Teacher Edition



triumphlearning" > Coach

Support Coach[™]

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Hundreds, Tens, and Ones

READY!

Make Numbers Out of Tens and Ones

		OBJECTIVES	CONCEPTS AND SKILLS	VOCABULARY
FOUNDATIONAL UNDERSTANDING	► READY Make Numbers Out of Tens and Ones Student Edition pp. 12–13	 Make numbers out of tens and ones. 	Understand that the two digits of a two-digit number represent amounts of tens and ones.	• ones • tens
	SET Break Numbers into Tens and Ones	• Break numbers into tens and ones.	Understand that the two digits of a two-digit number represent amounts of tens and ones.	
ON-LEVEL TARGET	GO Hundreds, Tens, and Ones	• Build 3-digit numbers from hundreds, tens, and ones.	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.	

MATERIALS

 Place-Value Blocks (suggested)

ENGLISH LANGUAGE LEARNERS

Some children may have difficulty differentiating between numbers and digits. Explain to children that a digit is a symbol in the number system. Similar to a word that is made up of letters, a number is made up of a combination of digits. Give an example, such as 34. Tell children that The number 34 has two digits. Provide more examples for children to become more familiar with the terms. Then have children come up with their own examples.

Build Background

• Lead a discussion with children. Explain that in math, numbers 0 to 9 are used to build greater numbers.

Can you think of times when it is important to build numbers bigger than 9? [Listen for children to mention real-world examples, such as the number of children in the class needs a number bigger than 9.]

- MP6 Extend the discussion to talk about times in math when counting goes beyond 9. Encourage children to discuss that when there is more than 9 of something, they must build a ten.
- Explain to children that they will be building numbers that consist of tens and ones.

Introduce and Model

 Introduce Concepts and Vocabulary Guide children as they explore two-digit

numbers. Ask:

What do you notice about the tens in the number and the model? What do you notice about the ones? [The tens always comes first and the ones follow the tens.]

Support Discussion Without writing the number, have children identify the tens and ones in a number you give.

Prompt: In the number 42, how many tens are there? **Sentence Starter:** In the number 42, there are...

Hundreds, Tens, and Ones	B Find the tens and ones.	5
READY! Make Numbers Out of Tens and Ones	Write how many tens and ones.	SS
Numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are called ones . Numbers 10, 20, 30 40, 50, 60, 70, 80, 90 are called tens . You can make numbers from ones and tens. $\begin{array}{c} tens ones \\ 3 5 \\ \downarrow \downarrow \\ 30 5 \end{array}$ The number 35 has 3 tens 5 ones.	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	on 2
	iens <u>i</u> ens <u>i</u> one	
$13 \longrightarrow 13 \longrightarrow 3 \text{ ones}$	TRY IT!	
2 4 tens $46 \longrightarrow 6$ ones	1 7 tens 4 ones = $\frac{7}{3}$ 3 tens 9 ones = <u>39</u>	
$3 _ 6 _ tens \longleftarrow 62 \longrightarrow _ 2 _ ones$	2 6 tens I one = 61 $4 tens 0 ones = 40$	
(9) 9 40 90 0 0 0 0 0 0 0 0	Write the missing number.	
an office to	5 2 tens 3 ones = 23 7 4 tens <u>8</u> ones = 48	L
Detrad my p	Image: Contract of the second secon	
12 Lesson 2 • Hundreds, Tens, and Ones	13	

Model Application

DO A Guide children through questions 1 through 4. After children complete writing 0 ones in question 4, ask:

How many ones does 90 have? How do you know? [90 has 0 ones. I know because the number 90 has 0 in the ones place.]

Guide children through the process of identifying and writing the numbers for tens and for ones. As children complete each question, ask a different child to say how many tens and ones each number has.

(Is it possible for a number to have 7 tens and 7 ones? Why?

[Yes. A number can have 7 tens and 7 ones if there are 7 groups of 10 and 7 ones.]

Practice and Assess

 Ask children to complete the Try It! on page 13 independently or in pairs. Monitor ongoing work. Watch for children transposing numbers (between tens and ones) and remind them that the position of the number indicates whether the digit is a ten or a one.

