Eureka Math

2nd Grade
Module 4
Lesson 7

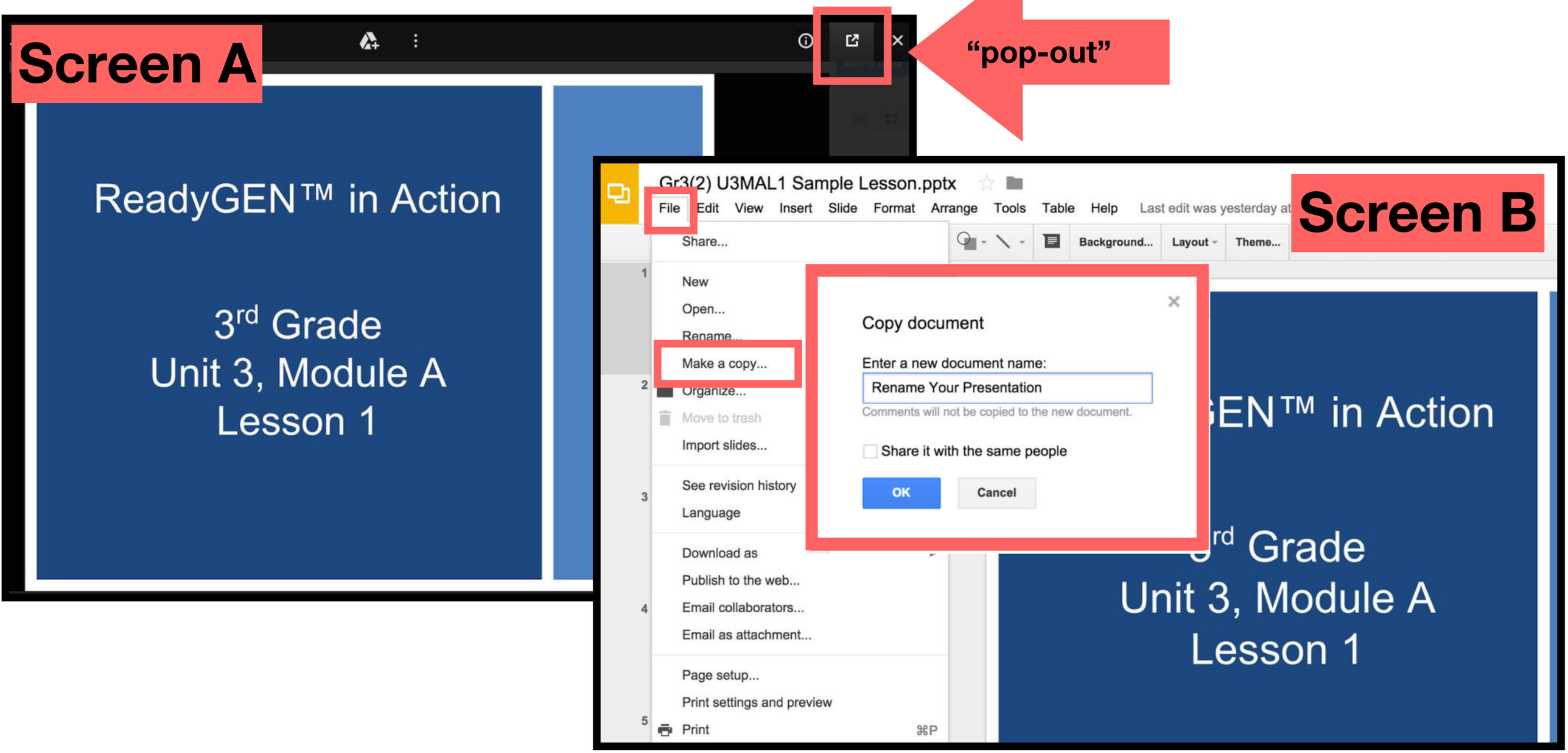
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- ➢ When the Google Slides presentation is opened, it will look like Screen A.
- ➢ Click on the “pop-out” button in the upper right hand corner to change the view.
- ➢ The view now looks like Screen B.
- ➢ 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

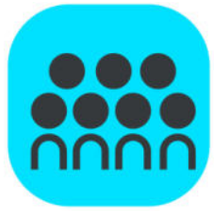
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

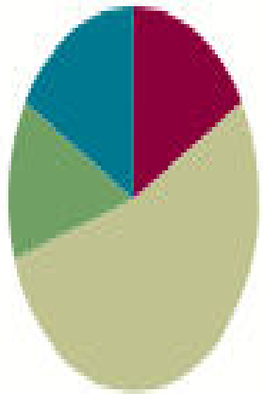
Small Group Time

Lesson 7

Objective: Relate addition using manipulatives to a written vertical method.

