

Eureka Math

First Grade Module 4 Lesson 15

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Icons



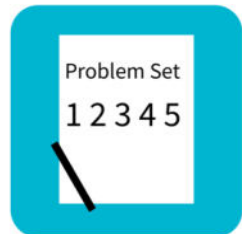
Read, Draw, Write



Learning Target



Personal White Board



Problem Set



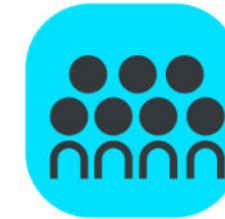
Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



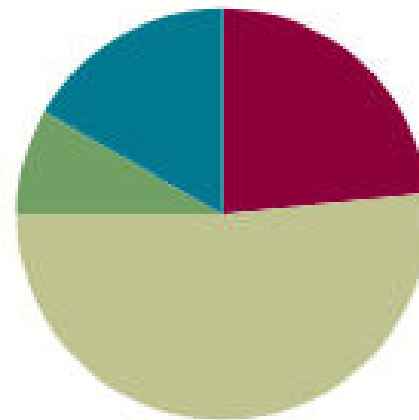
Small Group Time

Lesson 15

Objective: Use single-digit sums to support solutions for analogous sums to 40.

Suggested Lesson Structure

■ Application Problems	(5 minutes)
■ Fluency Practice	(14 minutes)
■ Concept Development	(31 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)





Materials Needed

Students:

- Personal White Board
- Linking cubes

Teacher:

- 5 Ten-sticks
- Chart paper



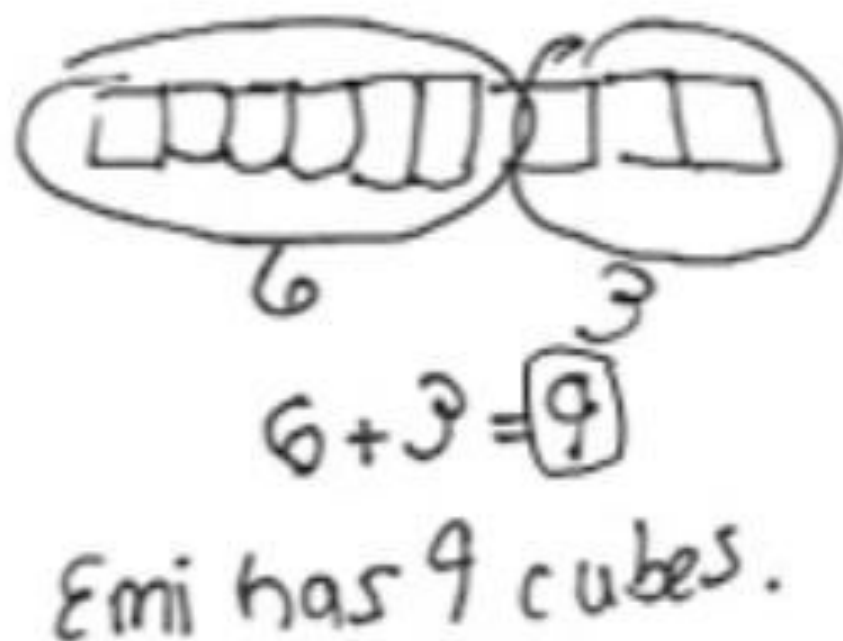
Use single-digit sums to support solutions for analogous sums to 40.



Application Problem

Today, students should focus on pictorial representations. They should solve without using linking cubes. They read, draw, and write (RDW) to solve one or more of the problems.

1. Emi had a linking cube train of 6 cubes. She added 3 cubes to the train. How many cubes are in her linking cube train?

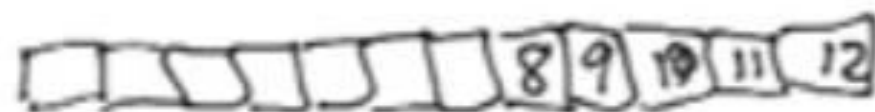




Application Problem

Today, students should focus on pictorial representations. They should solve without using linking cubes. They read, draw, and write (RDW) to solve one or more of the problems.

