# Overview

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Lesson Plan #1 Title: Ace it! Lesson Three

Attached Supporting Documents for Plan #1:

Teacher's Manual and reproductions of student worksheets to support the following lesson objective:

- Multiply a two-digit number by a two-digit number with no regrouping.

Lesson Plan #2 Title: Ace it! Lesson Eleven

Attached Supporting Documents for Plan #2:

Teacher's Manual and reproductions of student worksheets to support the following lesson objective:

- Write a decimal equivalent of a fraction with a denominator of 10 or 100.

Lesson Plan #3 Title: Ace it! Lesson Sixteen

Attached Supporting Documents for Plan #3:

Teacher's Manual and reproductions of student worksheets to support the following lesson objective:

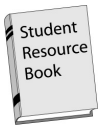
- Identify the greater or lesser of two decimals.

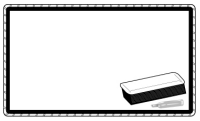
# lesson three

**LESSON OBJECTIVE:**
Multiply a two-digit number by a two-digit number with no regrouping.

| Introduction | Direct Skill Instruction and Guided Practice | Summary/Closure | Fact Practice |
|---|---|---|---|
| 5 mins. | 25 mins. | 10 mins. | 7 mins. |

## Lesson:





- ❑ Student Resource Books: Student Resource Sheets (Lesson 3)
- ❑ Dry-erase boards and dry-erase markers
- ❑ Grid paper

## Fact Practice:

- ❑ Individual Student Flashcards
- ❑ Buzz
- ❑ Math War or Salute!
  - Playing cards
- ❑ Soccer Ball Facts
  - Soccer ball
- ❑ Math Scramble
  - Index cards, each with a number 0–9; cards with the operations
- ❑ BINGO
  - Flashcards
  - BINGO boards, and tokens or colored squares
- ❑ Around the World
  - Triangle or regular flashcards

## Vocabulary Definitions:

This lesson assumes that students know the following vocabulary words:

- digit
- factor
- place value

**multiply** — To combine the number of items from equal-sized groups to find the total number of items. Example: $3 \times 5$ means to combine three equal groups of five.

**product** — The answer to a multiplication problem. Example: The product of $3 \times 5$ is 15; $3 \times 5 = 15$.

**partial products** — The smaller products found when multiplying a number to the ones and tens of a two-digit number. The sum of the two partial products is the total product. Example: $34 \times 5 = (30 \times 5) + (4 \times 5) = 150 + 20 = 170$; the 150 and 20 are the two partial products.

**Welcome:**


3 mins.

Greet students by name and take attendance.

**Introduction:**


5 mins.

***A. Access Prior Knowledge***

NOTE: Write the following problems on the dry-erase board.

- $4 \times 1 = 4$
- $4 \times 10 = 40$
- $40 \times 10 = 400$

***Raise a hand to answer:***

- ***What basic multiplication fact is part of all of these problems?*** NOTE: You may have to lead students by asking what numbers are shown in all three problems. ($4 \times 1 = 4$)
- ***What is different about the three answers?*** (They have different numbers of zeros.)
- ***What pattern do you see in the number of zeros in each problem when you look at the factors and the answer?*** (The number of zeros in the factors is the same as the number of zeros in the answer.)

***You can use multiplication facts and zero patterns to find answers to multiplication problems.***

***On your dry-erase board, write the following problems:***

- $3 \times 2 =$ _____
- $3 \times 20 =$ _____
- $30 \times 20 =$ _____

NOTE: Write the problems on the board or dry-erase board.

***Everyone, tell me in a whisper:***

- ***What is $3 \times 2$ ?*** (6)

- ***What is $3 \times 20$ ?*** (60)

- ***What is $30 \times 20$ ?*** (600)

### *B. Explain Connection to New Skill*

***You already know how to* multiply *a one-digit number by a one-digit number, such as $4 \times 2$. You also know how to use multiplication facts and place values to* multiply *a two-digit number by a one-digit number, such as $43 \times 2$. You can use these same skills to* multiply *a two-digit number by a two-digit number, such as $43 \times 20$.***

- ***Raise a hand to tell me what you need to know in order to* multiply *a two-digit number by a two-digit number.*** (Multiplication facts and place values.)

### *C. State Lesson Objective*

***Today we will* multiply *two-digit numbers by two-digit numbers with no regrouping.***

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**Direct Skill Instruction and Guided Practice:**

25 mins. ***In your Student Resource Book, Lesson Three, below the Lesson Objective, you will see a Vocabulary Box that lists three vocabulary words and their definitions. Let's look at those words together. The first vocabulary word is a review.***

- ***Raise a hand to tell us what it means to* multiply *numbers.*** (To combine "a" or "the" number of items from equal-sized groups to find the total number of items.)

- ***Use your fingers to show me what the symbol for* multiply *looks like.*** (Students should cross their fingers to form a multiplication symbol, ×.)

- ***Tell me, in a whisper, what you call the answer when you* multiply *two numbers.*** (Product.)

- ***Raise a hand to give me an example of a multiplication fact, and then identify its* product.** (Sample response: $5 \times 6 = 30$ ; 30 is the product.)

***When you* multiply *by a two-digit number, you can break up the problem into two smaller multiplication problems to make it easier to solve.***

- ***Raise a hand to tell me what the* product *of each of those smaller multiplication problems is called.*** (Partial product.)

***Excellent! So in the example problem in the Vocabulary Box, 150 and 20 are the* partial products*.*** NOTE: Direct students to look at the example problem under the definition for partial product.

- ***On your dry-erase board, write the problem*** $43 \times 20 =$ ____.

NOTE: Write the problem on the board or dry-erase board.



***We can use place values to break up 43 into two numbers. Then we can use those two numbers to find the* product*.***

- ***On your dry-erase board, write*** $43 = 40 + 3$.

NOTE: Write this step on the board or dry-erase board.

***The 40 and the 3 represent the place values in the number 43. They will be the two numbers we use to* multiply** $43 \times 20$. ***We have to* multiply *both of those numbers by 20 to find the total* product*.***

- ***On your dry-erase board, below*** $43 \times 20 =$ _____ ***and*** $43 = 40 + 3$, ***write:***
  - $40 \times 20 =$ _____
  - $3 \times 20 =$ _____

NOTE: Write the problems on the board or dry-erase board. Point out to students that each place value in the number 43 is being multiplied by 20.

- ***Raise a hand to tell me the* product *of*** $40 \times 20$. (800)
  NOTE: Remind students to use the basic fact of $4 \times 2 = 8$ and then use the number of zeros in the factors to write the number of zeros in the product.

- ***Raise a hand to tell me the* product *of*** $3 \times 20$. (60)

***So our two* partial products *for*** $43 \times 20$ ***are 800 and 60. To find the* product *of*** $43 \times 20$, ***all we have to do is add our two* partial products*.***

- ***Raise a hand to tell me the sum of 800 + 60.*** (860)

- ***Everyone, tell me in a whisper, what the* product *of*** $43 \times 20$ ***is.*** (860)

***Great job! You can also draw a picture to* multiply *a two-digit number by a two-digit number.***

NOTE: On grid paper, draw a rectangle that covers 13 rows with 12 grid squares in each row. Label the top of the rectangle "12" and label its left side "13." Make sure all the students can see the grid paper.

***This picture is a model of the multiplication problem 13 × 12.***

- ***Raise a hand to tell me how many rows there are in the rectangle.*** (13)

- ***When I point to you, tell me how many grid squares are in each row.***
  NOTE: Wait a few seconds, then point. (12)

***This rectangle models 13 × 12 because it combines 13 equal groups of 12 grid squares.***

***To find the* product*, all you have to do is count the total number of grid squares inside your rectangle.***

- ***Nod your head if you think it would be quick to count the number of small squares.*** (Students should not nod.)

- ***Nod your head if you think we could do it.*** (Students should nod.)

***Let's count the squares out loud to see how long it takes.***
NOTE: Cover some of the grid to help the students count first by tens. Shade in the squares as you count.

- ***Everyone, tell me in a whisper, what is the total number of grid squares?*** (156)

- ***Everyone, tell me in a whisper, what the* product *of 13 × 12 is.*** (156)

***Now let's use* partial products *to check that our* product *is correct.***

- ***On your dry-erase board, write 13 × 12 = ____.***

- ***Raise a hand to come up to the board and show us how we can use place values to break up 13 into two numbers.*** (13 = 10 + 3)

***Good job! So, to* multiply *13 × 12, we use the numbers 10 and 3 and* multiply *each number by 12.***

***On your dry-erase board, below 13 × 12 = ____, write:***

- ***10 × 12 = _____***

- ***3 × 12 = _____***

- ***Raise a hand to tell me the* product *of 10 × 12***. (120)
  NOTE: Remind students to use the basic fact of 1 × 12 = 12 and then use the number of zeros in the factors to write the number of zeros in the product.

- ***Raise a hand to tell me the* product *of 3 × 12.*** (36)

***So our two* partial products *for 13 × 12 are 120 and 36.***

- ***Raise a hand to tell me what we should do with those two* partial products *in order to find the* product *of 13 × 12.*** (Add them.)

