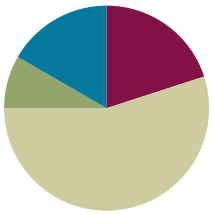
Lesson 17

Objective: Add ones and ones or tens and tens.

Suggested Lesson Structure



Application Problems	(5 minutes)
Fluency Practice	(12 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

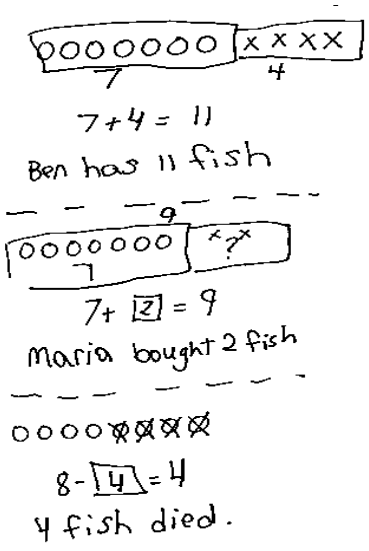
Application Problems (5 minutes)

Use the RDW process to solve one or more of the problems.

a. Ben had 7 fish. He bought 4 fish at the store. How many fish does Ben have?

b. Maria has fish. She had 7 fish in her tank and bought some more fish until she had 9 fish. How many fish did Maria buy?

c. Anton has 8 fish. A few of the fish died and now Anton has 4 fish. How many fish died?



Note: Today, students solve similar math stories within a new context. Notice students who easily solved the problems with cubes but found today's problems more challenging. These students may need support visualizing story contexts.

Fluency Practice (12 minutes)

- Core Addition Fluency Review: Missing Addends **1.OA.6** (5 minutes)
- Relating Addition and Subtraction **1.OA.4** (2 minutes)
- Analogous Addition Sentences **1.NBT.4** (5 minutes)

Core Addition Fluency Review: Missing Addends (5 minutes)

Materials: (S) Missing Addends Core Addition Fluency Review

Note: This review sheet contains the majority of addition facts with sums of 5–10, which is part of the required core fluency for Grade 1. The focus on missing addends strengthens students' ability to count on, a

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Level 2 strategy that first graders should master. Keep this activity out so students can use it in the next fluency activity.

Students complete as many problems as they can in three minutes. Choose a counting sequence for early finishers to practice on the back of their papers. When time runs out, read the answers aloud so students can correct their work. Encourage students to remember how many problems they answered correctly in the allotted time so they can work to improve their scores on future Missing Addends Core Addition Fluency Reviews.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Encourage students to set goals for improvement on sprints and fluency reviews. Provide scaffolds, strategies, and opportunities for practice to help them reach their personal goals.

Relating Addition and Subtraction (2 minutes)

Materials: (S) Missing Addends Core Addition Fluency Review from previous activity

Note: This fluency activity targets the first grade's core fluency requirement. Reviewing the relationship between addition and subtraction is especially beneficial for students who continue to find subtraction challenging.

Students choose a column from the review sheet and rewrite each problem as a subtraction equation, seeing how many they can do in two minutes.

Analogous Addition Sentences (5 minutes)

Materials: (S) Personal white boards, dice

Note: This is the second day students are doing this partner activity. As students work, ask if it is easier the second day.

Follow instructions in G1–M4–Lesson 16.

Concept Development (33 minutes)

Materials: (T) Ten-sticks, chart paper (S) Ten-sticks from math toolkit, personal white boards, game cards for Addition and Subtraction with Cards

Students gather in the meeting area with their partners and materials.

T: (Write 19 + 2 on chart paper and show 19 red cubes on the floor.) What are we adding to 19?

S: 2.

T: 2 what?

S: 2 ones.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Highlight the critical vocabulary such as *quick ten drawings, number bonds, tens, ones,* and *addends*, and use pictorial representations to support student understanding. Have students use these terms as they share their thinking. This will support vocabulary development.