Suggested Lesson Structure

Fluency Practice	(10 minutes)
Application Problem	(8 minutes)
Concept Development	(32 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

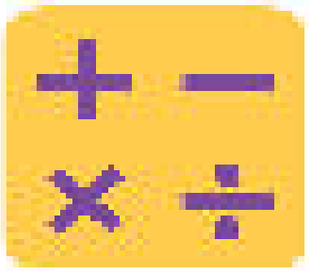


I can use the place value chart to write a problem in vertical form.

Materials Needed:

Concept Development:

- (T) Place value disks, unlabeled PV chart
- (S) Place value disks and unlabeled chart
- (S) personal white boards



Finding Doubles

157 say in standard form.

157 say in unit form.

157 say in expanded form.

How many ones in 157?

How many tens in the tens place?

How many tens in 157?

What digit is in the ones place?

How many more ones does 7 ones need to make a ten?

So what is 157 + 3

Say Ten Counting

3 ones + 7 ones

6 ones + 4 ones

10 ones

6 ones + 5 ones

7 ones + 4 ones

6 ones + 7 ones

8 ones + 4 ones

9 ones + 3 ones

4 ones + 4 ones + 4 ones

Take Out the Tens

43 ones = _____tens _____ones

67 ones = _____ tens _____ones

39 ones = _____ tens _____ones

77 ones = _____ tens _____ones

89 ones = _____ tens _____ones

100 ones = _____ tens _____ones

118 ones = _____ tens _____ones

126 ones = _____ tens _____ones

Take Out the Tens

Now let's take out the ten in each sentence.

21 + 30 you say 5 tens 1 ones

40 + 58

50 + 37

21 + 31

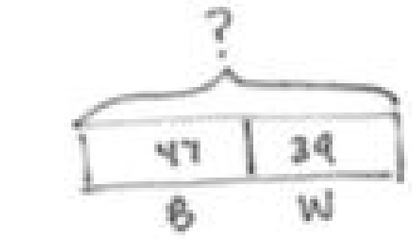
42 + 31

71 + 12

83 + 15

Application problems

Farmer Andino's chickens laid 47 brown eggs and 39 white eggs. How many eggs did the chickens lay in all?



47 + 39 = 86

46 1

39 + 1 = 40

40 + 46 = 86

47 +10→ 87 −1→ 86

4 tens + 3 tens = 7 tens

7 ones + 9 ones = 16 ones

10 6

8 tens 6 ones = 86

Andino's chickens laid 86 eggs.

Concept Development

We've learned to add numbers horizontally using different mental strategies. Let's learn another way to add.

We can also write the numbers vertically, with one number above the other so that each digit is in the correct place value column.

Let's use our place value chart and place value disks. I can place my disks straight up and down, like filling a ten-frame, or from left to right, like making 5-groups. Count with me as I model the addends.

Concept Development

$$\begin{array}{r} 24 \\ +\ 15 \\ \hline \end{array}$$

10	1 1 1
10	1 1 1 1 1

Does this model match the numbers written in vertical form?