- ***Raise a hand to tell me the sum of 120 + 36.*** (156)

- ***Everyone, tell me in a whisper, what is the* product *of 13 × 12?*** (156)

***Good job everyone. Now divide into pairs. You and your partner will need grid paper to practice* multiplying *two-digit numbers by two-digit numbers.***

NOTE: On the board or dry-erase board, write 25 × 11 = _____.

***You and your partner will draw a rectangle on grid paper to model this multiplication problem.***

***Everyone, tell me in a whisper:***

- ***How many rows of grid squares should your rectangle cover?*** (25)

- ***How many grid squares should be in each row of your rectangle?*** (11)

- ***Raise a hand to tell me how you will use your rectangle model to find the* product *of 25 × 11.*** (I will count the total number of grid squares inside my rectangle.)

***When you count the squares, remember to start by counting groups of ten squares at a time. Shade the squares as you count them.***

- ***When you have solved this multiplication problem, raise a hand to show me your picture and tell me your* product.** (Students should draw a 25 x 11 rectangle on their grid paper and use it to identify the product as 275.)

NOTE: After the students show you their grid paper and products, direct them to record their product for 25 × 11 in their Student Resource Book, Lesson Three, in the Guided Practice section, part I.

***It takes a long time to draw a rectangle and count all those squares. Let's try using* partial products *with our next multiplication problem. You and your partner will need a dry-erase board.***

- ***On your dry-erase board, write 32 × 20 = ____.***

***Before you start, raise a hand to answer:***

- ***What two numbers will represent the place values of 32?*** (30 and 2.)
- ***What two smaller multiplication problems will you solve to get your two* partial products*?*** (30 × 20 and 2 × 20.)
- ***What will you do with your two* partial products *to find the* product *of 32 × 20?*** (Add them.)

***Now work with your partner to solve this multiplication problem using* partial products*.***

- ***When you have solved this multiplication problem, raise a hand to tell me your* product*.*** (640)

NOTE: On your dry-erase board, write the problem vertically and write the smaller problems next to it. Review the steps after the students finish solving the problem. Write the steps, so in the end your dry-erase board shows:

| | |
|---|---|
| 20 | |
| x 32 | (30 + 2) |
| 40 | 2x20 = 40 |
| 600 | 30x20 = 600 |
| 640 | |

NOTE: Direct students to record their product for 32 × 20 in the Student Resource Book, in the Guided Practice section.

***In your Student Resource Book, Lesson Three, complete the problems in the Guided Practice section, part II.***

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**Summary/Closure:**

10 mins.

### *A. Define Vocabulary Words*

***In your Student Resource Book, Lesson Three, in the Summary/Closure section, there is an activity using today's vocabulary words. Take a few minutes to complete the activity.***

### *B. Summarize What We Learned Today*

***Let's summarize the skill that we have been working on today. In your Student Resource Book, in the Summary/Closure section, write a sample problem of* multiplying *a two-digit number by a two-digit number. Then explain what we learned today. The sample problem will be your "help sheet" when you need to remember how to do this type of problem in the future.***

### *C. Apply Skill*

- ***On your dry-erase board, write 25 × 30 = _____.***



NOTE: Write the problem on the board or dry-erase board.

***Everyone, tell me in a whisper:***

- ***What are the factors in this problem?*** (25 and 30.)
- ***What is the name of the answer that will be placed in the blank?*** (The product.)
- ***What are two different methods we could use to find this* product*?*** (Draw a rectangle model on grid paper or use partial products.)

***Everyone, raise a hand to answer:***

- ***How can we break apart 25 into two numbers to* multiply*?*** (Sample response: use place values; 20 + 5 = 25.)
- ***What two multiplication problems will we solve to find our two* partial products*?*** (20 × 30 and 5 × 30.)
- ***What is the* product *of 20 × 30?*** (600)
- ***What is the* product *of 5 × 30?*** (150)
- ***What should we do to our two* partial products *to find the* product *of 25 x 30?*** (Add them.)
- ***What is the* product *of 25 × 30?*** (750)

# lesson three

**Fact Practice:**

7 mins.

Operation: Multiplication

Fact Activity: _____

**Count/Record Tokens:**

5 mins.

Count and record tokens in the Student Resource Book.

**Lesson Objective:** Multiply a two-digit number by a two-digit number with no regrouping.

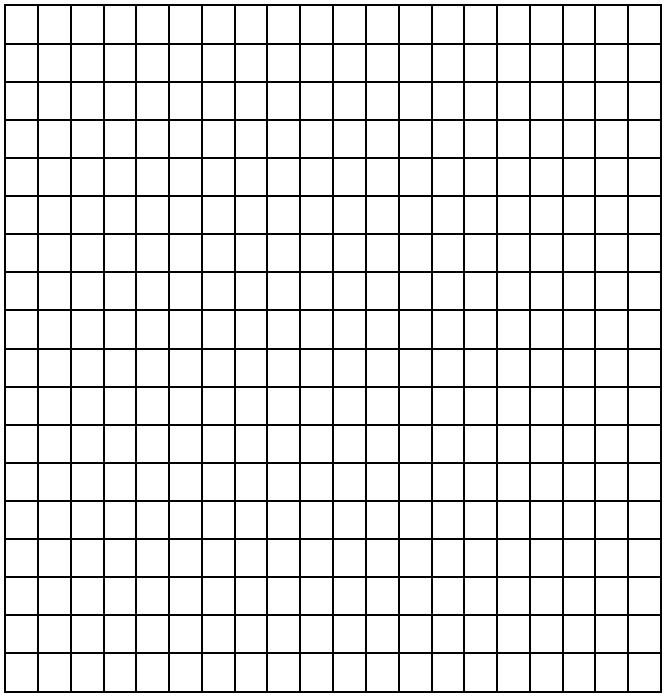
## Vocabulary Box

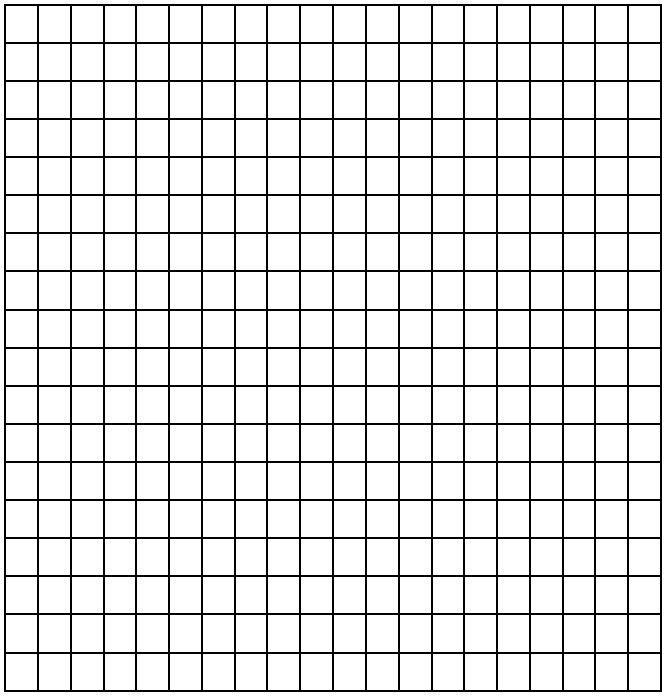
**multiply** — To combine the number of items from equal-sized groups to find the total number of items. Example: $3 \times 5$ means to combine three equal groups of five.

**product** — The answer to a multiplication problem. Example: The product of $3 \times 5$ is 15. $3 \times 5 = 15$

**partial products** — The smaller products found when multiplying a number to the ones and tens of a two-digit number. The sum of the two partial products is the total product. Example: $34 \times 5 = (30 \times 5) + (4 \times 5) = 150 + 20 = 170$ ; the 150 and 20 are the two partial products.

# lesson three – teacher resource sheet





# Guided Practice

D 3

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

**I.** Solve each of the following problems. Use a rectangle model on grid paper to solve the first problem. Use partial products to solve the second problem.

