.OA.5 (13 minutes)

Happy Counting: Tens (2 minutes)

Note: By providing students with ongoing counting practice throughout the year, they build and maintain their counting skills, which are foundational for later first grade work with adding and subtracting tens.

Do Happy Counting activity from Lesson 3, counting by tens the Say Ten way. First count from 0-50 and back. Then count from 7-77 and back.

Sprint: Counting On (13 minutes)

Materials: (S) Counting On Sprint

Note: This activity provides continued practice relating counting to addition.

Application Problem (5 minutes)

Joshua and Rebecca were eating raisins. Joshua had 7 raisins and took 2 more from the box. Rebecca had 9 raisins and took 2 more from the box. Who had a greater number of raisins, Joshua or Rebecca? Draw math drawings, write number bonds or number sentences to show how you know.
Lesson 15: Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

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NOTES ON MULTIPLE MEANS OF REPRESENTATION:
Reading aloud word problems facilitates problem solving for those students who have difficulty reading the text they are presented with. Hearing the word problem also helps students who are auditory learners.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:
When a skill is not automatic, provide support so students can practice and refine their skill. Repeated practice with 5-group cards and fingers will help students develop automaticity of their addition facts.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:
For students who are ready for more challenging numbers, alter the number sentence cards as you see fit. For example, 23 + 2 = ? may be more appropriate for some students, as they track the change.

Note: This problem provides a bridge from the previous day’s lesson to today’s as students solve problems by using the Level 2 strategy of counting on.

Concept Development (25 minutes)

Materials: (S) 5-group cards, a set of number sentence cards from Lesson 11 (with sticky note covering the total) per pair, personal white boards and markers

T: Today, let’s use our strategies for counting on to play the partner game Count On! We will need to use counting on with our fingers and counting with 5-group cards to play.

T: (Project 6 + 3 = □ on the board.) Show how we use counting on with our fingers to solve this.

S: Siiiix, 7, 8, 9. (Extend fingers as they count on.)

T: Show how to use our 5-group cards to solve this.

S: Siiiix, 7, 8, 9. (Put out 5-group cards with 6 on numeral side and 3 on dot side. Touch as they count.)

T: Why did they get the same answer?

S: Both are ways to keep track of the part we are counting on.

T: This is a type of a shortcut. It is a fast or efficient strategy. Today, you will work with a partner to practice using these shortcuts or strategies to play Count On!

T: Here are the directions:
1. Partners A and B lay all of the number sentence cards in front of you.
2. Partner A, you touch the card you want to take.
3. Count on or use the 5-group cards to solve for the total under the sticky note.
4. When you do, your partner lifts the sticky. If you are right, your partner says, “Go ahead and take it!”
5. Partner B takes a turn. Continue until all the cards are taken.

S: (Play Count On! with their partner. Teacher circulates, listens, and observes, providing support as necessary.)
Activity Worksheet (10 minutes)

Review the term shortcut with students, if necessary, explaining that this is simply a fast or efficient strategy. If the second page seems overwhelming for the students, have them fold the paper in half. This way, they will only see 7 number sentences at a time.

Students should do their personal best to complete the problem set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.

Student Debrief (15 minutes)

Lesson Objective: Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- How are #1 and #2 similar? How are they different? Can one of these help you solve the other? How?
- What shortcuts did you find to add from page 2 of the worksheet? Explain your thinking.
- How do shortcuts or strategies help us?
- Look at 7 + 1 and 6 + 2. Why is the total the same? How does counting on 1 relate to counting on 2?
- Which method do you prefer to use to keep track when you are counting on? Demonstrate what you do, using a number sentence from the worksheet.
- Is there another way to solve these problems besides counting on? (e.g., visualizing, knowing related
facts, *just knowing* the fact.)

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.
**Lesson 15 Sprint**

<table>
<thead>
<tr>
<th></th>
<th>Count on up to 3 more using numeral and 5-group cards and fingers to track the change.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1 + 1</td>
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<tr>
<td>2</td>
<td>2 + 1</td>
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<tr>
<td>3</td>
<td>3 + 1</td>
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<tr>
<td>4</td>
<td>3 + 2</td>
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<td>5</td>
<td>1 + 2</td>
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<td>6</td>
<td>2 + 2</td>
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<td>7</td>
<td>2 + 3</td>
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<td>8</td>
<td>2 + 1</td>
</tr>
<tr>
<td>9</td>
<td>2 + 2</td>
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<tr>
<td>10</td>
<td>3 + 2</td>
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<tr>
<td>11</td>
<td>5 + 2</td>
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<tr>
<td>12</td>
<td>8 + 2</td>
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<tr>
<td>13</td>
<td>8 + 1</td>
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<tr>
<td>14</td>
<td>7 + 1</td>
</tr>
<tr>
<td>15</td>
<td>9 + 1</td>
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</table>