Concept Development

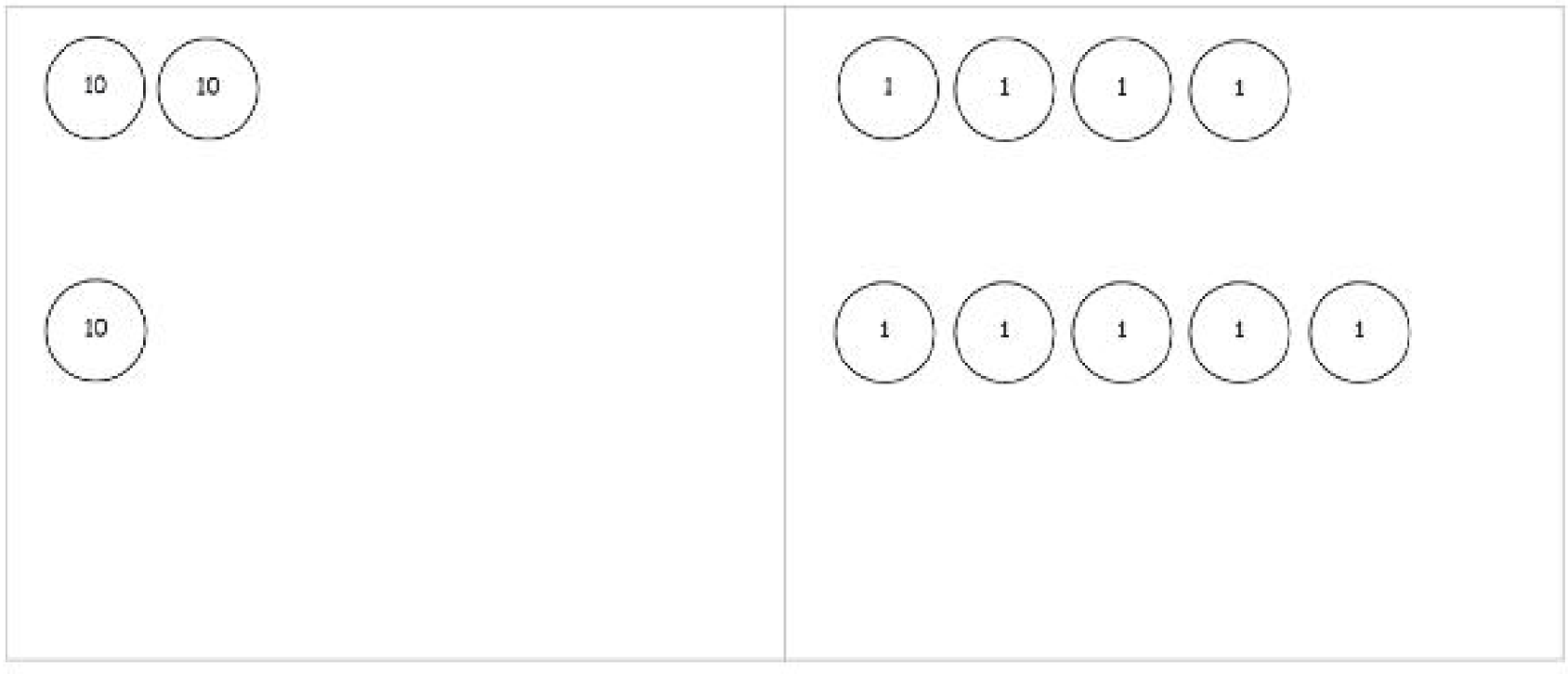
Did we compose a ten?

So we show 9 ones in the vertical form like this. We write the 9 below the line in the ones place.

$$\begin{array}{r} 24 \\ +15 \\ \hline 39 \end{array}$$

Now let's count the value of this number.

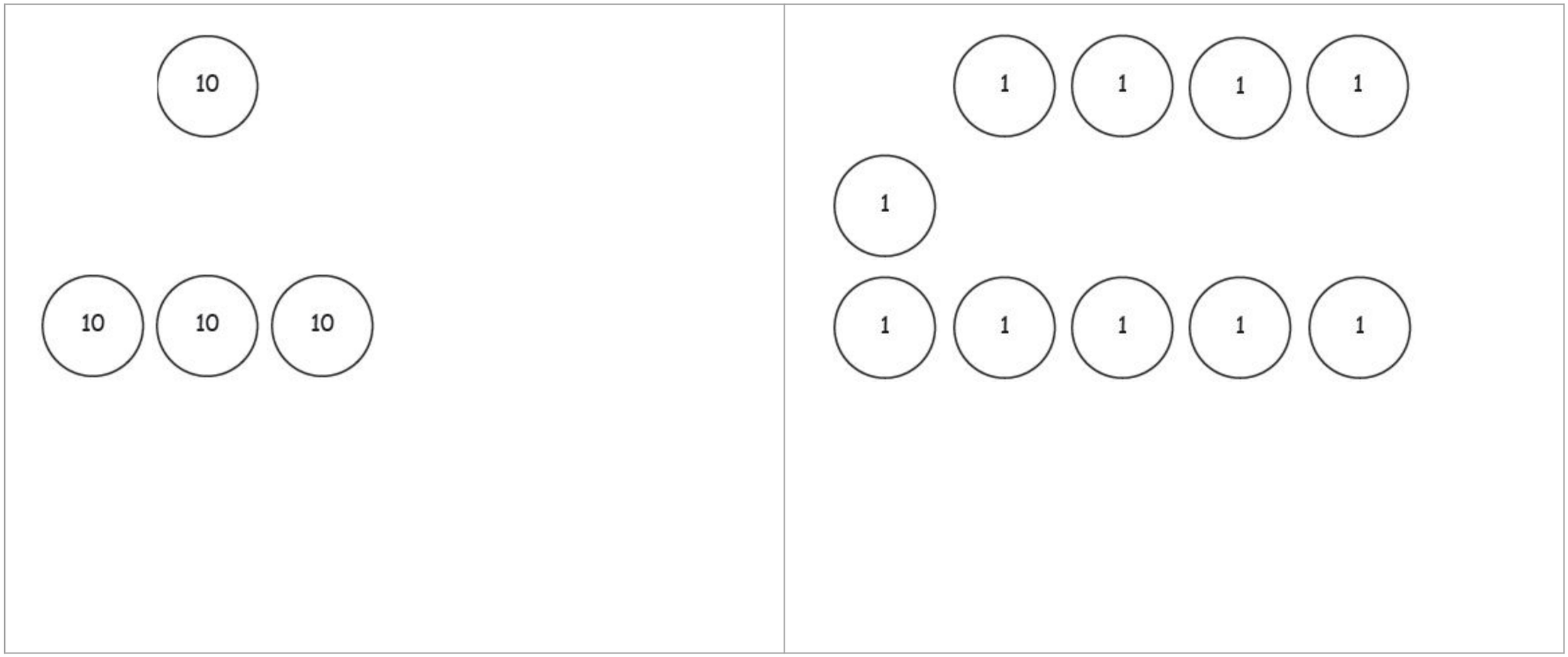
Now add the units of 10.