1. $25 \times 11 =$ _____ *(275)*

2. $32 \times 20 =$ or
$$\begin{array}{r} 20 \\ \times\ 32 \\ \hline \end{array}$$

Partial Products:

$30 \times 20 =$ _____ *(600)*

$2 \times 20 =$ _____ *(40)*

Total Product:
$32 \times 20 =$ _____ *(640)*

**II.** Solve the following problems using partial products. Please work independently.

1. $14 \times 32 =$ _____ *(448)* or
$$\begin{array}{r} 32 \\ \times\ 14 \\ \hline \end{array}$$

2. $54 \times 20 =$ _____ *(1,080)* or

$$\begin{array}{r} 20 \\ \times\ 54 \\ \hline \end{array}$$

3. $13 \times 22 =$ _____ *(286)* or

$$\begin{array}{r} 22 \\ \times\ 13 \\ \hline \end{array}$$

## Summary/Closure

### A. Vocabulary Words

Use the vocabulary words in the box to label each part of the problem below.

| multiply | partial products | product |
|---|---|---|

$$\begin{array}{r} 30 \\ \times\ 42 \\ \hline 60 \\ +1{,}200 \\ \hline 1{,}260 \end{array}$$

*(Students should label the × sign as multiply; 1,200 and 60 as partial products; and 1,260 as product.)*

### B. Summarize What We Learned Today

Write and solve a sample problem in which you multiply a two-digit number by 20. Then explain how to use a rectangle picture and partial products to multiply a two-digit number by a two-digit number. You will use this explanation as a personal reminder. *(Answers will vary, but should be checked.)*

NOTE: *Make sure students write problems that do NOT require regrouping. You may wish to assign two-digit numbers to students to ensure that the problems they write are appropriate for today's skill. Any two-digit number in which the ones digit is a 0, 1, 2, 3, or 4 will work when the other factor is 20, one example is 34 × 20.*

# lesson three – student resource sheet

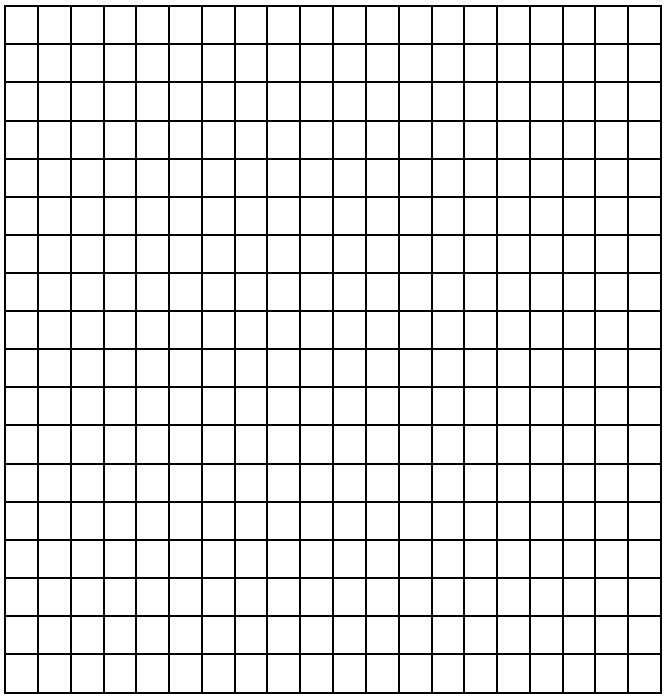
**Lesson Objective:** Multiply a two-digit number by a two-digit number with no regrouping

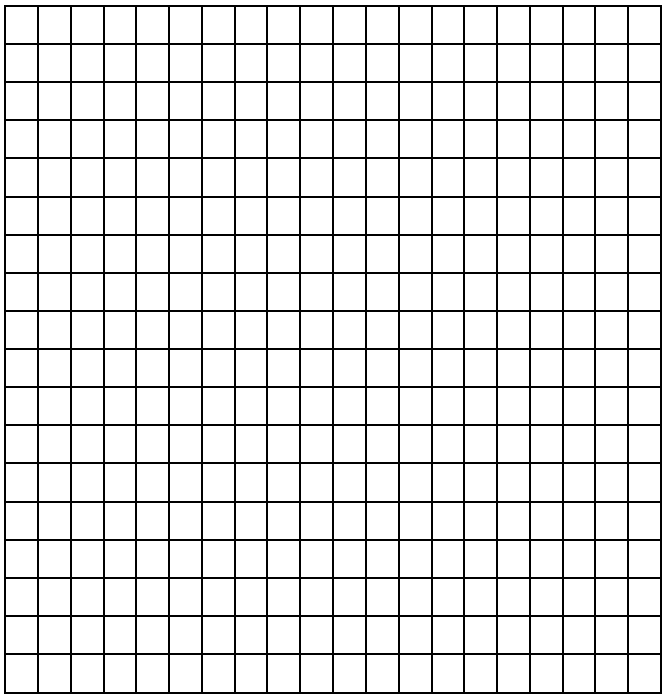
## Vocabulary Box

**multiply** — To combine the number of items from equal-sized groups to find the total number of items. Example: $3 \times 5$ means to combine three equal groups of five.

**product** — The answer to a multiplication problem. Example: The product of $3 \times 5$ is 15. $3 \times 5 = 15$.

**partial products** — The smaller products found when multiplying a number to the ones and tens of a two-digit number. The sum of the two partial products is the total product. Example: $34 \times 5 = (30 \times 5) + (4 \times 5) = 150 + 20 = 170$; the 150 and 20 are the two partial products.





# lesson three – student resource sheet

## Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

**I.** Solve each of the following problems. Use a rectangle model on grid paper to solve the first problem. Use partial products to solve the second problem.

1. $25 \times 11 =$ _____

2. $32 \times 20 =$ or
$$\begin{array}{r} 20 \\ \times\ 32 \\ \hline \end{array}$$

Partial Products:

$30 \times 20 =$ _____

$2 \times 20 =$ _____

Total Product:

$32 \times 20 =$ _____

**II.** Solve the following problems using partial products. Please work independently.

1. $14 \times 32 =$ _____ or
$$\begin{array}{r} 32 \\ \times\ 14 \\ \hline \end{array}$$

2. $54 \times 20 =$ _____ or

$$\begin{array}{r} 20 \\ \times\ 54 \\ \hline \end{array}$$

D 3

3. $13 \times 22 =$ _____ or

$$\begin{array}{r} 22 \\ \times\ 13 \\ \hline \end{array}$$

## Summary/Closure

**A. Vocabulary Words**

Use the vocabulary words in the box to label each part of the problem below.

| | | |
|---|---|---|
| multiply | partial products | product |

$$\begin{array}{r} 30 \\ \times\ 42 \\ \hline 60 \\ +1{,}200 \\ \hline 1{,}260 \end{array}$$

**B. Summarize What We Learned Today**

Write and solve a sample problem in which you multiply a two-digit number by 20. Then explain words how to use a rectangle picture and partial products to multiply a two-digit number by a two-digit number. You will use this explanation as a personal reminder.

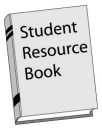
# lesson eleven

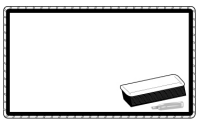
**LESSON OBJECTIVE:**
Write the decimal equivalent of a fraction with a denominator of 10 or 100.

| Introduction | Direct Skill Instruction and Guided Practice | Summary/Closure | Fact Practice |
|---|---|---|---|
| 5 mins. | 25 mins. | 10 mins. | 7 mins. |

**Lesson:**

- ❑ Student Resource Books: Student Resource Sheets (Lesson 11)
- ❑ Dry-erase boards and dry-erase markers



**Fact Practice:**
(Select one of these sets of materials for the Math Facts Games.)

- ❑ Individual Student Flashcards
- ❑ Buzz
- ❑ Math War or Salute!
  - Playing cards
- ❑ Soccer Ball Facts
  - Soccer ball
- ❑ Math Scramble
  - Index cards, each with a number 0–9; cards with the operations
- ❑ BINGO
  - Flashcards
  - BINGO boards, and tokens or colored squares
- ❑ Around the World
  - Triangle or regular flashcards

**Vocabulary Definitions:**
This lesson assumes that students know the following vocabulary words:

- fraction
- numerator
- denominator

**decimal** – A number with one or more digits to the right of the decimal point. Examples: 0.5, 0.25, 1.7, and 20.05.

**equivalent** – Having equal value. Examples: $\frac{1}{2} = \frac{5}{10} = \frac{50}{100} = 0.5 = 0.50$. 1 dime = 2 nickels = 10 pennies.

**hundredth** — One of 100 equal parts. Example: There are 100 pennies in 1 dollar, so 1 penny is one hundredth of a dollar.

**tenth** — Ten of 100 equal parts, or 1 of 10 equal parts. Examples: There are 100 pennies in 1 dollar, so 10 pennies are one tenth of a dollar. There are 10 dimes in 1 dollar, so 1 dime is one tenth of 1 dollar.

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**Welcome:**


3 mins.

Greet students by name and take attendance.

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**Introduction:**


5 mins.

***A. Access Prior Knowledge***

NOTE: On the board or dry-erase board, draw a rectangle divided into 10 equal parts, with 3 parts shaded to represent the fraction $\frac{3}{10}$. Below the picture, write the fraction $\frac{3}{10}$.

***Everyone, tell me in a whisper:***

- ***What kind of number is this?*** (A fraction.)
- ***What is the numerator of this fraction?*** (3)
- ***What is the denominator?*** (10)
- ***How do you say the name of this fraction?*** (Three-tenths.)
- ***Raise a hand to tell us how this picture models the fraction*** $\frac{3}{10}$.
  (Possible answer: It is a whole divided into 10 equal parts with 3 parts shaded.)

NOTE: On the board or dry-erase board, write the fraction $\frac{27}{100}$.

***Everyone, tell me in a whisper:***

- ***What is the numerator of this fraction?*** (27)
- ***What is the denominator?*** (100)
- ***How do you say the name of this fraction?*** (Twenty-seven hundredths.)

- ***Raise a hand to tell us how we could draw and shade a picture to model*** $\frac{27}{100}$**.** (Possible answers: draw a whole, divide it into 100 equal parts, and shade 27 parts; draw 100 objects, and shade 27 of them.)