**Number correct:**
<p>| | | | |</p>
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<tbody>
<tr>
<td>1</td>
<td>1 + 1</td>
<td>16</td>
<td>4 + 2</td>
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<tr>
<td>2</td>
<td>2 + 2</td>
<td>17</td>
<td>3 + 2</td>
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<td>3 + 2</td>
<td>18</td>
<td>5 + 2</td>
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<td>7 + 2</td>
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<td>20</td>
<td>7 + 3</td>
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<td>3 + 1</td>
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<td>7</td>
<td>3 + 2</td>
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<td>3 + 2</td>
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<td>29</td>
<td>3 + 7</td>
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<tr>
<td>15</td>
<td>7 + 1</td>
<td>30</td>
<td>4 + 7</td>
</tr>
</tbody>
</table>

B
*Count and write the number.*
1. Count on to add.

There are ____ crayons altogether.

There are a total of ____ balloons.

In all, there are ____ pencils.
2. What shortcut or efficient strategy can you find to add?

\[
\begin{array}{ccc}
4 & + & 1 = \\
4 & + & 3 = \\
7 & + & 1 = \\
& = & 6 + 2 \\
& = & 5 + 3 \\
& = & 3 + 6 \\
& = & 3 + 7 \\
\end{array}
\quad \quad \quad
\begin{array}{ccc}
2 & + & 5 = \\
7 & + & 2 = \\
7 & + & 3 = \\
& = & 4 + 2 \\
& = & 2 + 5 \\
& = & 6 + 2 \\
& = & 2 + 8 \\
\end{array}
\]
Lesson 15 Exit Ticket

Use the picture to add.

Show the shortcut you used to add.

There are _________ eggs total.
Lesson 15 Homework

Use your 5-group cards or your fingers to count on to solve.

Show the shortcut you used to add.

5 + 3 = 

6 + 2 = 

7 + 3 = 

Show the strategy you used to add.

= 8 + 2

= 6 + 3

= 7 + 2

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1.D.20
Lesson 16

Objective: *Count on* to find the unknown part in missing addend equations such as \(6 + \_ = 9\). Answer, “How many more to make 6, 7, 8, 9, and 10?”

Suggested Lesson Structure

- Fluency Practice (11 minutes)
- Application Problem (5 minutes)
- Concept Development (33 minutes)
- Student Debrief (11 minutes)
- Total Time (60 minutes)

Fluency Practice (11 minutes)

- Shake Those Disks: 7 1.OA.6 (6 minutes)
- Count On Drums: 3 More 1.NBT.1 (3 minutes)
- 10 Bowling Pins 1.NBT.1 (2 minutes)

Shake Those Disks: 7 (6 minutes)

Materials: (S) 7 two-color beans (disks or pennies are also acceptable) per set of partners, Shake Those Disks boards (in plastic sleeves, 1 board for each set of partners), dry erase markers, and erasers

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Break students into partners. Give each set of partners 7 two-color beans. Instruct them to take turns as the *Shaker* and the *Recorder*. The Shaker shakes the disks and tosses them on the table. The Recorder then records the roll on the Shake Those Disks graph. (For example, if the Shaker rolled 3 red and 4 white the Recorder would put an X on the graph above the 3 and 4 number bond.)

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

When introducing a new game to your students modeling how the game is played is very important. Oral instructions alone are not going to help all of your class learn the game. Have two students demonstrate the *Shaker* and *Recorder* roles so that all students see and hear the way the game is played.
Lesson 16: Count on to find the unknown part in missing addend equations such as $6 + \_ = 9$. Answer, “How many more to make 6, 7, 8, 9, and 10? 5/9/13
Lesson 16:

**Count on to find the unknown part in missing addend equations such as 6 + _ = 9.** Answer, “How many more to make 6, 7, 8, 9, and 10?”

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T: How many did we count on to get up to 7? (Keep fingers out to show the two that were used to track.)

S: Two!

T: So how many beans am I missing?

S: Two beans!

T: (Lift edge of carpet and shows the 2 beans.)

T: Use your 5-group cards to make the number sentence on your number sentence place the numeral side up. If you want to double check your number sentence turn cards to the dot-side. Remember try to turn over the fewest cards you can and count on.

S: (Create 5 + 2 = 7 on white boards with 5-group cards. Some students flip to dot-side to count on and check. Teacher circulates and checks accuracy.)