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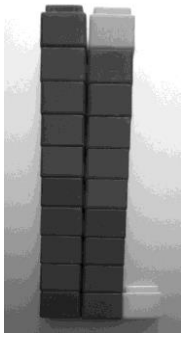
T: Where should we add the 2 ones, to the tens or the ones? Turn and talk to your partner about why?

S: The ones! → To 9 ones! → It's easier to add ones together.

T: Use your cubes to solve 19 + 2.

T: (Circulate to observe the different strategies students are using and select students to demonstrate.)



S: We knew that 19 needs 1 more to make the next ten. So we took 1 from the 2 and made a ten. Now we have 20 and 1. That's 21. → We saw 10 ones in 9 + 1. We now have 2 tens and 1 one. That's 21. → We added the ones together. 9 + 2 = 11. One more ten is 21.

T: Excellent strategies! Just like we did yesterday, let's add the ones together. 9 and 2 is?

S: 11.

T: What more do we still have to add?

S: 1 ten.

T: 11 and 10 is?

S: 21.

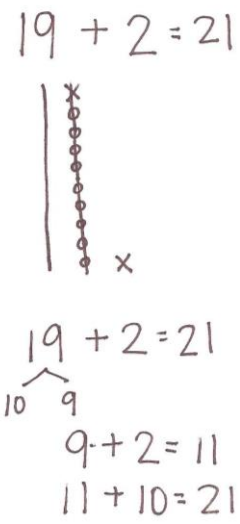
T: Say the number sentence starting with 19.

S: 19 + 2 = 21.

Have students represent their work in quick ten drawings.

T: Let's represent our work using a number bond. Which number did we break apart?

S: We broke apart 19 into 10 and 9. That makes it easier to see the ones. I can add 9 and 2 first, then add 10.



T: Great. (Chart the number bond and complete the number sentence.) (Point to each number as you say it.) 9 and 2 is?

S: 11.

T: 11 and 10 is?

S: 21.

T: 19 + 2 is?

S: 21.

T: (Write 19 + 20 on the chart.) Show 19 using your cubes or quick ten drawings.

S: (Show or draw 1 ten-stick and 9 ones.)

T: Before adding the next addend with your cubes, we should ask…

S: Am I adding tens or am I adding ones?

T: Correct! So which are we adding? Tens or ones?

S: Tens.

T: Yes. Add 2 tens. (Pause.) 1 ten and 2 tens is?

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S: 3 tens.
T: How many ones are there?
S: 9 ones.
T: 3 tens 9 ones is?
S: 39.

Guide students as they make the number bond to represent 19 + 20 and write two addition sentences.

Repeat the process following the suggested sequence:

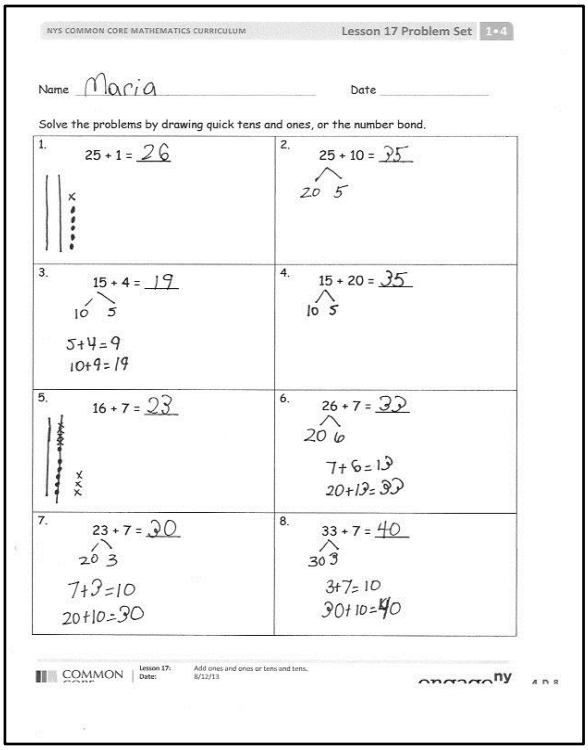
- 16 + 2 and 16 + 20
- 2 + 13 and 20 + 13
- 10 + 28 and 28 + 1
- 8 + 27

MP.5 Have students practice asking, "Do I add to the ones or add to the tens?" before representing their work with cubes or quick tens and the number bond with two sentences. When appropriate, have students choose just one method to solve and explain their choice to their partner or to the whole group. For more challenging examples, have students add dimes and pennies when using the sequence above.

