Eureka Math

1st Grade Module 4 Lesson 16

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Icons



















Manipulatives Needed







Lesson 16 Objective: Add ones and ones or tens and tens.

Suggested Lesson Structure

Application Problems (5 minutes)
Fluency Practice (9 minutes)
Concept Development (36 minutes)
Student Debrief (10 minutes)
Total Time (60 minutes)



Materials Needed

• Fluency

- o (S) Personal white board
- o (S) one die

Concept Development

 (T) 4 ten-sticks , 4 dimes, 10 pennies, chart paper (S) 4 ten-sticks, 4 dimes, and 10 pennies from the math toolkit, personal white board



I can add ones and ones or tens and tens.

Application Problem RDW

Use the RDW process to solve one or more of the problems without using linking cubes.

- a. Emi had a linking cube train with 14 blue cubes and 2 red cubes. How many cubes were in her train?
- b. Emi made another train with 16 yellow cubes and some green cubes. The train was made of 19 linking cubes. How many green cubes did she use?
- c. Emi wants to make her train of 8 linking cubes into a train of 17 cubes. How many cubes does Emi need?



Analogous Addition Sentences Let's work in pairs!

- 1. Each student rolls one die and writes the number rolled. They then make a list, adding 1 ten to their number on each new line up to 3 tens. (See diagram to the right.)
- 2. Students write equations, adding the number on their partner's die to each line.
- 3. Partners exchange boards and check each other's work.

S	TEP 1
Partner A	Partner B
4	3
14	13
24	23
34	33

STEP 2	
Partner A	Partner B
4 + 3 = 7	3 + 4 = 7
14 + 3 = 17	13 + 4 = 17
24 + 3 = 27	23 + 4 = 27
34 + 3 = 37	33 + 4 = 37



Digit Detective

Let's practice place value!



Partner A, using your linking cubes, show how you would solve 16 + 2. Partner B, show how you would solve 16 + 20.



Share your work with your partner. How are they similar? How are they different?

16 + 2 16 + 20

Did you think of these ideas?

We both started with the same number—16. We added a different number to 16. I added 2, but my partner added 20. But we both added 2 more things to 16. I added 2 ones. My partner added 2 tens. I added my 2 ones to 6 ones. My partner added his 2 tens to 1 ten.

16 + 2 16 + 20



Excellent job comparing. Let's make quick ten drawings to show how we can solve these problems. Start by drawing 16.



16 + 20



Let's add 2 ones. Should we add to the ones or to the tens? Why?



16 + 2

16 + 20

Were you thinking this?

To the 6 ones, because we are adding 6 ones and 2 ones. We can add to thetensortheones. We can do 10+2=12 and then 12+6=18.But it's much easier to add the ones. 6 and 2 is 8. 10 and 8 is 18. The ones!





16 + 20

You're right. Adding the ones together is much easier. Add 2 to your ones.





16 + 20

6 ones and 2 ones is...?





16 + 20

8 ones. How many tens are there?





16 + 20

There is 1 ten.





16 + 20







16 + 20

1 ten 8 ones is 18!



16 + 20

Turn and talk to your partner about why 16 is broken apart into 10 and 6.



16 + 20

We added 6 ones and 2 ones, so it's smart to break apart 16 into 10 and 6. That makes it easy for me to see the ones. I like adding 6 + 2. It's easy for me. 10 + 6 is easy, too. That's 16.

16 + 2

16 + 2 = 18



16 + 20

6 and 2 is 8! 10 and 8 is...?

16 + 2

X 00000 16 + 2 = 186 + 2 = 810 + 8 =

16 + 20

10 and 8 is 18!

16 + 2







This time, what's different about this expression?





Instead of adding 2 ones, we are adding 2 tens.

16 + 20

16 + 2

In our drawing, should we add 2 tens to the tens or the ones? Turn to your partner, and explain your reason.



Concept Development 16 + 2 16 + 20

To the tens! 1 ten + 2 tens = 3 tens. That's easy. We can add it to the ones. But we'll have to think, "What's 16 + 20?" That's not so easy. But if we add to the tens, it's much easier. When you see 3 ten-sticks, it's easy to see that it's 30. 30 + 6 is easy, too.

Concept Development 16 + 2 16 + 20

You are right! Adding tens to tens is much easier. Show what that looks like in your drawing. Add 20, or 2 tens.

How many tens are there?





There are 3 tens. How many ones?





There are 3 tens. How many ones?





There are 6 ones. 3 tens 6 ones is...?





Concept Development 16 + 2 16 + 20

Break apart 16 into 10 and 6. It takes out the ten that we need to add to the 2tens. 20 and 10 is 30. Then, we add 6 more to get 36.



Write down two number sentences to show how we add the tens first, and then the rest, to solve.



16 + 2 16 + 20

Ask and decide, "Should we add to the ones or to the tens?" When you add ones to ones or tens to tens, it makes the problem easier to solve.

- 18 + 2 18 + 20
- Let's practice again! Student A solve 18 + 20 and Student B solve 18 + 2 using cubes and quick ten drawings. Then, compare your work.

18 + 2 18 + 20

Everyone, show 18 with your cubes.

18 + 2 18 + 20

Let's add 2. But first, we need to ask...?

- 18 + 2 18 + 20
- Should we add to the ones or to the tens?

18 + 2 18 + 20

What should we add the 2 to?

18 + 2 18 + 20

We should add 2 to the ones!

18 + 2 18 + 20

Add 2 to the ones.18 + 2 is...?

18 + 2 18 + 20

18 + 2 is 20!

18 + 2 18 + 20

Turn and tell your partner how you got your answer.



- 18 + 2 18 + 20
- I added 2 cubes to the 8 cubes. It made another ten-stick! I now have 2 ten-sticks. 10 and 10 is 20. 8 plus 2 equals 10; 10 plus 10 equals 20.

- 18 + 2 18 + 20
- Use a quick ten drawing and a number bond to show how you added ones and ones together.





Problem Set

Date

A STORY OF UNITS

Lesson 16 Problem Set 194

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Name ____

Draw quick tens and ones to help you solve the addition problems.

1.	2.
16 + 3 =	17 + 3 =
3.	4.
18 + 20 =	31 + 8 =
5.	6.
3 + 14 =	6 + 30 =
7.	8.
23 + 7 =	17 + 3 =



Problem Set



A STORY OF UNITS

Lesson 16 Problem Set 1.4

With a partner, try more problems using quick ten drawings, number bonds, or the arrow way.

9. 32 + 7 = _____

10, 13 + 20 = _____

11. 6 + 34 = _____

12.4+36=____

13. 20 + 18 = _____

14. 14 + 20 = _____

15. Draw dimes and pennies to help you solve the addition problems.

a. 16 + 20 =	b. 22 + 7 =

How was solving Problem 7 helpful in solving Problem 8?



How are Problems 11 and 12 related?



For Problem 5,a student says 3+14=44.



How can you help him understand his mistake?



How did you determine whether to add to the ones place or tens place?



How did the Application Problems connect to today's lesson?

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Lesson 16 Exit Ticket 114

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Date

Solve using quick ten drawings to show your work.

1.	24 + 5	2.	14 + 20	

Draw number bonds to solve.

4. 36 + 3

5. Draw dimes and pennies to help you solve the addition problem.