### *B. Explain Connection to New Skill*

***You already know how to use fractions to describe a part of a whole. You can use* decimals *in the same way. Fractions and* decimals *are both numbers that describe a part of a whole or a part of a group. In fact, you can write any fraction as a* decimal*!***

- ***Raise a hand to tell me how fractions and* decimals *are alike.*** (They are both numbers that describe part of a whole or group.)

### *C. State Lesson Objective*

***During today's lesson, we are going to write fractions as* decimals*.***

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**Direct Skill Instruction and Guided Practice:**


***In your Student Resource Books, Lesson Eleven, below the Lesson Objective, you will see a Vocabulary Box that lists four vocabulary words and their definitions. Let's look at those words together.***

NOTE: On the board or dry-erase board, write the decimal 0.27 for the students to see.

***Raise a hand to answer:***

- ***Is this number a fraction, a* decimal, *or a whole number?*** (A decimal.)

- ***Why is it a* decimal*?*** (Because it has one or more digits to the right of the decimal point.) NOTE: Point to the decimal point.

NOTE: Point to each place value in 0.27 as you say the following:

***This* decimal *has two* tenths *and seven* hundredths*. Two* tenths *plus seven* hundredths *equal twenty-seven* hundredths*. So, we read this* decimal *as twenty-seven* hundredths*.***

***Think about the fractions we talked about at the beginning of this lesson. Everyone, write twenty-seven*** **hundredths** ***as a fraction on your dry-erase board. On the count of three, raise your board so I can see your fraction. One, two, three!*** ($\frac{27}{100}$)

***That's right, 0.27 written as a fraction is*** $\frac{27}{100}$. NOTE: Write 0.27 = $\frac{27}{100}$ on the board or dry-erase board for students to see.

***Notice that I wrote an equals sign between this fraction and*** **decimal.** ***I did that because they are*** **equivalent.**

- ***Raise a hand to tell me what it means if two numbers are*** **equivalent.** (They have equal value.)

***We can make a model of each number to show that they are*** **equivalent.** NOTE: Divide students into pairs.

***You and your partner will need the grids in your Student Resource Book, Lesson Eleven, in the Guided Practice Section, to practice modeling*** **equivalent** ***fractions and*** **decimals.**

***Notice that your grid is divided into 100 equal grid squares. Each grid square is one*** **hundredth** ***of the whole large square. The large square has 10 equal columns of grid squares. So, each column is one*** **tenth** ***of the whole large square.***

NOTE: On the board or dry-erase board, write the fractions $\frac{1}{10}$ and $\frac{1}{100}$ for students to see.

***Raise a hand to answer:***

- ***How can you shade the large grid of squares to show the fraction*** $\frac{1}{10}$***?*** (Shade one column of grid squares or 10 squares.)

- ***How can you shade the large grid of squares to show the fraction*** $\frac{1}{100}$***?*** (Shade one grid square.)

***You can also think of an entire grid as one dollar. So, each square is one*** **hundredth** ***of one dollar, or one penny, and each column is one*** **tenth** ***of one dollar, or one dime.***

NOTE: On the board or dry-erase board, write the numbers 0.1 and 0.01 for students to see.

***Raise a hand to tell me:***

- ***How can you shade a grid to show the* decimal *0.1?*** (Shade one column of grid squares or 10 squares.)

- ***How can you shade a grid to show the* decimal *0.01?*** (Shade one grid square.)

***So, now we understand how to use our grids to model fractions and* decimals*. Let's practice modeling some* equivalent *fractions and* decimals*.***

NOTE: On the board or dry-erase board, write $\frac{27}{100}$ = 0.27 for students to see.

***Partners, one of you should use the grid in number 1 to model the fraction*** $\frac{27}{100}$***. The other partner should model the* decimal *0.27. When you are finished, raise a hand so I can see your models.***
NOTE: Check students' models.

***Now compare your model with your partner's model. Count how many grid squares are shaded on your partner's model.***

- ***Nod yes if you had more grid squares shaded than your partner.*** (Students should not nod.)

***Raise a hand to tell me:***

- ***Did you and your partner shade the same number of grid squares?*** (Yes.)

- ***How many squares did you each shade?*** (27)

- ***How do your two models show that the fraction*** $\frac{27}{100}$ ***is* equivalent *to the* decimal *0.27?*** (Possible answer: They both show the same part of 100 shaded.)

***Now, let's use new grid paper to model another* equivalent *fraction and* decimal.**

NOTE: On the board or dry-erase board, write $\frac{3}{10}$ = 0.3 for students to see.

***Partners, switch roles. If you modeled the fraction $\frac{27}{100}$ last time, this time you will model the* decimal *0.3. If you modeled the* decimal *0.27 last time, this time you will model the fraction $\frac{3}{10}$.***

***Make your models. When you are finished, compare your model with your partner's model. Count how many grid squares are shaded on your partner's model.***

***Raise a hand to tell me:***

- ***How many columns or squares did you each shade?***
  (Three columns or 30 squares.)

- ***How do your two models show that the fraction $\frac{3}{10}$ is* equivalent *to the* decimal *0.3?*** (Possible answer: They both show the same part of 10 shaded or the same part of 100 shaded.)

- ***How do the models show that $\frac{3}{10}$ is* equivalent *to $\frac{30}{100}$ and 0.3 is* equivalent *to 0.30?*** NOTE: Write $\frac{3}{10} = \frac{30}{100}$ and 0.3 = 0.03 on your board. (There are 3 out of 10 columns shaded or 30 out of 100 grid squares shaded.)

***In your Student Resource Book, Lesson Eleven, in the Guided Practice section, part II, you will see two grids. Work with your partner to follow the directions and shade the first grid.*** NOTE: Give students about a minute to shade their grids.

***Raise a hand to tell me:***

- ***Did you model a fraction or a* decimal*?*** (A fraction.)
- ***What fraction did you model?*** ($\frac{53}{100}$)
- ***How does your shaded grid paper model the fraction $\frac{53}{100}$?***
  (Possible answer: It shows 53 shaded parts of 100 equal parts.)

- ***Everyone, write the fraction*** $\frac{53}{100}$ ***as a*** **decimal** ***on your dry-erase board. On the count of three, raise your board so I can see your*** **decimal**. ***One, two, three!*** (0.53)

***Work together to follow the directions and shade the second grid. Remember, you can think of each grid square as 1 penny and each column of grid squares as one dime.***
NOTE: Give students about a minute to shade their grids.

***Raise a hand to tell me:***

- ***Did you model a fraction or a*** **decimal*****?*** (A decimal.)
- ***What*** **decimal** ***did you model?*** (0.7)
- ***How does your shaded grid paper model the*** **decimal** ***0.7?*** (Possible answers: it shows 7 shaded parts of 10 equal parts; it shows 70 shaded parts of 100 equal parts.)
- ***Everyone, write the*** **decimal** ***0.7 as a fraction on your dry-erase board. On the count of three, raise your board so I can see your fraction. One, two, three!*** ($\frac{7}{10}$ or $\frac{70}{100}$.)

NOTE: You may want to use this example to reinforce students' understanding that 0.7 = 0.70 and $\frac{7}{10} = \frac{70}{100}$.

***In your Student Resource Book, Lesson Eleven, complete the problems in the Guided Practice sections, parts III and IV.***

---

**Summary/Closure:**


### *A. Define Vocabulary Words*

***In your Student Resource Book, Lesson Eleven, in the Summary/Closure section, there are some sentences using today's vocabulary words. Take a few minutes to complete those sentences.***

### *B. Summarize What We Learned Today*

***Let's summarize the skill that we have been working on today. In your Student Resource Book, Lesson Eleven, in the Summary/Closure section, write two fractions with 10 and 100 as the denominators. Then explain in words and pictures how to write the*** **equivalent decimal** ***for each of those fractions. This sample problem will be your "help sheet" when you need to remember how to do these types of problems in the future.***

***Raise a hand to share your notes with the class.*** (Answers will vary.)

### *C. Apply Skil*

***On your dry-erase board, write the fraction*** $\frac{6}{10}$.

***Everyone, tell me the answer when I snap my fingers:***

- ***How do you say the name of this fraction?*** NOTE: Wait a moment, then snap. (Six-tenths.)
- ***What is its denominator?*** NOTE: Wait a moment, then snap. (10)
- ***What is its numerator?*** NOTE: Wait a moment, then snap. (6)

- ***Write this fraction as a*** **decimal** ***on your dry-erase board.***
- ***On the count of three, raise your board so I can see your*** **decimal.** ***One, two, three!*** (0.6)
- ***On your dry-erase board, write the*** **decimal** ***0.47.***

***Tell me in a whisper:***

- ***How many*** **hundredths** ***does this*** **decimal** ***have? (***47***)***
- ***How do you say the name of this*** **decimal*****?*** (Forty-seven hundredths.)

- ***Write this*** **decimal** ***as a fraction on your dry-erase board.***
- ***On the count of three, raise your board so I can see your fraction. One, two, three!*** $(\frac{47}{100})$

---

**Fact Practice:**


Operation: Multiplication

Fact Activity: _____

---

# lesson eleven

**Count/Record Tokens:**

 5 mins. Count and record tokens in the Student Resource Book.