2. Emi made another train of linking cubes. She started with 7 cubes and added some more cubes until her train was 12 cubes long. How many cubes did Emi add?



$$7 + \boxed{5} = 12$$

Emi added 5 cubes.



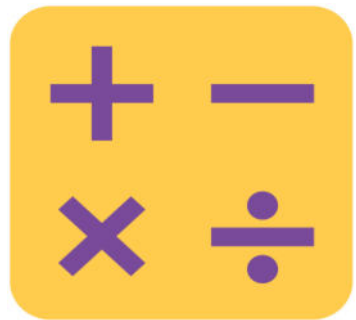
Application Problem

3. Emi made one more train of linking cubes. It was made of 12 linking cubes. She took some cubes off, and her train became 4 linking cubes long. How many cubes did Emi take off?

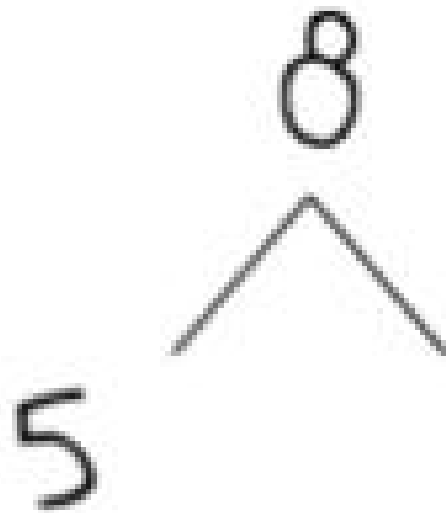

$$12 - \boxed{8} = 4$$

Emi took off 8 cubes

Note: Continue to notice students' strengths and challenges with each problem type presented. Encourage students who seem to struggle when the linking cubes have been removed to visualize, imagine, or draw the cubes, as shown in the student work to the right.

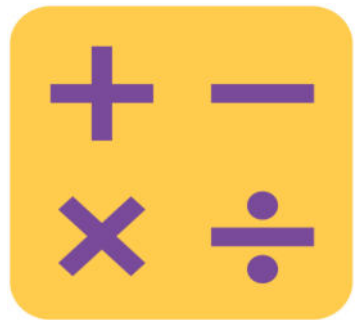


Number Bond Addition and Subtraction (4 min.)



Write an addition and a subtraction sentence with a box for the missing number in each equation.

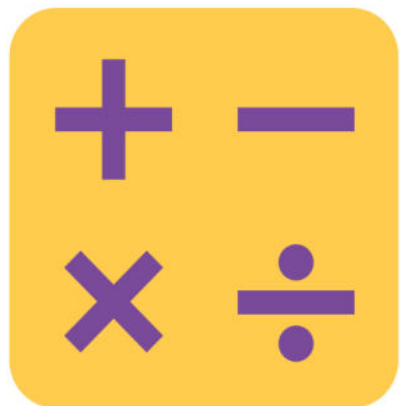
Then solve for the missing number.



Number Bond Addition and Subtraction (4 min.)

$$5 + \boxed{3} = 8$$

$$8 - 5 = \boxed{3}$$



Add Tens (4 min.)

(Flash 3 on fingers. Pause.)

Add ten. The total is...?

(Flash 3 again.) Add 2 tens. The total is...?

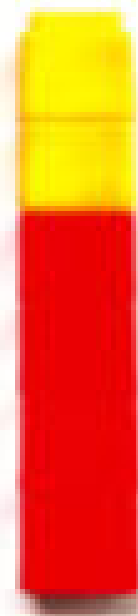
Continue flashing numbers from 0 to 10 and instructing students to add multiples of 10. After a minute, say the multiples of 10 the regular way (e.g., 20 instead of 2 tens). For the last minute, say teen numbers and instruct students to add 10 or 2 tens or 20.



