

Eureka Math

First Grade Module 4 Lesson 11

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- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.



Icons



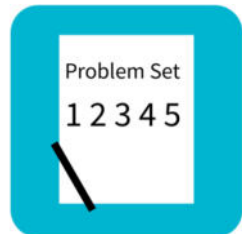
Read, Draw, Write



Learning Target



Personal White Board



Problem Set



Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



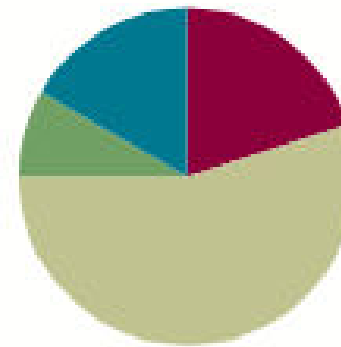
Small Group Time

Lesson 11

Objective: Add and subtract tens from a multiple of 10.

Suggested Lesson Structure

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



Fluency Practice (12 minutes)

- Compare Numbers **1.NBT.3, 1.OA.6** (5 minutes)
- Number Bond Addition and Subtraction **1.OA.6** (5 minutes)
- Happy Counting by Tens **1.NBT.5** (2 minutes)

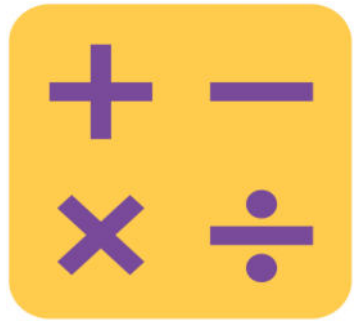


Materials Needed

- (T) Chart paper
- (S) Personal white board
- (S)number bond/number sentence set (Template)

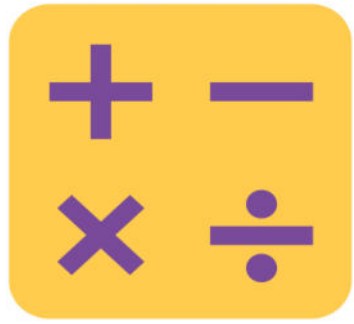


I can add or subtract tens from a multiple of 10.



Compare Numbers

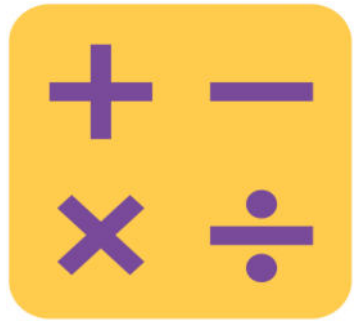
I will give you a set of numbers in various ways, such as numerals, as tens and ones, the Say Ten way. You write the number sentence in the same order it is written on the board and then read their sentences aloud.



Compare Numbers

Complete this number sentence:

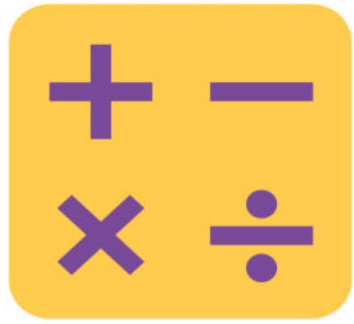
$$5 \underline{\hspace{2cm}} 8$$



Compare Numbers

Now let's say it out loud!

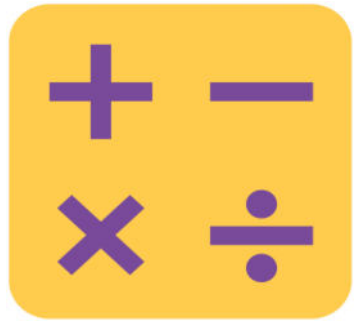
$$5 < 8$$



Compare Numbers

Complete this number sentence:

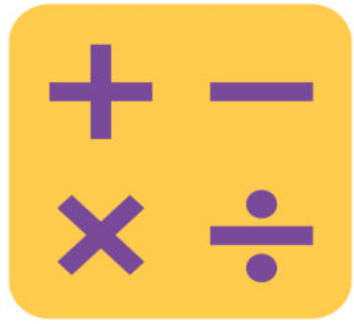
$$15 \underline{\hspace{2cm}} 18$$



Compare Numbers

Now let's say it out loud!

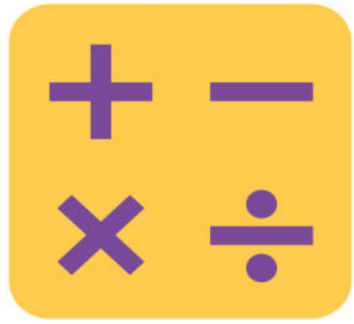
$$15 < 18$$



Compare Numbers

Complete this number sentence:

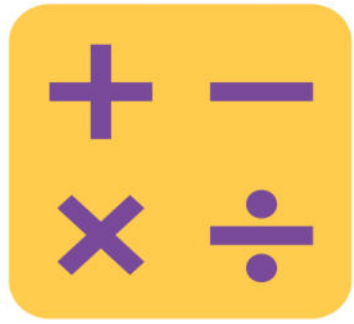
25 _____ 28



Compare Numbers

Now let's say it out loud!