**Lesson Objective:** Write the decimal equivalent of a fraction with a denominator of 10 or 100.

## Vocabulary Box

**decimal** – A number with one or more digits to the right of the decimal point. Examples: 0.5, 0.25, 1.7, and 20.05.

**equivalent** – Having equal value. Examples: $\frac{1}{2} = \frac{5}{10} = \frac{50}{100} = 0.5 = 0.50$. 1 dime = 2 nickels = 10 pennies.

**hundredth** — One of 100 equal parts. Example: There are 100 pennies in 1 dollar, so 1 penny is one hundredth of a dollar.

**tenth** — Ten of 100 equal parts, or 1 of 10 equal parts. Examples: There are 100 pennies in 1 dollar, so 10 pennies are one tenth of a dollar. There are 10 dimes in 1 dollar, so 1 dime is one tenth of 1 dollar.

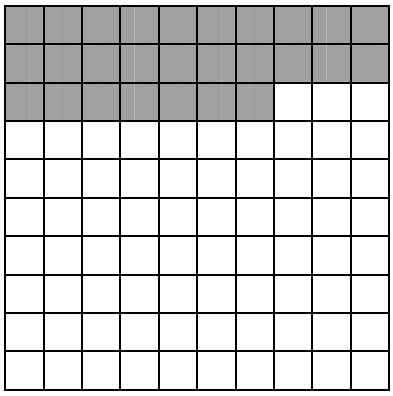
# lesson eleven – teacher resource sheet

## Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

**I.**

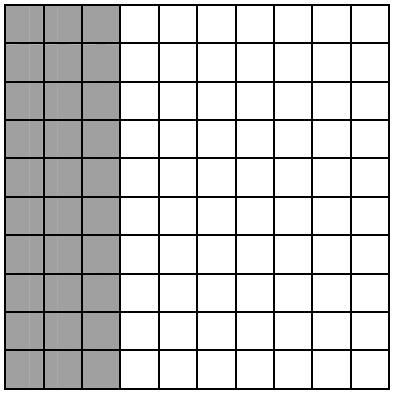
1.



Circle which number you are modeling:

0.27 or $\frac{27}{100}$

2.



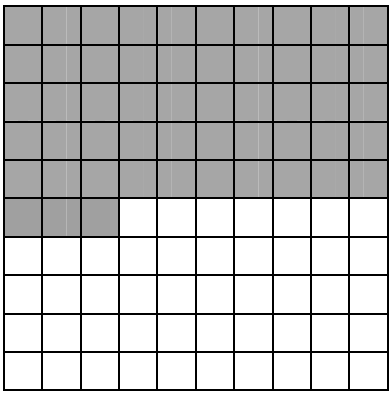
Circle which number you are modeling:

0.3 or $\frac{3}{10}$

*(Check students' models. There should be 27 out of 100 squares shaded and 30 out of 100 squares shaded.)*

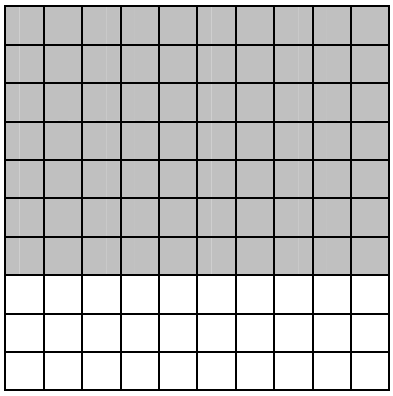
**II.** Shade each grid to show the fraction or decimal written below it.

1.



$\frac{53}{100}$

2.



0.7

*(Check students' models. There should be 53 out of 100 squares shaded and 70 out of 100 squares shaded.)*

**III.** Write the equivalent decimal for each fraction.

1. $\frac{29}{100}$ = _____ *(0.29)*
2. $\frac{2}{10}$ = _____ *(0.2)*
3. $\frac{9}{100}$ = _____ *(0.09)*
4. $\frac{6}{10}$ = _____ *(0.6)*

**IV.** Write each decimal as a fraction with a denominator of 10 or 100. Please work independently.

1. 0.4 = _____ *(*$\frac{4}{10}$ *or* $\frac{40}{100}$ *.)*
2. 0.35 = _____ *(*$\frac{35}{100}$ *)*
3. 0.08 = _____ *(*$\frac{8}{100}$ *)*
4. 0.5 = _____ *(*$\frac{5}{10}$ *or* $\frac{50}{100}$ *.)*

## Summary/Closure

**A. Vocabulary Words**

Directions: Write *tenths* or *hundredths* in each blank to complete the sentences.

1. I have 3 dimes. So I have 3 _____ of 1 dollar. *(tenths)*
2. I have 9 pennies. So I have 9 _____ of 1 dollar. *(hundredths)*
3. I have 25 pennies. So I have 25 _____ of 1 dollar. *(hundredths)*
4. I have 6 dimes. So I have 60 _____ of 1 dollar. *(hundredths)*
5. I have 50 pennies. So I have 5 _____ of 1 dollar. *(tenths)*

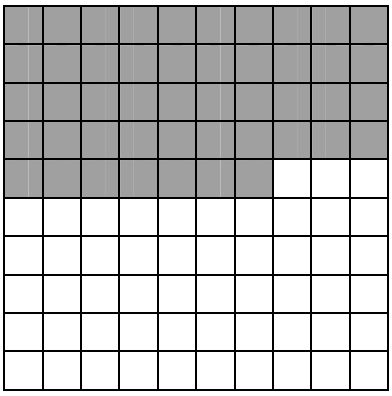
# lesson eleven – teacher resource sheet

**B. Summarize What We Learned Today**

Write two fractions — one with a denominator of 10 and one with a denominator of 100. Then explain in words, pictures, and numbers how to write the equivalent decimal for each of those fractions. You will use this explanation as a personal reminder. You may use the grids below.

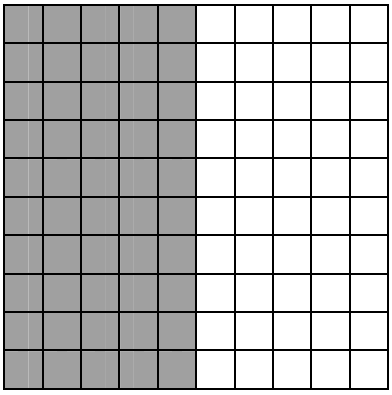
*(Examples below of filled in graphs & fractions.)*

1.



$(\frac{47}{100})$

2.



$(\frac{5}{10})$

# lesson eleven – student resource sheet

**Lesson Objective:** Write the decimal equivalent of a fraction with a denominator of 10 or 100.

## Vocabulary Box

**decimal** – A number with one or more digits to the right of the decimal point. Examples: 0.5, 0.25, 1.7, and 20.05.

**equivalent** – Having equal value. Examples: $\frac{1}{2} = \frac{5}{10} = \frac{50}{100} = 0.5 = 0.50$. 1 dime = 2 nickels = 10 pennies.

**hundredth** — One of 100 equal parts. Example: There are 100 pennies in 1 dollar, so 1 penny is one hundredth of a dollar.

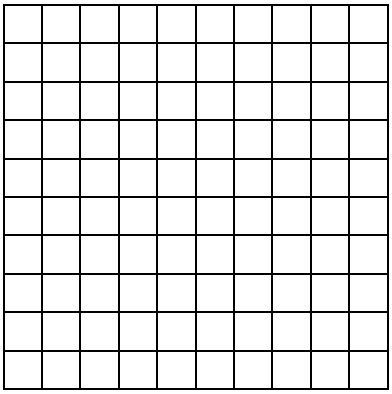
**tenth** — Ten of 100 equal parts, or 1 of 10 equal parts. Examples: There are 100 pennies in 1 dollar, so 10 pennies are one tenth of a dollar. There are 10 dimes in 1 dollar, so 1 dime is one tenth of 1 dollar.

# Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

**I.**

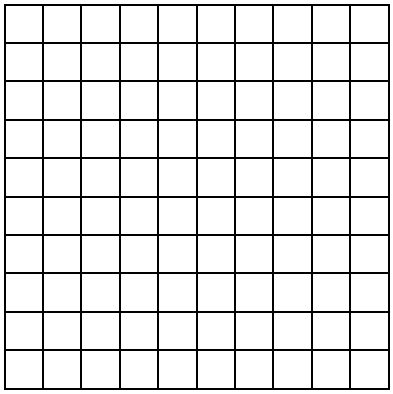
1.



Circle which number you are modeling:

0.27 or $\frac{27}{100}$

2.