Concept Development

What is the addition sentence that matches the cubes?

$$4+2=6$$



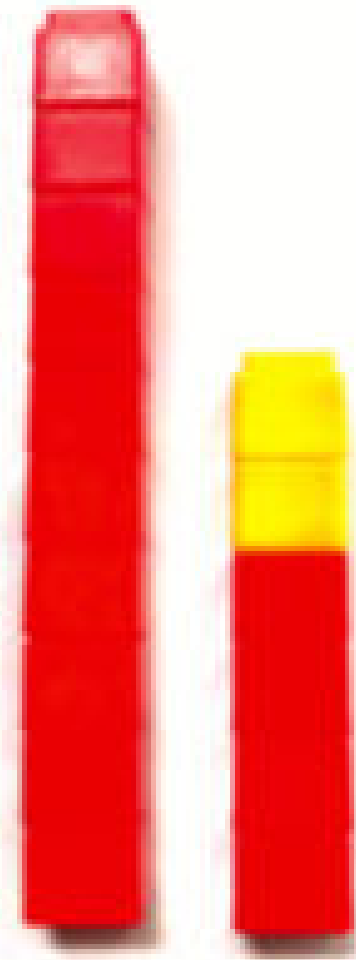


Concept Development

How many linking cubes are there now?

What is the number sentence to add these red and yellow cubes?

$$14+2=16$$



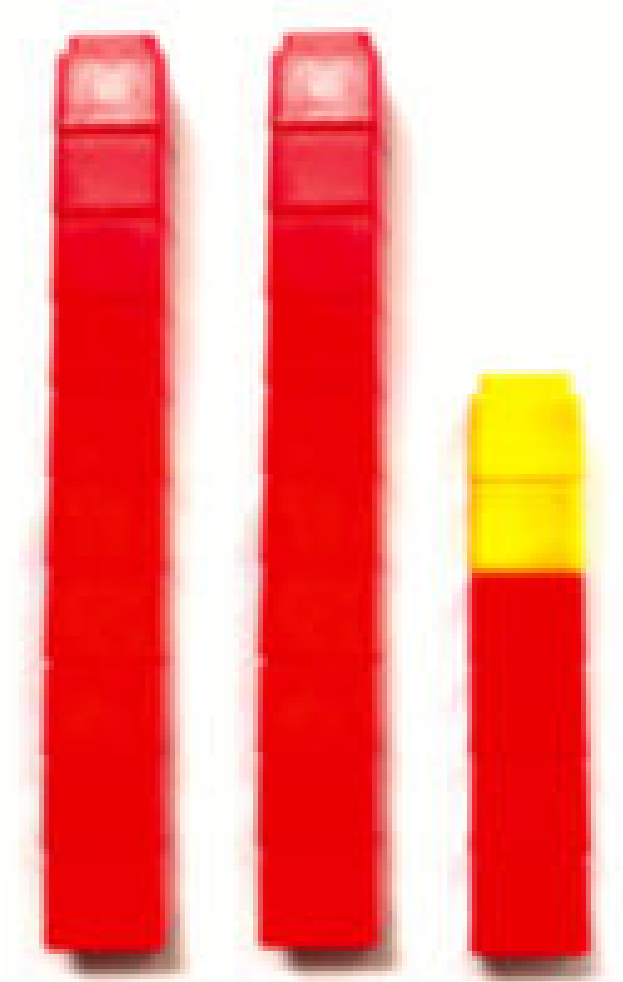


Concept Development

How many linking cubes are there now?

What is the number sentence to add these red and yellow cubes?