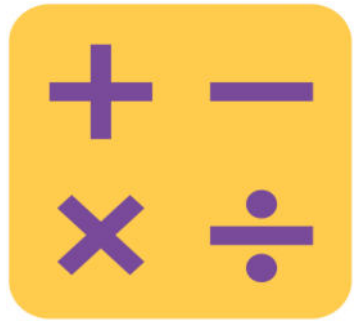
$$25 < 28$$



Compare Numbers

Complete this number sentence:

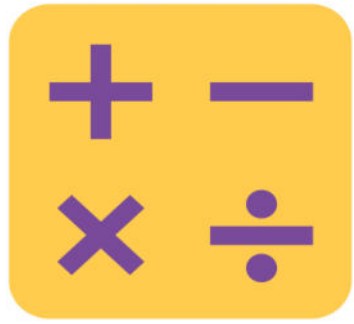
$$6 \underline{\hspace{2cm}} 3$$



Compare Numbers

Now let's say it out loud!

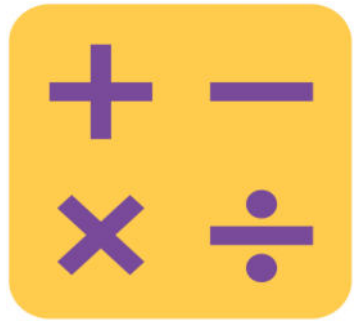
$$6 > 3$$



Compare Numbers

Complete this number sentence:

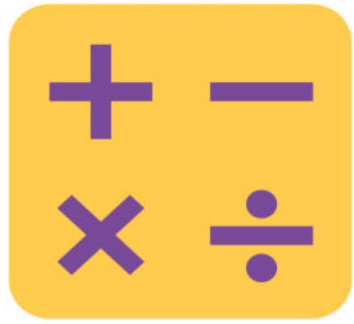
$$6 \underline{\hspace{2cm}} 3$$



Compare Numbers

Complete this number sentence:

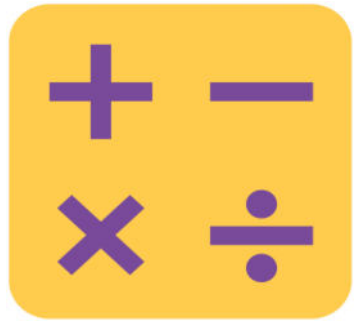
ten 6 _____ ten 3



Compare Numbers

Now let's say it out loud!

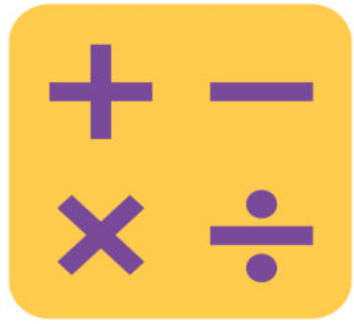
ten 6 > ten 3



Compare Numbers

Complete this number sentence:

2 tens 6 _____ 2 tens 3



Compare Numbers

Now let's say it out loud!

$$2 \text{ tens } 6 > 2 \text{ tens } 3$$



Number Bond Addition and Subtraction

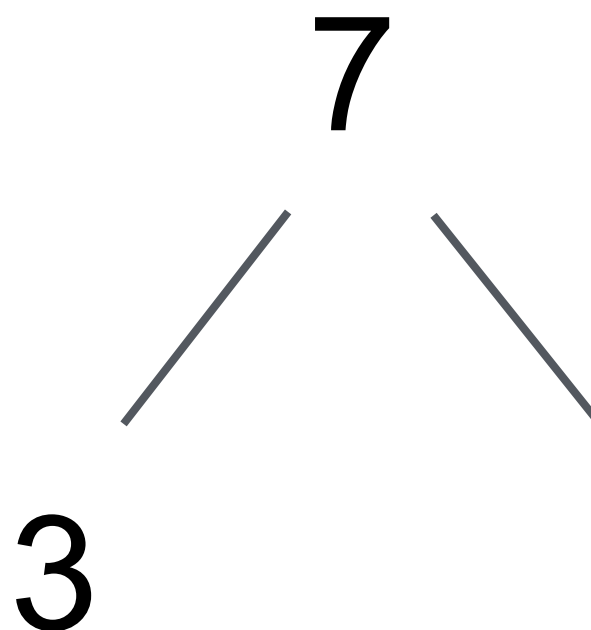
I will show you a number bond with a missing part. You write a subtraction and addition number sentence to find the missing part and solve! Here's an example:



$$4 - 3 = \boxed{1}$$
$$3 + \boxed{1} = 4$$

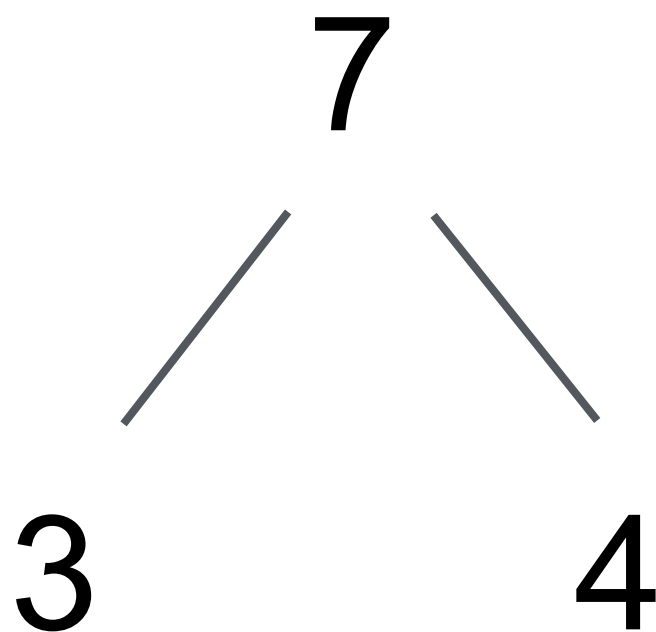


Number Bond Addition and Subtraction





Number Bond Addition and Subtraction

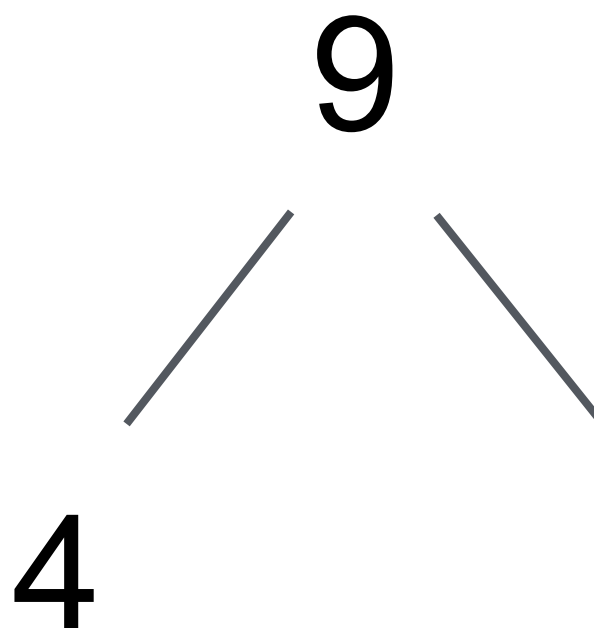


$$7 - 3 = 4$$

$$3 + 4 = 7$$

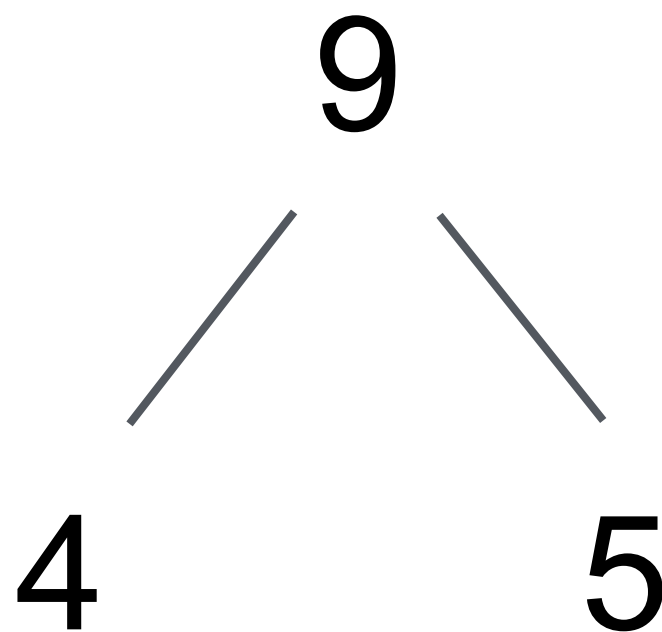


Number Bond Addition and Subtraction





Number Bond Addition and Subtraction

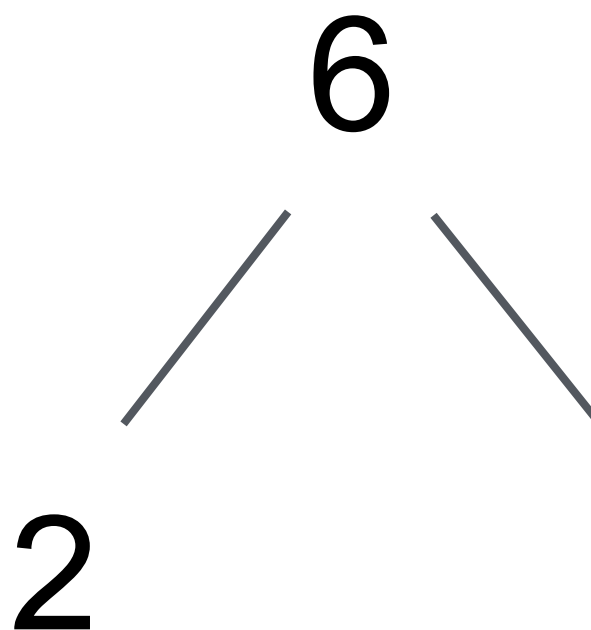


$$9 - 4 = 5$$

$$4 + 5 = 9$$

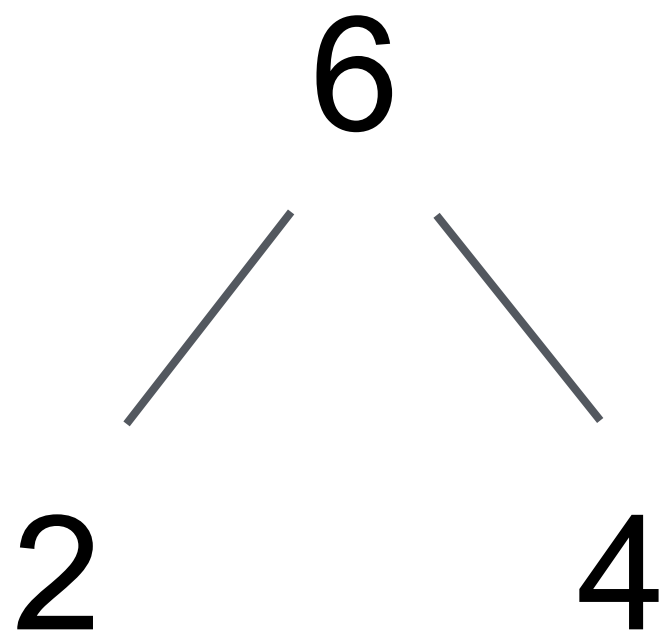


Number Bond Addition and Subtraction





Number Bond Addition and Subtraction

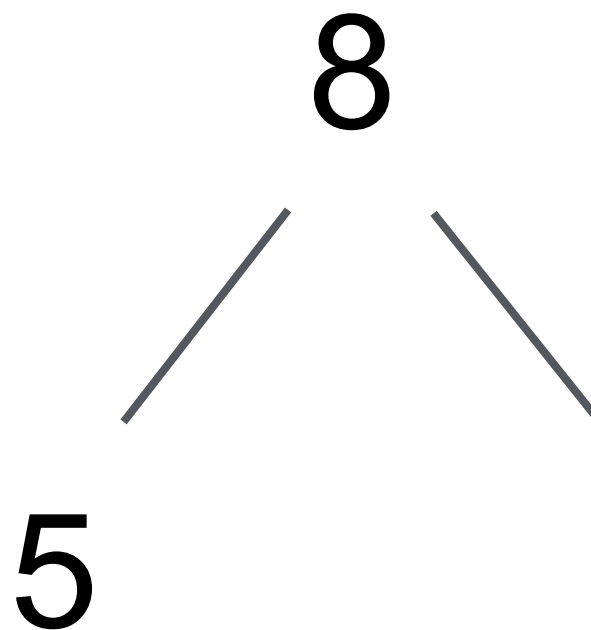


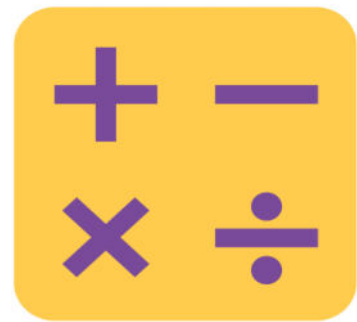