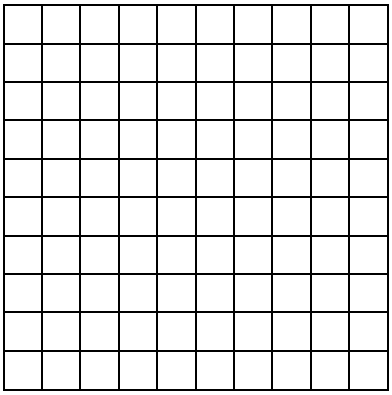


Circle which number you are modeling:

0.3 or $\frac{3}{10}$

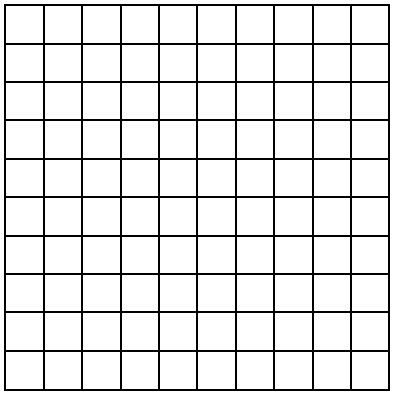
**II.** Shade each grid to show the fraction or decimal written below it.

1.



$\frac{53}{100}$

2.



0.7

**III.** Write the equivalent decimal for each fraction.

1. $\frac{29}{100}$ = _____
2. $\frac{2}{10}$ = _____
3. $\frac{9}{100}$ = _____
4. $\frac{6}{10}$ = _____

**IV.** Write each decimal as a fraction with a denominator of 10 or 100.

1. 0.4 = _____
2. 0.35 = _____
3. 0.08 = _____
4. 0.5 = _____

## Summary/Closure

**A. Vocabulary Words**

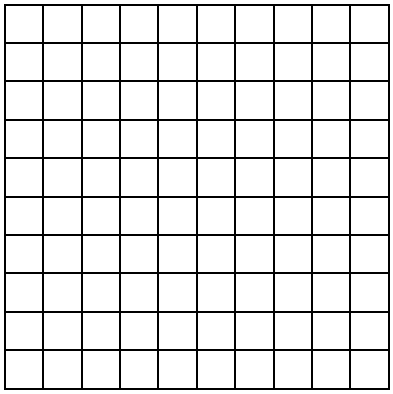
Directions: Write *tenths* or *hundredths* in each blank to complete the sentences.

1. I have 3 dimes. So I have 3 _____ of a dollar.
2. I have 9 pennies. So I have 9 _____ of a dollar.
3. I have 25 pennies. So I have 25 _____ of a dollar.
4. I have 6 dimes. So I have 60 _____of a dollar.
5. I have 50 pennies. So I have 5 _____ of a dollar.

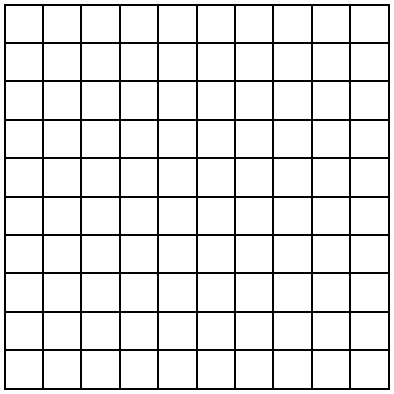
**B. Summarize What We Learned Today**

Write two fractions — one with a denominator of 10 and one with a denominator of 100. Then explain in words, pictures, and numbers how to write the equivalent decimal for each of those fractions. You will use this explanation as a personal reminder. You may use the grids below.

1.



2.

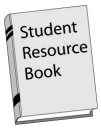


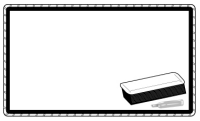
# lesson sixteen

**LESSON OBJECTIVE:**
Identify the greater or lesser of two decimals.

| Introduction | Direct Skill Instruction and Guided Practice | Summary/Closure | Fact Practice |
|---|---|---|---|
| 5 mins. | 25 mins. | 10 mins. | 7 mins. |

**Lesson:**





- ❑ Student Resource Books: Student Resource Sheets (Lesson 16)
- ❑ Dry-erase boards and dry-erase markers
- ❑ Play money coins—pennies and dimes

**Fact Practice:**
(Select one of these sets of materials for the Math Facts Games.)

- ❑ Individual Student Flashcards
- ❑ Buzz
- ❑ Math War or Salute!
  - Playing cards
- ❑ Soccer Ball Facts
  - Soccer ball
- ❑ Math Scramble
  - Index cards, each with a number 0–9; cards with the operations
- ❑ BINGO
  - Flashcards
  - BINGO boards, and tokens or colored squares
- ❑ Around the World
  - Triangle or regular flashcards

**Vocabulary Definitions:**
This lesson assumes that students know the following vocabulary words:

- decimal
- ones
- tenths
- hundredths

**compare** — To tell how numbers are alike or different. Examples: Tim is shorter than Amy; $10 is more than $5; Ben and Mei are the same age.

**greater than** — A phrase used to tell which number is larger. Examples: 4 is greater than 2; 1.6 is greater than 1.5. The symbol > is used to show that a number is greater than another number: 4 > 2; 1.6 > 1.5.

**less than** — A phrase used to tell which number is smaller. Examples: 3 is less than 7; 0.5 is less than 0.9. The symbol < is used to show that a number is less than another number: 3 < 7; 0.5 < 0.9.

**equal to** — A phrase used to tell which numbers have the same value. Examples: 6 is equal to 6.00; $\frac{3}{10}$ is equal to 0.3. The symbol = is used to show that a number is equal to another number: 6 = 6.00; $\frac{3}{10}$ = 0.3.

---

**Welcome:**


3 mins.

Greet students by name and take attendance.

---

**Introduction:**


5 mins.

***A. Access Prior Knowledge***

NOTE: Fill a box or some other container with play pennies and dimes before class begins. When the students arrive, divide them into two groups. Ask a volunteer from each group to take a handful of the coins from the container and return to his or her group with the coins.

***Groups, work together to count how much money you have.***

NOTE: Give students about a minute to count the total amount of their coins.

D 1 6

***Pick a person from each group to tell the class the group's total amount of money. Write the amount on your dry-erase board.***

- ***Everyone, raise a hand if you think the group has the most money.***
  NOTE: Check that students correctly identify the greater amount. Make sure that all the students agree on which amount is greatest.

NOTE: If time allows, direct the students to return the coins to the container. Then repeat the activity. This time, ask students to raise a hand if they think their group has the least amount of money.

***B. Explain Connection to New Skill***

***You already know how to* compare *amounts of money. We use decimals to describe money. You can use the same skills that you just used to* compare *any two decimals.***

NOTE: Ask two volunteers to stand. Give one student two dimes and one student 10 pennies. Ask each student to tell the class what coins he or she has.

***Everyone, tell me in a whisper:***

- ***Who has the most coins?*** (Students should name the student who has the 10 pennies.)
- ***Who has the most money?*** (Students should name the student who has the two dimes.)

### *C. State Lesson Objective*

***During today's lesson, we are going to*** **compare** ***decimals.***

---

**Direct Skill Instruction and Guided Practice:**


***In your Student Resource Book, Lesson Sixteen, below the Lesson Objective, you will see a Vocabulary Box that lists four vocabulary terms and their definitions. Let's look at those terms together. The first word is a review.***

NOTE: On the board or dry-erase board, write 25 _____ 17 for students to see.

***I want to know which of these two numbers is larger.***

***Everyone, tell me in a whisper:***

- ***What vocabulary word describes what I want to do?*** (Compare.)
- ***Which number is greater, 25 or 17?*** (25)

***To show that 25 is*** **greater than** ***17, I write this symbol in between the two numbers.*** NOTE: Write > in the blank on your dry-erase board.

***You can think of the*** **greater than** ***and*** **less than** ***symbols as open mouths. The symbol always wants to eat the greater number, so the open part of the symbol always points toward the greater number.***
NOTE: Point to 25 > 17 on your dry-erase board.

***We read comparison statements in order from left to right, so we read this statement as, "25 is*** **greater than** ***17."***
NOTE: Erase > from the blank on your dry-erase board and write <.

***Raise a hand to tell me:***

- ***How do you read this comparison statement?*** (25 is less than 17.)
- ***Is the statement true?*** (No.)

- ***Why is it false?*** (Because 25 is greater than 17.) NOTE: Erase < from the blank on your dry-erase board and write =.

***Raise a hand to tell me:***

- ***How do you read this comparison statement?*** (25 is equal to 17.)
- ***Is the statement true?*** (No.)
- ***Why is it false?*** (Because 25 and 17 are not equal.)

***We can use these same words and symbols to* compare *two decimals.***

***Divide into pairs. You and your partner will need the grids in your Student Resource Book, Lesson 16, to practice modeling and* comparing *decimals. Remember, each column of grid squares is one-tenth of the whole grid, and each grid square is one-hundredth of the whole grid.***

NOTE: On the board or dry-erase board, write 0.25 _____ 0.19 for students to see.

***Partners, one of you should shade your grid to model 0.25. The other partner should model 0.19. Then,* compare *your model to your partner's. When you are finished, raise a hand so I can see your models.***



- ***Everyone, stand if you shaded more grid squares than your partner.*** (All students who modeled 0.25 should stand.)
- ***Tell me in a whisper, what decimal did you model?*** (0.25)
- ***So, which decimal is greater: 0.25 or 0.19?*** (0.25)

***That's right. You may sit down. We write this symbol between the two decimals to show that 0.25 is* greater than *0.19.***
NOTE: Write > in the blank: 0.25 > 0.19.