Observation	Action
Child transposes numbers.	Review numbers with the child and remind him or her that the number in the tens place tells how many tens, and the number in the ones place tells how many ones.

• At the conclusion of this portion of the lesson, ask children:

How many tens does a one-digit number have? [A one-digit number has 0 tens. A one-digit number does not have enough ones to make a ten.]

COMMON ERRORS

Some children may transpose the numbers in two-digit numbers. If this occurs, have children identify which digit should be red (ones) and which digit should be blue (tens) to help them remember that position of the digits in their numbers.

SET!

Break Numbers into Tens and Ones

	OBJECTIVES	CONCEPTS AND SKILLS	VOCABULARY
SET Break Numbers into Tens and Ones Student Edition pp. 14–15	• Break numbers into tens and ones.	Understand that the two digits of a two-digit number represent amounts of tens and ones.	

MATERIALS

- Math Tool: Place-Value Models, Tens, p. B6 (Student Edition, p. 211)
- Math Tool: Place-Value Models, Ones, p. B7 (Student Edition, p. 213)

ENGLISH LANGUAGE LEARNERS

Some English Language Learners may approach this lesson with a preconceived notion of break since break can have many meanings. Write break on the board and say it aloud. Then, have children repeat. Next, ask children to give a meaning for break. Some children may state a meaning similar to the math definition, while others might give a meaning of pausing an event. Finally, draw a number broken into tens and ones.

Build Background

- Have children discuss a time when they remember something being broken into smaller parts. For example, you might ask about servings of food at a cafeteria:
 - Why do you think the cafeteria would break up a large amount of food into servings? [It is easier to serve the food to children when the food is broken up.]
- MP7 Lead the discussion toward breaking apart numbers. Have children discuss their ideas as to why they would want to break up numbers into tens and ones.
- Explain to children that they will model numbers by breaking them into tens and ones using tens and ones models.

Introduce and Model

 Introduce Concepts Guide children through working with a partner using place-value models.

What is similar to breaking apart each number and breaking each number using tens and ones? [In both, the number of tens is the same and the number of ones is the same.]

Support Discussion Extend the instruction to include another example, such as 75. Have children attempt to answer without using models.

Prompt: How could you break apart 75 in tens and ones? **Sentence Starter:** I can break 75 into _____ tens and _____ ones.



Model Application

DO A Work Together Assign each child a given number to model. Ensure that children are modeling each number correctly. Then ask:

We have did the position of the numbers change your model? [In 18 there were 1 ten and 8 ones. In 81, there were 8 tens and 1 one.]

DO Guide children through the process of identifying and writing the numbers for tens and for ones from the given place-value models. As children complete each question, have them say how many tens and ones each number has.

Practice and Assess

 Ask children to complete the Try It! on page 15 in pairs. Monitor ongoing work. Ensure that children shade the correct number of tens rods and ones blocks.

Observation	Action
Child cannot model or identify tens and ones in a number.	Instruct the child to circle the tens digit in both numbers before modeling. Then have the child count the number of tens models needed to shade or to write. Then have the child box the ones digit and repeat the steps followed for modeling.

• At the conclusion of this portion of the lesson, ask children:

If you model number 98, would you want all ones models, all tens models, or some of each? [Listen for children to explain that a mixture of both is needed for modeling 98.]

GO!

Hundreds, Tens, and Ones

	OBJECTIVES	CONCEPTS AND SKILLS	VOCABULARY
GO Hundreds, Tens, and Ones Student Edition pp. 16–21	 Build three-digit numbers from hundreds, tens, and ones. 	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.	

MATERIALS

• Place-Value Models (suggested)

ENGLISH LANGUAGE LEARNERS

English Language Learners may struggle with the word digit, especially pertaining to two-digit and three-digit numbers. Write digit on the board. Say the word aloud and have children repeat. Then give a definition of digit. One easy definition is to use your fingers. You can tell children that sometimes fingers can be known as digits. Then connect this meaning within a math context. Write two-digit number and three-digit number on the board. When you say two-digit, raise up two of your fingers. Have children repeat your action. Say, Two-digit numbers have two numbers. Repeat the process for three-digit number for children.