$$6 - 2 = 4$$

$$2 + 4 = 6$$

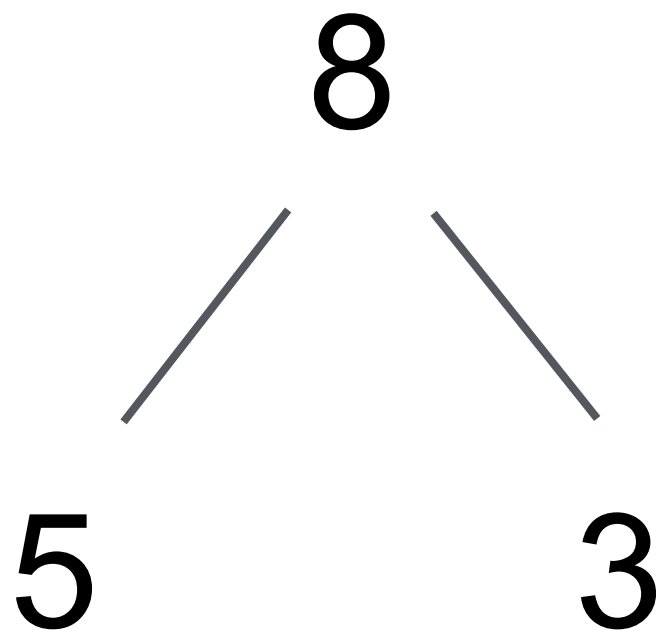


Number Bond Addition and Subtraction





Number Bond Addition and Subtraction



$$8 - 5 = 3$$

$$5 + 3 = 8$$



Application Problem

Sharon has 3 dimes and 1 penny. Mia has 1 dime and 3 pennies. Whose amount of money has a greater value?



Concept Development

$$2 + 1$$

How many fingers are there? Say the number sentence.



Concept Development

$$2 + 1$$

$$2+1=3!$$



Concept Development

$$2 + 1$$

On your personal whiteboard, use math drawings to show $2 + 1 = 3$ and make a number bond while I write $2 + 1 = 3$ on the chart!