For the remainder of time, have partners play Addition and Subtraction with Cards (follow instructions from G1–M4–Lesson 12) with the new cards labeled *D*.

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.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 17 Problem Set 1•4

Name Maria Date

Solve the problems by drawing quick tens and ones, or the number bond.

1. 25 + 1 = 26
2. 25 + 10 = 35 (20, 5)
3. 15 + 4 = 19 (10, 5) 5+4=9 10+9=19
4. 15 + 20 = 35 (10, 5)
5. 16 + 7 = 23
6. 26 + 7 = 33 (20, 6) 7+6=13 20+13=33
7. 23 + 7 = 30 (20, 3) 7+3=10 20+10=30
8. 33 + 7 = 40 (30, 3) 3+7=10 30+10=40

COMMON | Lesson 17: Date: Add ones and ones or tens and tens. 8/12/13 engage^ny 4.D.8

Student Debrief (10 minutes)

Lesson Objective: Add ones and ones or tens and tens.

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.

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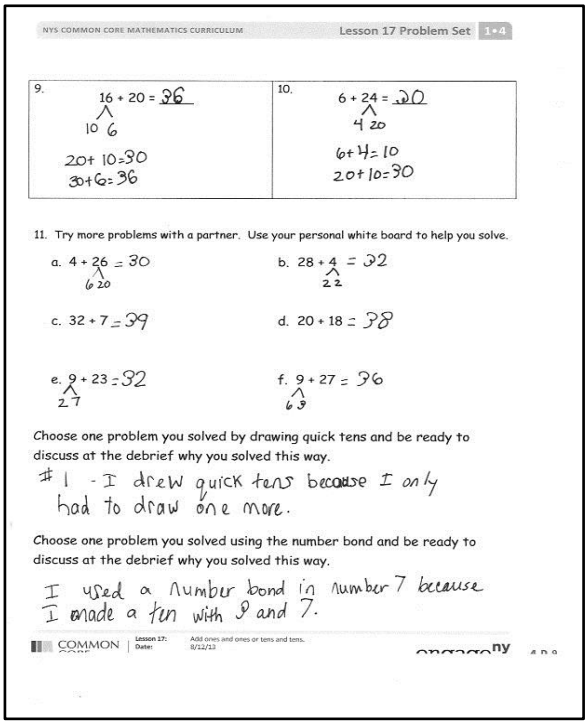
- Share the problems you solved using quick tens and a number bond in the Problem Set with your partner. Why did you choose to solve these problems using the quick ten or a number bond?
- How can solving 11(a) help you solve 11(b)?
- Look at Problems 3 and 5. In both problems, we added ones to ones. In the answer, why did the tens stay the same in Problem 3 but the tens changed in Problem 5?
- How can your fluency work with the die (Analogous Addition Sentences) help you solve addition problems in today's lesson?

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.



NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 17 Problem Set 1•4

9. 16 + 20 = 36 (10, 6) 20 + 10 = 30, 30 + 6 = 36

10. 6 + 24 = 30 (4, 20) 6 + 4 = 10, 20 + 10 = 30

11. Try more problems with a partner. Use your personal white board to help you solve.

a. 4 + 26 = 30 (6, 20)

b. 28 + 4 = 32 (2, 2)

c. 32 + 7 = 39

d. 20 + 18 = 38

e. 9 + 23 = 32 (2, 7)

f. 9 + 27 = 36 (6, 3)

Choose one problem you solved by drawing quick tens and be ready to discuss at the debrief why you solved this way.