Concept Development

$$\begin{array}{r} 26 \\ +\ 35 \\ \hline \end{array}$$

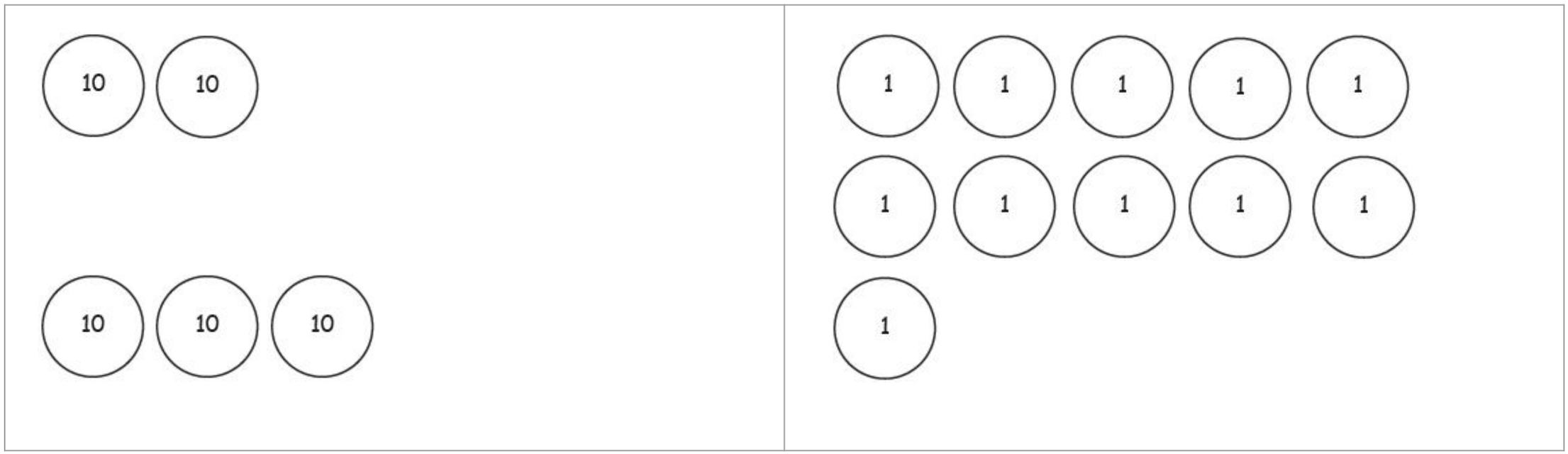
Count as I model the addends.



Does this model match the numbers written in vertical form?

Concept Development

What is 6 ones + 5 ones?