Concept Development

$$2 + 1$$

Let's pretend these circles stand for bananas! Say the number sentence using bananas as the unit.



Concept Development

$$2 + 1$$

2 bananas + 1 banana = 3 bananas.



Concept Development

Now I need one more volunteer to join the two volunteers we already have.



Concept Development

Volunteers, show us $2 \text{ tens} + 1 \text{ ten}$ using your magic counting sticks.



Concept Development

How many tens do we have here?



Concept Development

2 tens!



Concept Development

How many tens do we have here?



Concept Development

How many tens are there in all?



Concept Development

3 tens!



Concept Development

Hmmm, how can knowing $2+1=3$ help us with 2 tens + 1 ten? Turn and talk to your partner.

Handwritten work showing the relationship between the basic addition fact and the tens problem:

$2 + 1 = 3$

$20 + 10$

$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$

Below the equations are two tree diagrams. The first tree diagram shows the number 3 branching into 2 and 1. The second tree diagram shows 3 tens branching into 2 tens and 1 ten.

```
graph TD
    3 --> 2
    3 --> 1
```

```
graph TD
    3tens --> 2tens
    3tens --> 1ten
```



Concept Development

2 tens + 1 ten = 3 tens is just like $2 + 1 = 3$. It's 2 things and 1 thing make 3 things. 2 circles and 1 circle make 3 circles.

2 bananas and 1 banana make 3 bananas. 2 tens and 1 ten make 3 tens!

The image shows handwritten mathematical examples illustrating the concept of tens and units. It is divided into two sections by a horizontal line.

Top Section:

- Equation: $2 + 1 = 3$
- Diagram: Two circles followed by a plus sign and another circle, representing $2 + 1 = 3$.
- Diagram: A number 3 at the top with two lines branching down to the numbers 2 and 1, representing the composition of 3.

Bottom Section:

- Equation: $2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$
- Diagram: Two vertical lines followed by a plus sign and one vertical line, representing $2 + 1 = 3$ in terms of tens.
- Diagram: The text "3 tens" at the top with two lines branching down to "2 tens" and "1 ten", representing the composition of 3 tens.



Concept Development

I need three volunteers to show 2 tens + 1 ten = 3 tens again.

$2 + 1 = 3$	$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$
$20 + 10$	
<hr/>	
$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$	$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$
$ + $	



Concept Development

Now, unbundle your magic counting sticks.

$2 + 1 = 3$	$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$
$20 + 10$	$\begin{array}{c} 30 \\ / \quad \backslash \\ 20 \quad 10 \end{array}$
<hr/>	
$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$	$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$
$\begin{array}{c} \\ + \quad \end{array}$	



Concept Development

What did 2 tens become?

$2 + 1 = 3$

$20 + 10$

$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$

$|| + |$

3

$2 \quad 1$

3 tens

$2 \text{ tens} \quad 1 \text{ ten}$



Concept Development

20!

$$\begin{array}{r} 2 + 1 = 3 \\ 20 + 10 \\ \hline 2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens} \\ \begin{array}{c} || + | \\ \end{array} \end{array}$$

3

2 1

3 tens

2 tens 1 ten



Concept Development

$$2 + 1 = 3$$

$$20 + 0$$

$$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$$

What did 1 ten become?



Concept Development

What is $20 + 10$? Say the number sentence.!

$2 + 1 = 3$	$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$
$20 + 10$	
<hr/>	
$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$	
$\begin{array}{c} \\ + \quad \end{array}$	$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$
<hr/>	



Concept Development

$$20 + 10 = 30!$$

Handwritten math development chart showing the progression from basic addition to the final equation $20 + 10 = 30$.

Top section:

$$2 + 1 = 3$$
$$20 + 10$$

Diagram showing 3 branching into 2 and 1:

$$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$$

Middle section:

$$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$$
$$|| + |$$

Diagram showing 3 tens branching into 2 tens and 1 ten:

$$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$$

Bottom section:

$$20 + 10 = 30$$

Chart 1



Concept Development

When we say $20 + 10 = 30$, we'll call this the regular way. When we say the place value units, 2 tens plus 1 ten equals 3 tens, we call this the unit way.

$$2 + 1 = 3$$
$$20 + 10$$

$$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$$

$$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$$
$$|| + |$$

$$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$$

$$20 + 10 = 30$$

Chart 1



Concept Development

Did we change the number of magic counting sticks when we had 2 tens + 1 ten = 3 tens?