Repeat the process using the mystery box concealing 3 of the 7 beans in the box so that students only see 4 beans. Encourage them to use their 5-group cards or track on their fingers to decide how many beans are in the mystery box. Students use the cards to make a corresponding number sentence.

T: How many beans did I place in the box?

S: 3 beans!

T: What is the number sentence you recorded?

S: 4 + 3 = 7.

T: Circle the part that was the mystery or unknown part.

T: (Projects 5 + □ = 8.) Use your cards to make and solve this number sentence.

S: (Students discuss and solve using cards or finger tracking to confirm.)

T: What is the mystery or unknown part of this number sentence?

S: 3!

Repeat the process with the following sequence:

a) 5 + __ = 6  
   4 + __ = 6  
   3 + __ = 6

b) 6 + __ = 7  
   5 + __ = 7  
   4 + __ = 7

c) 7 + __ = 8  
   6 + __ = 8  
   5 + __ = 8

d) 8 + __ = 9  
   7 + __ = 9  
   6 + __ = 9

e) 9 + __ = 10  
   8 + __ = 10  
   7 + __ = 10

Leave the sets of number sentences on the board so that students can notice the patterns within the sequence. Explore the resulting patterns.

- What do you notice is happening?
- Imagine there is a fourth column (point.) What number sentence do you think I’ll add next in each row?
- How do the parts change from one number sentence to the next?
- What strategies did you use?
Lesson 16: Count on to find the unknown part in missing addend equations such as $6 + \_ = 9$. Answer, “How many more to make 6, 7, 8, 9 and 10?”

Student Debrief (11 minutes)

Lesson Objective: Count on to find the unknown part in missing addend equations such as $6 + \_ = 9$. Answer, “How many more to make 6, 7, 8, 9 and 10?”

Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

Have students bring their Problem Set and application problems to the carpet. Have them go over their Problem Set with their partner. Review the problems as a class at a rapid pace.

The following is a suggested list of questions to invite reflection and active processing of the total lesson experience. Use those that resonate for you as you consider what will best support your students’ ability to articulate the focus of the lesson.

- Look at Problems 3 and 4 on the Problem Set. What do you notice is the same about these problems? (One of the parts is the same.) What do you notice is different? (The parts are in different places in the equation.)
- How can it be true that all the unknown numbers, the mystery numbers are the same on the first page?
Have students look at their work from the Application Problem with Finn’s rings and the last problem on their Problem Set.

- What strategies did you use to solve them? How are these problems the same? How are they different? How can the parts from the rings problem help you solve the last Problem Set problem?
- On the Problem Set you could pick from lots of tools or strategies. You could have kept track on your fingers, used 5-group cards, or known it in your head. Share with your partner: What do you notice about how you solved most of your problems? Why did you pick that tool or strategy the most?

**Exit Ticket (3 minutes)**

After the Student Debrief instruct students to complete the Exit Ticket. A quick review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today. Students have two minutes to complete the Exit Ticket. You may read the questions aloud to the students.
Lesson 16: Count on to find the unknown part in missing addend equations such as $6 + \_ = 9$. Answer, "How many more to make 6, 7, 8, 9, and 10?"
Lesson 16: Count on to find the unknown part in missing addend equations such as $6 + \_ = 9$. Answer, “How many more to make $6, 7, 8, 9,$ and $10?$

1. Draw more apples to solve $4 + \_ = 6$.

$$4 \ + \ \Box = 6$$

I added ____ apples to the tree.

2. How many more to make $7$?

$$5 \ + \ \Box = 7$$

3. How many more to make $8$?

$$\Box \ + \ 6 = 8$$

4. How many more to make $9$?

$$7 \ + \ \Box = 9$$
Lesson 16: Count on to find the unknown part in missing addend equations such as \(6 + \_ = 9\). Answer, “How many more to make 6, 7, 8, 9, and 10? 

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Lesson 16 Exit Ticket

Name __________________________ Date ______________

Solve the number sentences. Circle the tool or strategy you used.

5 + □ = 7  
I counted on _____ using [hand gesture]
Or
I just knew [smiley face]

6 + □ = 9  
I counted on _____ using [hand gesture]
Or
I just knew [smiley face]
Lesson 16 Homework

Name _______________________________ Date __________


[Diagram showing 4 cars with one missing, equal to 6]

2. Use your 5-group cards to solve 6 + ? = 8

[Diagram showing 6 dots with one missing, equal to 8]

3. Use counting on to solve 7 + ? = 10

[Diagram with child counting on from 7, equal to 10]