$$24+2=26$$





Concept Development

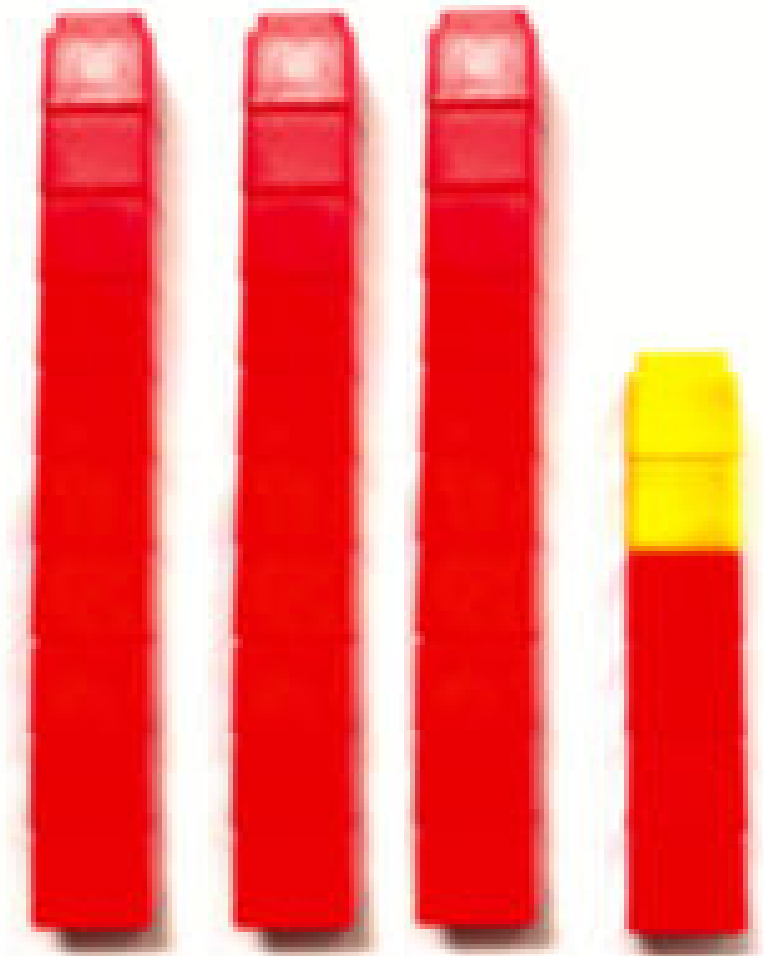


What do you think I'll do next? Turn and talk to your partner.

How many linking cubes are there now?

What is the number sentence to add these red and yellow cubes?

$$34+2=36$$





Concept Development



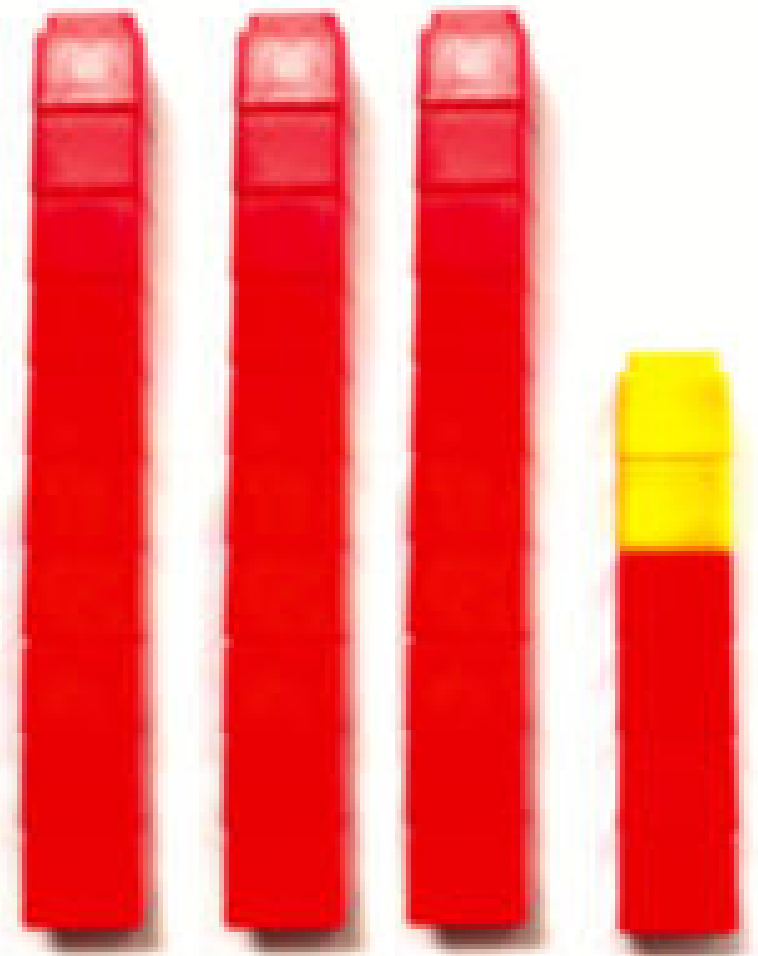
Many of you got the answer to these questions very quickly. Why? Turn and talk to your partner.

$$4 + 2 = 6$$

$$14 + 2 = 16$$

$$24 + 2 = 26$$

$$34 + 2 = 36$$





Concept Development

Let's try another problem.