Handwritten notes illustrating the concept of tens:

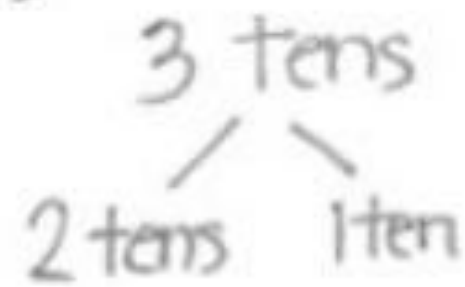
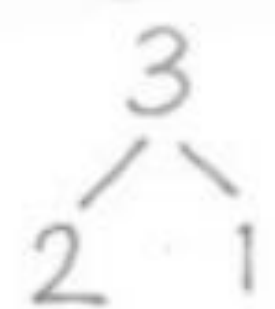
$2 + 1 = 3$

$20 + 10 = 30$

$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$

$20 + 10 = 30$

Chart 1





Concept Development

No!

$$2 + 1 = 3$$
$$20 + 0$$

$$\begin{array}{c} 3 \\ / \quad \backslash \\ 2 \quad 1 \end{array}$$

$$2 \text{ tens} + 1 \text{ ten} = 3 \text{ tens}$$
$$|| + |$$

$$\begin{array}{c} 3 \text{ tens} \\ / \quad \backslash \\ 2 \text{ tens} \quad 1 \text{ ten} \end{array}$$

$$20 + 10 = 30$$

Chart 1



Concept Development

Let's add this to our chart:

4 tens – 3 tens

What parts of a number bond can we fill in with these numbers?



Concept Development

4 tens – 3 tens

4 tens on top, with 3 tens as one of the parts.

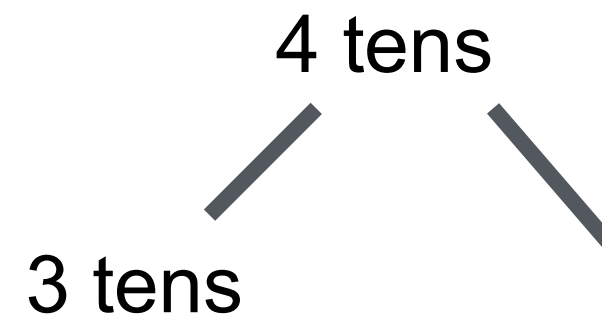


Concept Development

What addition sentence
can we write to match
this number bond?

Remember, we can say
“unknown” or “mystery
number” for the part we
don’t know yet.

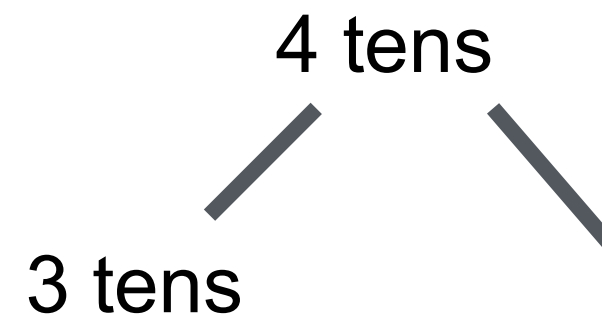
4 tens – 3 tens





Concept Development

4 tens – 3 tens



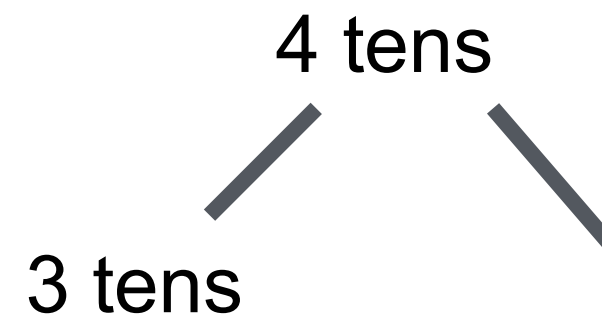
3 tens + “the mystery number”
= 4 tens.

3 tens + _____ = 4 tens



Concept Development

4 tens – 3 tens



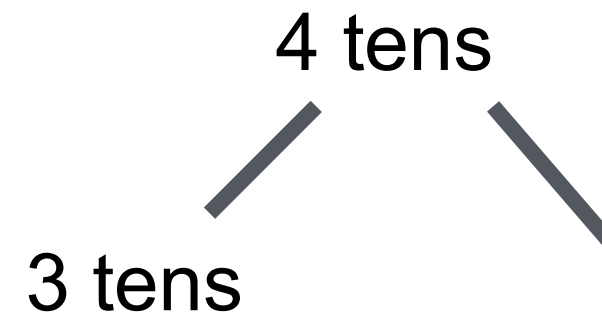
What is the missing part?

3 tens + _____ = 4 tens



Concept Development

4 tens – 3 tens



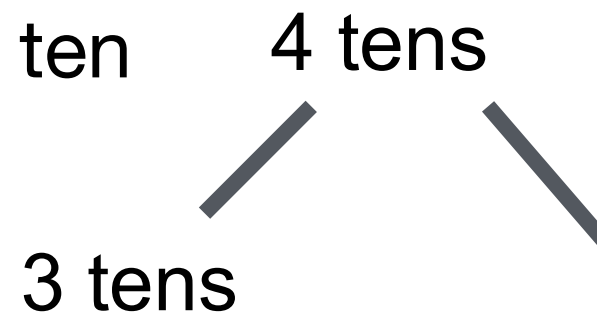
1 ten!

3 tens + 1 ten = 4 tens



Concept Development

$$4 \text{ tens} - 3 \text{ tens} = 1 \text{ ten}$$



Say the subtraction sentence and the related addition sentence we created.

$$3 \text{ tens} + 1 \text{ ten} = 4 \text{ tens}$$



Concept Development

$$\begin{array}{r} 4 \text{ tens} - 3 \text{ tens} = 1 \text{ ten} \\ 3 \text{ tens} + 1 \text{ ten} = 4 \text{ tens} \end{array}$$

Diagram illustrating the relationship between 4 tens, 3 tens, and 1 ten:

```
graph TD; A[4 tens] --- B[3 tens]; A --- C[1 ten]
```

4 tens – 3 tens = 1 ten. 3 tens + 1 ten = 4 tens.