#1 - I drew quick tens because I only had to draw one more.

Choose one problem you solved using the number bond and be ready to discuss at the debrief why you solved this way.

I used a number bond in number 7 because I made a ten with 9 and 7.

COMMON | Lesson 17: Date: 9/12/13 Add ones and ones or tens and tens. engage^ny 4.D.9

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Name _____ Date _____

Core Addition Fluency Review: Missing Addends

1.	5 + ____ = 5	16.	6 + ____ = 7	31.	9 + ____ = 9
2.	4 + ____ = 5	17.	1 + ____ = 7	32.	0 + ____ = 9
3.	2 + ____ = 5	18.	0 + ____ = 7	33.	1 + ____ = 9
4.	3 + ____ = 5	19.	7 + ____ = 7	34.	2 + ____ = 9
5.	0 + ____ = 5	20.	3 + ____ = 7	35.	7 + ____ = 9
6.	1 + ____ = 5	21.	4 + ____ = 7	36.	6 + ____ = 9
7.	1 + ____ = 6	22.	4 + ____ = 8	37.	5 + ____ = 9
8.	0 + ____ = 6	23.	5 + ____ = 8	38.	3 + ____ = 9
9.	6 + ____ = 6	24.	6 + ____ = 8	39.	4 + ____ = 9
10.	5 + ____ = 6	25.	2 + ____ = 8	40.	4 + ____ = 10
11.	3 + ____ = 6	26.	3 + ____ = 8	41.	5 + ____ = 10
12.	4 + ____ = 6	27.	0 + ____ = 8	42.	6 + ____ = 10
13.	2 + ____ = 6	28.	8 + ____ = 8	43.	3 + ____ = 10
14.	2 + ____ = 7	28.	7 + ____ = 8	44.	1 + ____ = 10
15.	5 + ____ = 7	30.	1 + ____ = 8	45.	2 + ____ = 10

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Name _____ Date _____

Solve the problems by drawing quick tens and ones or a number bond.

1. 25 + 1 = _____	2. 25 + 10 = _____
3. 15 + 4 = _____	4. 15 + 20 = _____
5. 16 + 7 = _____	6. 26 + 7 = _____
7. 23 + 7 = _____	8. 33 + 7 = _____

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9. 16 + 20 = _____	10. 6 + 24 = _____

11. Try more problems with a partner. Use your personal white board to help you solve.

a. 4 + 26

b. 28 + 4

c. 32 + 7

d. 20 + 18

e. 9 + 23

f. 9 + 27

Choose one problem you solved by drawing quick tens and be ready to discuss.

Choose one problem you solved using the number bond and be ready to discuss.

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Name _____ Date _____

Find the totals using quick ten drawings or number bonds.

1. 17 + 8	2. 28 + 7
3. 24 + 10	4. 19 + 20

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Name _____ Date _____

Use quick ten drawings or number bonds to make true number sentences.

1. 13 + 20 = _____	2. 23 + 6 = _____
3. 10 + 23 = _____	4. 28 + 6 = _____
5. 26 + 7 = _____	6. 20 + 17 = _____

7. How did you solve Problem 5? Why did you choose to solve it that way?

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Solve using quick ten drawings or number bonds.

8. 23 + 9 = _____	9. 27 + 7 = _____
10. 24 + 10 = _____	11. 20 + 18 = _____
12. 28 + 9 = _____	13. 29 + 9 = _____

14. How did you solve Problem 11? Why did you choose to solve it that way?

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G1-M4-Topic D Flashcards (and Review Subtraction)

35 + 4 D	24 + 3 D
24 + 6 D	28 + 4 D
35 + 5 D	22 + 8 D
17 + 7 D	31 + 6 D

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24 + 9 D	8 + 28 D
26 + 8 D	3 + 33 D
7 + 32 D	29 + 7 D
3 + 18 D	18 – 3 D
17 – 4 D	19 – 5 D

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