Build Background

 In this portion of the lesson, children will now learn to break apart numbers that are in the hundreds. There was exposure in the previous lesson to breaking apart numbers. In this lesson, children will learn that a three-digit number consists of hundreds, tens, and ones. Ask children:

Why would you want to break apart numbers into hundreds, tens, and ones? [It is easier to add ones, then tens, then hundreds.]

Why do you keep the hundreds, tens, and ones separate from each other? [Listen for children to mention that this a way of keeping track of each part of the number.]

- MP4 Extend the discussion to modeling three-digit numbers. Ask children how they think modeling a three-digit number would be similar to modeling a two-digit number. Then ask children what might be different between modeling two-digit numbers and three-digit numbers.
- Explain to children that they will now break apart bigger numbers into hundreds, tens, and ones, similar to how they already broke apart two-digit numbers into tens and ones.

Introduce and Model

• Introduce Concepts Guide children through identifying the hundreds, tens, and ones in the given three-digit numbers. You might consider modeling the activities in this section on the board. Demonstrate that the three-digit number breaks apart just like the two-digit numbers did. The difference between the two is the addition of the hundreds. Here you might want to draw a model of a hundreds model on the board and ask different questions about your model.

Support Discussion Allow children to explore the hundreds model. Ask questions connecting the number of tens in a hundred.

Prompt: How many tens models do you see in the hundreds models? How did you know?
Sentence Starter: I see 10 tens. To find how many tens I saw, I counted...



Model Application

DO A Guide children through breaking apart the three-digit numbers. Ensure that children are starting from the hundreds, then followed by the number of tens, then by the number of ones.

Why should you start with the hundreds when breaking apart each number? [When I say the name of the number, I start with the hundreds. So I should start with the hundreds first.]

Why do we need hundreds? [We need hundreds when we talk about things that are more than 99.]

Support Discussion MP7 Introduce a number that does not have a ten or a one. Lead discussion to what the breakdown of the three-digit number might be.

Prompt: How many tens are in 603? How do you know? **Sentence Starter:** The number 603 has 0 tens because...

DO B This activity is similar to the activity in **DO** A, but contains less scaffolding. Here, only the numbers are given in this activity.

DO Guide children through the questions. You might consider asking them what is the same and what is different between the models for a two-digit number and a three-digit number.

• At the conclusion of this portion of the lesson, ask children:

How is breaking apart a three-digit number different from breaking apart a two-digit number? [Listen for children to identify that breaking apart a three-digit number includes finding out how many hundreds the three-digit number has.]

CONNECT TO FOUNDATIONAL UNDERSTANDING

Children reinforce their knowledge that two-digit numbers consist of tens and ones. Here they identify the numbers of tens and ones a two-digit number has. Children then reinforce the concept of breaking apart two-digit numbers into tens and ones through modeling. They also learn that it is more efficient to model numbers through tens and ones instead of ones alone. Both of these concepts are utilized in the Go Section where children break apart three-digit numbers into hundreds, tens, and ones.

ADDITIONAL PRACTICE

Provide children with additional practice to build numbers from tens to hundreds:

 $200 = ___t tens [20]$ $100 = ___t tens [10]$

TRY IT!

Support Independent Practice

Have children use the model given to identify the hundreds, tens, and ones in 492. As children complete the question, consider doing an extension by switching the order of the numbers. For example, you can ask:

How would hundreds, tens, and ones change if the number is 942? Which numbers changed place and which number stayed the same? [In this number, there are now 9 hundreds and 4 tens. The ones stayed the same.]

2 Support Discussion MP3 MP4 After children complete this question, have them explain their process of how they determined how many hundreds, tens, and ones in the number 502.

Prompt: How did you know that 502 has no tens? **Sentence Starter:** I knew that 502 has no tens by...

Similar to Question 2, the number 390 in this question has a 0, this time in the ones place. As children complete this question, ask children to describe a model for this number. You can lead the discussion toward the value in the ones place.

If you use models to show 390, how many ones would you need? Why? [I would not need any ones because there is a 0 for the ones in the number.]

Ask children to explain their counting methods for finding 867. So far within this section of the lesson, this question has the greatest number; thus it has quite a number of hundreds, tens, and ones models. Choose two children who have correctly answered the question to explain the method for counting.