Concept Development

$$\begin{array}{r} 4 \text{ tens} - 3 \text{ tens} = 1 \text{ ten} \\ 3 \text{ tens} + 1 \text{ ten} = 4 \text{ tens} \end{array}$$

Diagram illustrating the relationship between 4 tens, 3 tens, and 1 ten:

```
graph TD; A[4 tens] --- B[3 tens]; A --- C[1 ten]
```

Let's say it the regular way, too.



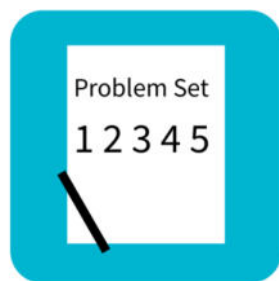
Concept Development

$$\begin{array}{r} 4 \text{ tens} - 3 \text{ tens} = 1 \text{ ten} \\ 3 \text{ tens} + 1 \text{ ten} = 4 \text{ tens} \end{array}$$

Diagram illustrating the relationship between 4 tens, 3 tens, and 1 ten:

```
graph TD; A[4 tens] --> B[3 tens]; A --> C[1 ten]
```

$$40 - 30 = 10. \quad 30 + 10 = 40.$$



Problem Set

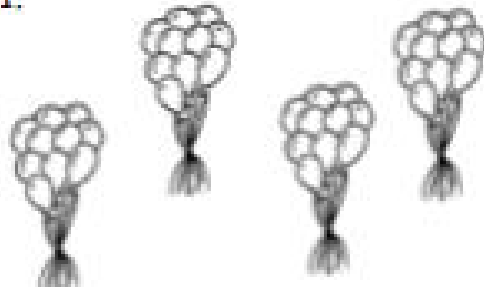



A STORY OF UNITS

Lesson 11 Problem Set

1•4

Name _____ Date _____

Complete the number bonds and number sentences to match the picture. The first one is done for you.




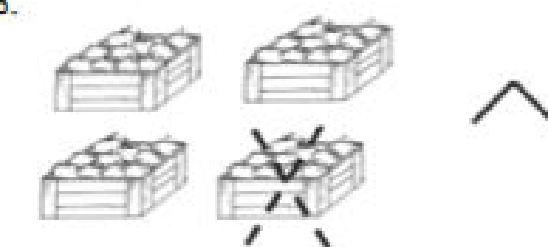
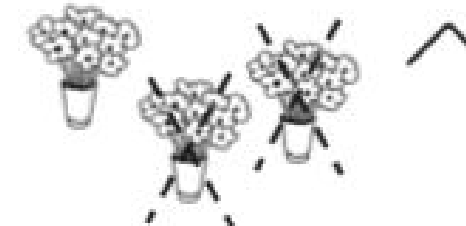

<p>1.</p>  <p>40 30 10</p> <p>3 tens + 1 ten = 4 tens 30 + 10 = 40</p>	<p>2.</p>  <p>20</p> <p>____ ten + ____ ten = ____ tens</p> <p>_____</p>
<p>3.</p>  <p>____ tens = ____ tens + ____ tens</p> <p>_____</p>	<p>4.</p>  <p>____ tens = ____ tens + ____ ten</p> <p>_____</p>

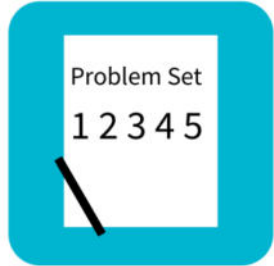
Problem Set

A STORY OF UNITS

Lesson 11 Problem Set

1•4

<p>5.</p>  <p>_____ tens - _____ ten = _____ tens</p> <p>_____</p>	<p>6.</p>  <p>_____ tens - _____ tens = _____ tens</p> <p>_____</p>
<p>7.</p>  <p>_____ tens + _____ ten = _____ tens</p> <p>_____</p>	<p>8.</p>  <p>_____ tens - _____ ten = _____ tens</p> <p>_____ + _____</p>
<p>9.</p>  <p>_____ tens - _____ tens = _____ ten</p> <p>_____</p>	<p>10.</p>  <p>_____ ten - _____ tens = _____ ten</p> <p>_____</p>