- ***Raise a hand to tell me how we read this statement.***

(0.25 is greater than 0.19.)

***Good! Let's try modeling and* comparing *two other decimals.***

NOTE: On the board or dry-erase board, write 0.03 _____ 0.3 for students to see.

***Partners, each of you model one of these decimals by shading a grid. Then* compare *your model to your partner's. When you are finished, raise a hand so I can see your models.***

- ***Everyone, stand if you shaded fewer grid squares than your partner.*** (All students who modeled 0.03 should stand up.)

- ***Tell me in a whisper, what decimal did you model?*** (0.03)

- ***So, which decimal is the lesser: 0.03 or 0.3?*** (0.03)

***That's right. You may sit down. So, we write this symbol between the two decimals to show that 0.03 is*** **less than** ***0.3.***
NOTE: Write < in the blank: 0.03 < 0.3.

- ***Raise a hand to tell me how we read this statement.***
  (0.03 is less than 0.3.)

NOTE: On the board or dry-erase board, write 0.6 _____ 0.60 for students to see.

***Partners, model these decimals. Then,*** **compare** ***your model to your partner's. When you are finished, raise a hand so I can see your models.***

- ***Everyone, stand if you shaded more grid squares than your partner.***
  (No one should stand.)

- ***If you modeled 0.6, tell me in a whisper, how many grid squares did you shade?*** (60)

- ***If you modeled 0.60, tell me in a whisper, how many grid squares did you shade?*** (60)

***That's right. You both shaded 60 grid squares because 0.6 is*** **equal to** ***0.60. So, we write this symbol between the two decimals to show that 0.6 is*** **equal to** ***0.60.*** NOTE: Write = in the blank: 0.6 = 0.60.

- ***Raise a hand to tell me how we read this statement.***
  (0.6 is equal to 0.60.)

***In your Student Resource Book, Lesson Sixteen, in the Guided Practice section, part I, you will see two grids with a decimal written below each grid. Work with your partner to shade each grid to model the decimal written below it.*** NOTE: Give students about a minute to shade their models.

***Now,*** **compare** ***your two models.***

- ***Everyone who shaded 0.35, tell me in a whisper how many grid squares you shaded.*** (35)

- ***Everyone who shaded 0.5, tell me in a whisper how many grid squares you shaded.*** (50)

- ***Everyone, tell me on the count of three which decimal is greater. One, two, three!*** (0.5)

- ***Write the correct symbol in the blank to*** **compare** ***these two decimals. On the count of three, raise your books so I can see which symbol you wrote. One, two, three!*** (0.35 < 0.5)

- ***Raise a hand to tell me how we read this statement.***
  (0.35 is less than 0.5.)

***You won't always have grid paper to*** **compare** ***decimals. Instead, you can use place value to*** **compare** ***them.***

NOTE: On the board or dry-erase board, copy the place value chart shown below. Below the chart, write: 2.83 _____ 2.85.

| ONES | . | TENTHS | HUNDREDTHS |
|---|---|---|---|
| | . | | |
| | . | | |

***First, write both decimals in the place value chart. Make sure to write the digits in the correct place value column.***

- ***Raise a hand if you would like to come up to my board and fill in the chart with the first decimal, 2.83.*** (The volunteer should fill in the first column as shown in the chart below.)

D 1 6

***Excellent job!***

- ***Raise a hand if you would like to come up to my board and fill in the chart with the second decimal, 2.85.*** (The volunteer should fill in the second column as shown in the chart below.)

| ONES | . | TENTHS | HUNDREDTHS |
|---|---|---|---|
| ***2*** | . | ***8*** | ***3*** |
| ***2*** | . | ***8*** | ***5*** |

***Good! Now let's*** **compare** ***the digits in the decimals by place value. Always start with the greatest place value. Keep*** **comparing** ***the digits in each place value until the digits are not equal.***

- ***Everyone, tell me in a whisper, what is the greatest place value in these two decimals?*** (Ones.)

- ***Raise a hand to tell me which decimal has the most ones.***
  (Possible responses: Neither, they have equal ones; they both have 2 ones.)

***That's right. The two decimals have equal ones. So, now we move to the next place value.***

- ***Everyone, tell me in a whisper, what place value should we compare now?*** (Tenths.)

- ***Raise a hand to tell me which decimal has the most tenths.*** (Possible responses: Neither, they have equal tenths; they both have 8 tenths.)

***That's right. The two decimals have equal tenths. So, now we move to the next place value.***

***Everyone, tell me in a whisper:***

- ***What place value should we compare now?*** (Hundredths.)

- ***Which decimal has the most hundredths?*** (2.85)

***That's right, 2.85 has more hundredths than 2.83. This tells us that 2.83 is*** **less than** ***2.85.*** NOTE: Write < in the blank: 2.83 < 2.85.

***We read this statement as, "2.83 is*** **less than** ***2.85." We always read from left to right.***

***In your Student Resource Book, Lesson Sixteen, in the Guided Practice section, part II, you will see two place value charts. Below each chart there are two decimals to*** **compare**. ***Work with your partner to use the first place value chart to*** **compare** ***the first two decimals.***

NOTE: Erase the numbers in the place value chart you drew on your board. Write the decimals 0.59 and 0.52 in it. Below the chart, write 0.59 _____ 0.52. Give students about a minute to compare the two decimals in their own place value charts.

- ***Everyone, tell me in a whisper, which decimal is greater - 0.59 or 0.52?*** (0.59)

- ***Raise your books so I can see which symbol you wrote to*** **compare** ***the two decimals.*** (0.59 > 0.52) NOTE: Write > in the blank.

- ***Raise a hand to tell us how to read that statement.*** (0.59 is greater than 0.52.)

***Work with your partner to use the second place value chart to*** **compare** ***the second two decimals. When you are finished, raise a hand so I can see your***

***comparisons.*** (Students should record the 1.67 and 1.76 in their charts and write < in the blank: 1.67 < 1.76.)

***In your Student Resource Book, Lesson Sixteen, complete the problems under the Guided Practice section, part III.***

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**Summary/Closure:**


### *A. Define Vocabulary Words*

***In your Student Resource Book, Lesson Sixteen, in the Summary/Closure section, there is an activity using today's vocabulary terms. Take a few minutes to complete that activity.***

### *B. Summarize What We Learned Today*

***Let's summarize the skill that we have been working on today. In your Student Resource Book, Lesson Sixteen, in the Summary/Closure section, write and solve two sample problems about* comparing *decimals. Use words, pictures, and numbers to explain how you* compared *the decimals. These problems will be your "help sheet" when you need to remember how to do these types of problems in the future.***

***Raise a hand to share your notes with the class.*** (Answers will vary.)



### *C. Apply Skill*

NOTE: On the board or dry-erase board, write 0.62 _____ 0.6 for students to see.

***Raise a hand to tell me:***

- ***How can you use grid paper to model 0.62?***
  (Shade 62 grid squares or shade 6 columns and 2 squares.)

- ***How can you use grid paper to model 0.6?***
  (Shade 6 columns or shade 60 squares.)

- ***How can you use those models to* compare *0.62 and 0.6?***
  (Possible response: Identify which model has more grid squares shaded.)

***Let's use place values to* compare *these two decimals. Copy the decimals from my board onto your dry-erase board. Use the correct symbol in between the decimals to show which decimal is greater.***

- ***Hold up your dry-erase board when you are finished so I can see your answer.*** (0.62 > 0.6)

- ***On the count of three, everyone read your answer out loud. One, two, three!*** (0.62 is greater than 0.6.)

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**Fact Practice:**

7 mins.

Operation: Subtraction

Fact Activity: _____

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**Count/Record Tokens:**

5 mins.

Count and record tokens in the Student Resource Book.

**Lesson Objective:** Identify the greater or lesser of two decimals.

# Vocabulary Box

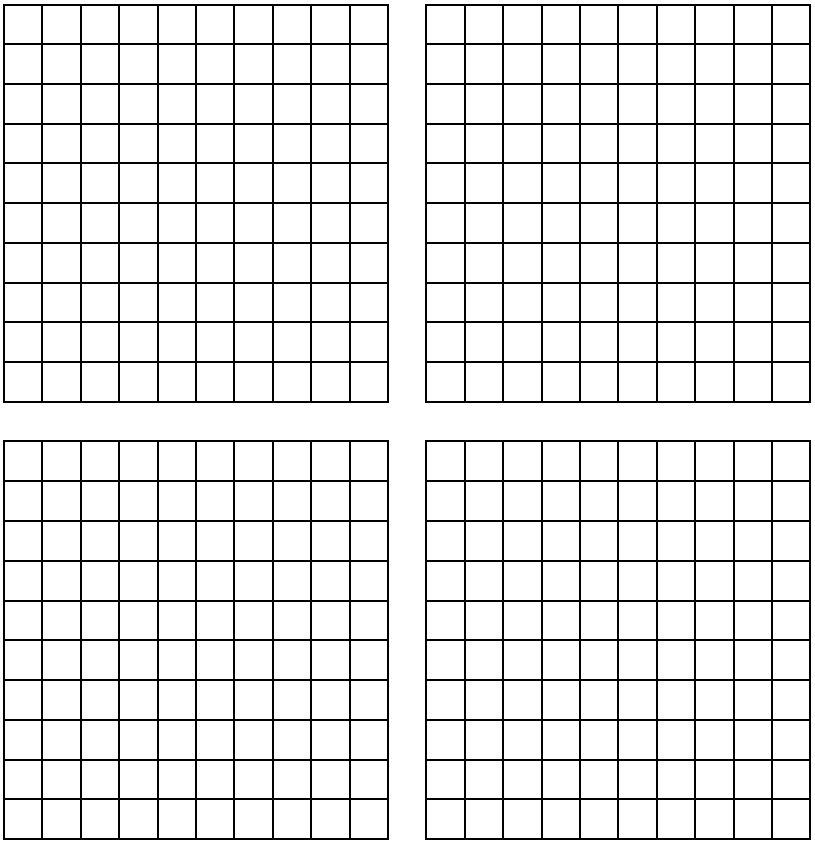
**compare** — To tell how numbers are alike or different. Examples: Tim is shorter than Amy; $10 is more than $5; Ben and Mei are the same age.