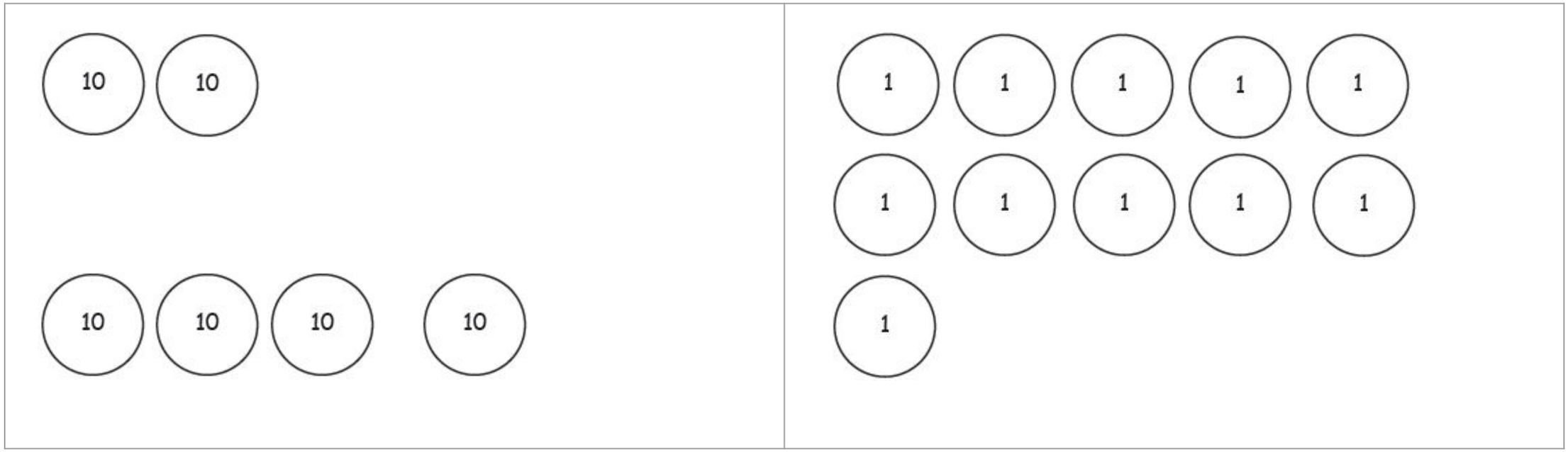
What do you see and what should we do?

$$\begin{array}{r} 26 \\ +\ 35 \\ \hline 61 \end{array}$$

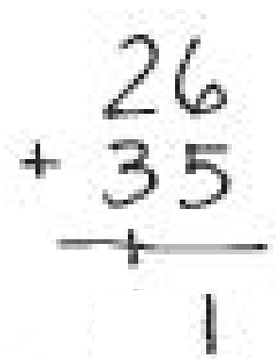
That’s right! We rename 11 ones as 1 ten 1 one. And where do tens belong?

Concept Development

Of course! So watch.



What do you see and what should we do?



Now we add the tens, including the new unit. 2 tens + 3 tens is 5 tens, and 1 more ten equals 6 tens. The answer is 61.

Concept Development

Explain to your partner how each change that I modeled on my place value chart matches each step that I recorded in the vertical form.

Now it’s your turn.

Write

$$\begin{array}{r} 25 \\ +17 \\ \hline \end{array}$$

With your partner, use your place value disks to model 25. Whisper count as you place the disks on your chart.

Concept Development

Tell me the number of tens and ones on your chart.

Now model 17. How many ones and tens?

$$\begin{array}{r} 25 \\ +17 \\ \hline \end{array}$$

Look at the ones place in the vertical form. What are you adding?

Now look at your model. 5 ones + 7 ones is…?

Use your place value disks to show what we should do here.

Concept Development

What did you do?

Where do I record the new unit of ten?

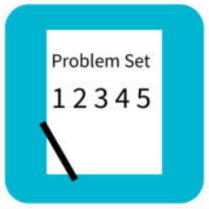
25 +17

How many ones are in the ones place now?

Write 2 below the line in the ones place.

Now count the tens. Remember to count the new unit. How many tens?

Write 4 below the line in the tens place.
Explain to your partner how your work with the disks matches the vertical form.



Problem Set

Name _____ Date _____

1. Solve the following problems using the vertical form, your place value chart, and place value disks. Bundle a ten, when necessary. Think about which ones you can solve mentally, too!

a. 22 + 8

21 + 9

b. 34 + 17

33 + 18

Debrief

In Problem 1, which problems were you able to solve mentally? Did you need to compose a ten for all of the problems in the second column? Why not?

How did you solve Problem 1, Part (c): 48 + 34, 46 + 36? How did you change your place value chart to show the problem in the second column?

Explain to your partner how you used manipulatives to solve Problem 1, Part (d): 27 + 68. How did this problem help you to solve the second one?

Debrief

For Problem 2, how did your work with the place value disks match the vertical form? How did you show new groups below?

Explain to your partner how you solved Problem 3 using manipulatives and the vertical form. How could you solve this problem differently using a simplifying strategy?

Exit Ticket

Name _____ Date _____

1. Solve the following problems using the vertical form, your place value chart, and place value disks. Bundle a ten, if needed. Think about which ones you can solve mentally, too!

   a. 47 + 34

   b. 54 + 27