• Lead a class discussion on methods of counting hundreds, tens, and ones, and which method might be the fastest. Encourage children to consider times where faster counting is better and where slower, more careful counting is best.

Support Discussion Have children share how they went about modeling 383 with the place-value models. You might also ask if children shaded the first three hundreds models in the top row, or if they shaded the first two hundreds models in the two rows and one hundreds model in either the top or bottom row. If you notice two children who correctly modeled the number, but in different ways, you might ask:

Prompt: How does your model differ from another child's model? Is it correct?
 Sentence Starter: My model is correct because... My model is different because I shaded...



Assess

- Use the table to observe whether children can accurately model hundreds, tens, and ones.
- When all children are ready, assign the Lesson 2 quiz.

	Observation	Action
	The child struggles to shade in the proper number of hundreds, tens, or ones.	Have the child work with manipulatives and create numbers, then draw that number using the correct symbols. Have the child check the work against the manipulatives to ensure accuracy.
	Observation	Action
2.	The child transposes number placement (e.g., 234 to 432) and is therefore unable to be accurate in making or breaking apart numbers.	Have the child use arrows to keep the hundreds, tens, and ones in the correct place. The child could also use numbers cut out of scrap paper and a large piece of paper with hundreds, tens, and ones written on it. Have the child practice taking apart the number and placing the parts in the correct place on the paper.
	Observation	Action
3	The child accurately draws numbers of hundreds, tens, and ones, and interprets expanded form correctly.	Assign the Lesson 2 quiz.

PROBLEM SOLVING Draw a Picture

 Model the Problem-Solving Strategy MP4 MP5 Guide children through the problem-solving strategy, Draw a Picture, demonstrating how to draw hundreds, tens, and ones with examples, on the board.

Children are familiar with the images of models for hundreds, tens, and ones. Here, they will use circles, lines, and squares to represent values that are much quicker and easier to draw.

Model how drawing a picture can help make sense of the problem they are given.

Read Aloud Read aloud to the children, or have the children read through the problem presented to them: *Maya jumped rope for a fund raiser. She jumped rope 327 times. Claire wants to model the number of times Maya jumped rope. She wants to draw her model, but hundreds, tens, and ones models take too long to draw.* Elicit a discussion of how children may use Draw a Picture to help them model the number of times Maya jumped rope.

Prompt: How else could you draw hundreds, tens, and ones to show how many times Maya jumped?
Prompt: Do you think drawing circles, lines, and squares is a better way to show ones, tens, and hundreds rather than place-value models? Why?

• **Explore Children's Thinking** Have children use the problem-solving strategy of Draw a Picture, and ask them to describe each step they followed to solve the problem.

Prompt: How did you model the hundreds in your drawing? **Prompt:** How did you model the tens in your drawing? **Prompt:** How did you model the ones in your drawing?

 Mathematical Practices MP1 MP3 MP4 Children can use a variety of Mathematical Practices while Drawing a Picture to count the number of times Maya jumped rope. Some questions that could be asked to promote Mathematical Practice thinking could be:

Prompt: Did Drawing a Picture help you understand the number 327 better? Why or why not?

Prompt: Would you recommend Drawing a Picture to a friend who was trying to solve a math problem? Why or why not?

Prompt: If you were designing new models for hundreds, tens, and ones pictures, what would you use? Why?



Assess

- Use the table to observe whether children are using the Draw a Picture Strategy correctly.
- If children do perform the strategy, offer Draw a Picture as a possible problem-solving strategy to children who are struggling with math concepts in the future.

	Observation	Action
	The child confuses the numeral 1 as a one, regardless of its position in the tens or hundreds location.	Have the child work with arrows or colored manipulatives and reinforce that "ones" can actually be numbers 0 to 9.
	Observation	Action
2	The child struggles with when to add a ten or hundred (e.g., at 9 or 99).	Have the child work with small objects, such as counters or buttons, and count from 1 to 9. Then stop the child as he or she shows how to make a ten and move it to its own <i>ten</i> group. Have the child practice this for each ten (e.g., 10, 19, 29,).
	Observation	Action
3	The child accurately draws pictures to model hundreds, tens, and ones.	This child is proficient in hundreds, tens, and ones.