(Write and show $9 + 5$ with 9 red and 5 yellow linking cubes.)



Talk to your partner about how you can solve $9 + 5$.

(Call up a volunteer to show 10 and 4 with linking cubes. Record the answer.)



Concept Development

(Add another red ten-stick, and show $19 + 5$.)

What is the new addition problem starting with 19?

(Record on the chart.)



Turn and talk to your partner about how you can figure out how many cubes there are now.



Concept Development

The strategy of using what we already know is a very important math strategy for solving problems.

We know that $9+5=14$. $19+5$ is just 10 more than $9+5$.

10 more than 14 is...?



Concept Development

When you show 19 as tens and ones, you can easily see the simpler problem, $9+5$.

$9+5$ is...?

10 more than 14 is...?

$$\begin{array}{r} \text{---} \quad \text{---} \\ 19 + 5 = 24 \\ \swarrow \quad \searrow \\ 10 \quad 9 \end{array}$$



Concept Development

Write down the new addition problem on your personal white board, starting with 29.

$$29 + 5 =$$

Break apart 29 into tens and ones. What is the simpler problem?

$9 + 5$ is...?

20 more than 14 is...?

$29 + 5$ is...?

$$\begin{array}{l} 29 + 5 = 34 \\ \swarrow \searrow \\ 20 \quad 9 \\ 9 + 5 = 14 \\ 14 + 20 = 34 \end{array}$$



Concept Development

Using your number bond, let's write the two number sentences that helped us solve this problem.

$$\begin{array}{l} 9 + 5 = 14 \\ 19 + 5 = 24 \\ 29 + 5 = 34 \end{array}$$



Turn and talk to your partner about the patterns you notice.



Concept Development

Repeat the process, and have student pairs work with their linking cubes and record their work using the following sequence:

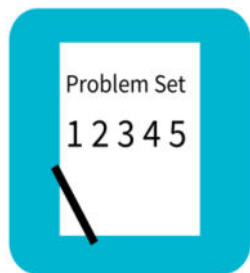
- $5+4, 15+4, 25+4, 35+4$
- $4+6, 14+6, 24+6, 34+6$
- $2+7, 12+7, 22+7, 32+7$
- $9+3, 19+3, 29+3$
- $8+6, 18+6, 28+6$
- $8+8, 18+8, 28+8$
- $5+7, 5+17, 5+27$



Concept Development

Next, follow the suggested sequence, and have students identify the simpler problem before solving the given problem:

- $17+2$
- $19+2$
- $28+2$
- $28+4$
- $27+6$
- $25+7$



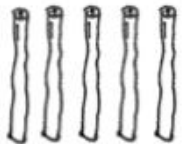
PROBLEM SET

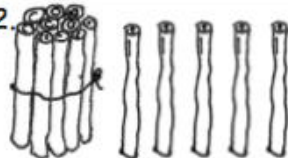
A STORY OF UNITS

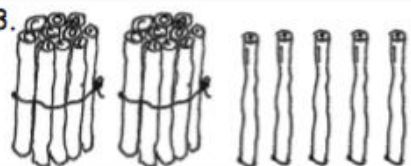
Lesson 15 Problem Set 1•4

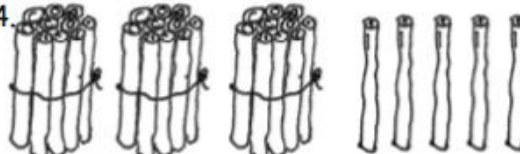
Name _____ Date _____

Solve the problems.