**greater than** — A phrase used to tell which number is larger. Examples: 4 is greater than 2; 1.6 is greater than 1.5. The symbol > is used to show that a number is greater than another number: 4 > 2; 1.6 > 1.5.

**less than** — A phrase used to tell which number is smaller. Examples: 3 is less than 7; 0.5 is less than 0.9. The symbol < is used to show that a number is less than another number: 3 < 7; 0.5 < 0.9.

**equal to** — A phrase used to tell which numbers have the same value. Examples: 6 is equal to 6.00; $\frac{3}{10}$ is equal to 0.3. The symbol = is used to show that a number is equal to another number: 6 = 6.00; $\frac{3}{10}$ = 0.3.



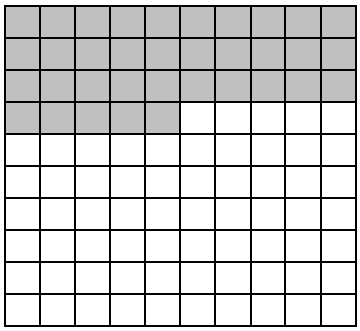


# lesson sixteen – teacher resource sheet

## Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

**I.** Shade each grid to model the decimal written below it. Then use your shaded grids to compare the two decimals. Write <, >, or = in the blank. NOTE: *Check students' models.*



0.35 *(<)* 0.5

**II.** Use each place value chart to compare the two decimals written below it. Write <, >, or = in each blank.

1.

| ones | . | tenths | hundredths |
|---|---|---|---|
| | | | |

0.59 _____ 0.52
*(>)*

2.

| ones | . | tenths | hundredths |
|---|---|---|---|
| | | | |

1.67 _____ 1.76
*(<)*

**III.** Compare each pair of decimals. Write <, >, or = in each blank. Please work independently.

1. 0.4 _____ 0.46 *(<)*
2. 1.06 _____ 1.6 *(<)*
3. 3.74 _____ 3.47 *(>)*
4. 0.12 _____ 0.2 *(<)*
5. 0.2 _____ 0.20 *(=)*
6. 1.55 _____ 1.45 *(>)*
7. 0.01 _____ 0.1 *(<)*
8. 0.95 _____ 0.59 *(>)*

# Summary/Closure

## A. Vocabulary Words

Directions: Read each statement. Write *T* if the statement is true. Write *F* if it is false. If the statement is false, rewrite it so that it is true.

1. Twenty-five–hundredths is greater than sixteen-hundredths.
   *(T)*

2. Seven-tenths is less than four-tenths.
   *(F; seven-tenths is greater than four-tenths.)*

3. Eighty-hundredths is equal to eight-tenths.
   *(T)*

4. Thirty-nine–hundredths is greater than four-tenths.
   *(F; thirty-nine–hundredths is less than four-tenths.)*

5. Nine-tenths is equal to nineteen-hundredths.
   *(F; nine-tenths is greater than nineteen-hundredths.)*

D 1 6

## B. Summarize What We Learned Today

Write two problems that involve comparing two different pairs of decimals. Use words or pictures to explain how to compare the decimals. You will use these notes and explanations as a personal reminder. *(Answers will vary.)*

NOTE: *Encourage students to use a different symbol for each problem.*

# lesson sixteen – student resource sheet

**Lesson Objective:** Identify the greater or lesser of two decimals.

## Vocabulary Box

**compare** — To tell how numbers are alike or different. Examples: Tim is shorter than Amy; $10 is more than $5; Ben and Mei are the same age.

**greater than** — A phrase used to tell which number is larger. Examples: 4 is greater than 2; 1.6 is greater than 1.5. The symbol > is used to show that a number is greater than another number: $4 > 2$; $1.6 > 1.5$.

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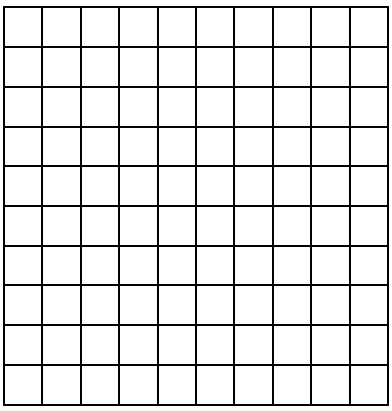

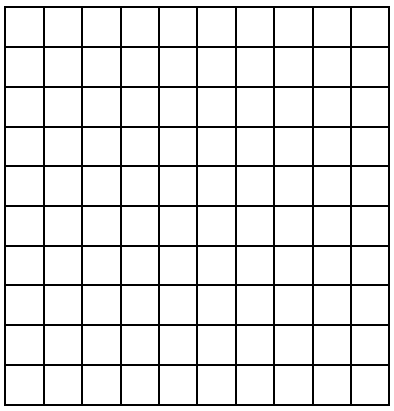

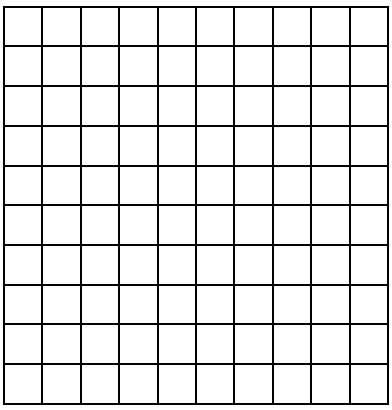

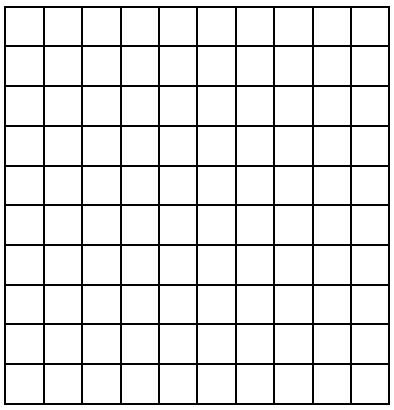

# Guided Practice

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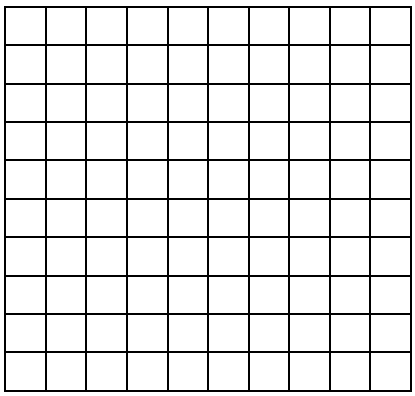
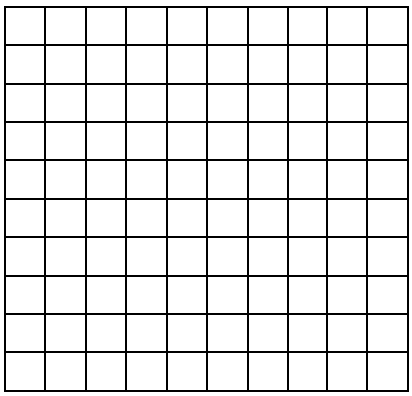


0.35 _____ 0.5



D 1 6

**II.** Use each place value chart to compare the two decimals written below it. Write <, >, or = in each blank.

1.

| ones | . | tenths | hundredths |
|---|---|---|---|
| | | | |

0.59 _____ 0.52

2.

| ones | . | tenths | hundredths |
|---|---|---|---|
| | | | |

1.67 _____ 1.76

**III.** Compare each pair of decimals. Write <, >, or = in each blank. You can use grid paper models or place value to compare. Choose the method you prefer.

1. 0.4 _____ 0.46
2. 1.06 _____ 1.6
3. 3.74 _____ 3.47
4. 0.12 _____ 0.2
5. 0.2 _____ 0.20
6. 1.55 _____ 1.45
7. 0.01 _____ 0.1
8. 0.95 _____ 0.59

## Summary/Closure

**A. Vocabulary Words**

Directions: Read each statement. Write *T* if the statement is true. Write *F* if it is false. If the statement is false, rewrite it so that it is true.

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2. Seven-tenths is less than four-tenths.

3. Eighty-hundredths is equal to eight-tenths.

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