Problem Set

A STORY OF UNITS

Lesson 11 Problem Set

1•4

11. Fill in the missing numbers. Match the related addition and subtraction facts.

a. 4 tens - 2 tens = _____ 2 tens + 1 ten = 3 tens

b. 40 - 30 = _____ 30 + 10 = 40

c. 30 - 20 = _____ 20 + 20 = 40

12. Fill in the missing numbers.

a. 20 + 20 = _____

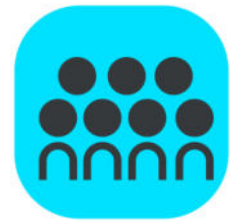
b. 30 - 20 = _____

c. 10 + _____ = 40

d. 20 - _____ = 0

e. 40 - _____ = 10

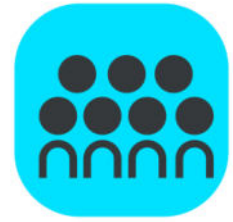
f. _____ + _____ = 30



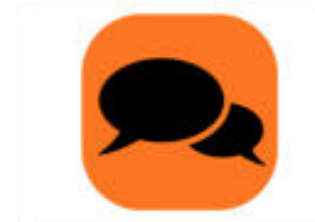
Debrief



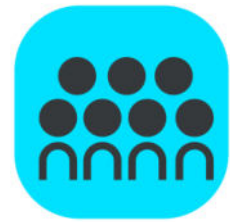
- Look at Problem 3. What simpler problem can help you solve this problem?



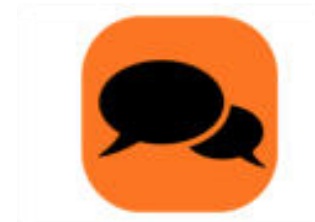
Debrief



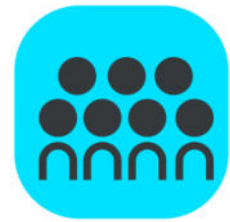
- How are Problems 4 and 5 related?



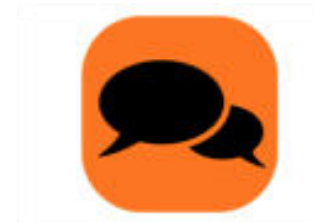
Debrief



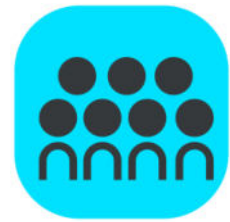
- Look at Problem 10. Share your solution with your partner. Did you solve the problem the same way? (Accept all possible interpretations of this picture as long as the students can support their thinking.)



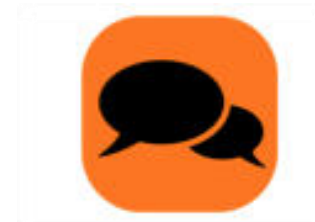
Debrief



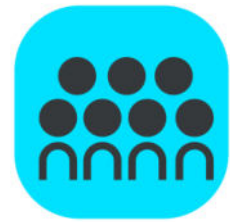
- Look at Problem 12. Can you find an addition and a subtraction sentence that are related?



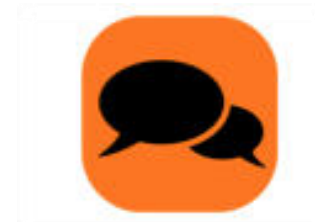
Debrief



- Use the arrow way to represent the adding and subtracting of Problems 12(a), 12(b), and 12(c).



Debrief





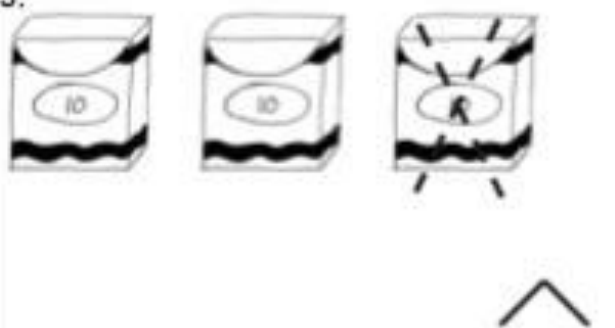
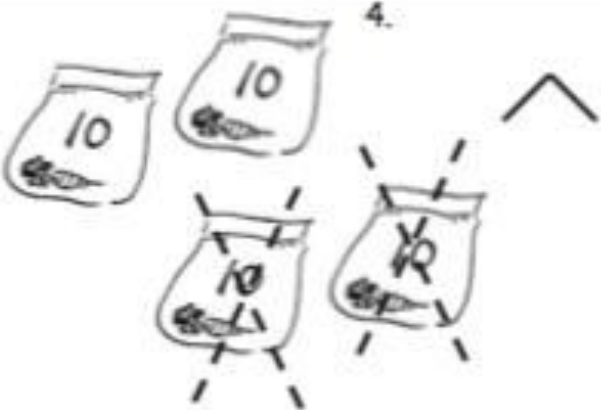
- Explain how you solved the Application Problem.



Exit Ticket

Name _____ Date _____

Complete the number bonds and number sentences.

<p>1.</p>  <p>$1 \text{ ten} + 1 \text{ ten} = \underline{\hspace{2cm}} \text{ tens}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} 20$</p>	<p>2.</p>  <p>$\underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}} \text{ tens} + \underline{\hspace{2cm}} \text{ ten}$</p> <p>$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$</p>
<p>3.</p>  <p>$\underline{\hspace{2cm}} \text{ tens} - \underline{\hspace{2cm}} \text{ ten} = \underline{\hspace{2cm}} \text{ tens}$</p> <p>$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p>	<p>4.</p>  <p>$\underline{\hspace{2cm}} \text{ tens} - \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}} \text{ tens}$</p> <p>$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p>