1.   $5 + 3 = \underline{\quad}$

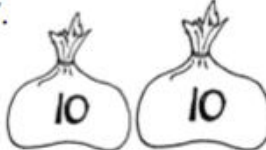
2.   $15 + 3 = \underline{\quad}$

3.   $25 + 3 = \underline{\quad}$

4.   $35 + 3 = \underline{\quad}$

5.  $8 + 4 = \underline{\quad}$

6.   $18 + 4 = \underline{\quad}$

7.   $28 + 4 = \underline{\quad}$



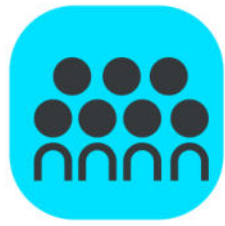
8. Solve the problems.

a. $6 + 2 = \underline{\quad}$	b. $16 + 2 = \underline{\quad}$	c. $26 + 2 = \underline{\quad}$	d. $36 + 2 = \underline{\quad}$
e. $6 + 4 = \underline{\quad}$	f. $16 + 4 = \underline{\quad}$	g. $26 + 4 = \underline{\quad}$	h. $36 + 4 = \underline{\quad}$
i. $9 + 2 = \underline{\quad}$	j. $19 + 2 = \underline{\quad}$	k. $29 + 2 = \underline{\quad}$	
l. $8 + 6 = \underline{\quad}$	m. $18 + 6 = \underline{\quad}$	n. $28 + 6 = \underline{\quad}$	

Solve the problems. Show the 1-digit addition sentence that helped you solve.

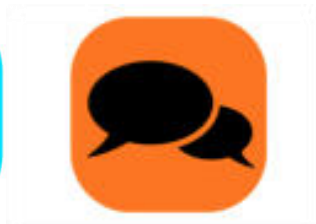
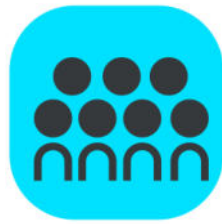
9. $23 + 6 =$ _____

10. $27 + 6 =$ _____



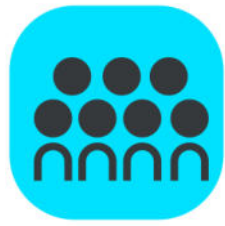
Debrief

How did looking for patterns help you solve the problems on the second page of your Problem Set?



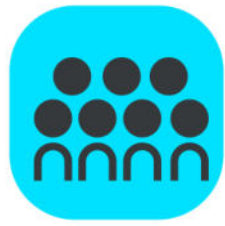
Debrief

Look at Problem 8(a–d) and 8(i–k). In (a–d), the tens in the answers are the same as the tens in the first addend of each problem, but in (i–k), the tens in the answers do not match the tens in the first addends. Explain why this is so.



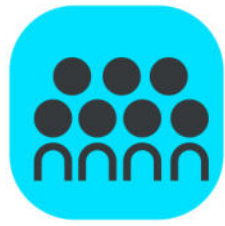
Debrief

You solved $36 + 2$ easily in Problem 8(d). How can this problem help you solve $36 + 3$? How can knowing $36 + 3$ then help us solve $26 + 3$?



Debrief

What new strategy did you learn to solve addition problems when one addend is a two-digit number?



Debrief

Look at the Application Problems and the answers from the Problem Set. Find the related addition sentence that could have helped you solve the subtraction problem.



Exit Ticket

A STORY OF UNITS

Lesson 15 Exit Ticket 1•4

Name _____ Date _____

1. Solve the problems.

a.			$7 + 5 = \underline{\quad}$
b.			$17 + 5 = \underline{\quad}$
c.			$27 + 5 = \underline{\quad}$

Solve the problems.

2. a. $5 + 3 = \underline{\quad}$

b. $15 + 3 = \underline{\quad}$

c. $25 + 3 = \underline{\quad}$

d. $35 + 3 = \underline{\quad}$

3. a. $5 + 8 = \underline{\quad}$

b. $15 + 8 = \underline{\quad}$

c. $25 + 8 = \underline{\quad}$