Overview

Lesson Plan #1 Title: Ace it! Lesson Eighteen

Attached Supporting Documents for Plan #1:

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

- Add and subtract fractions and mixed numbers having unlike denominators and write the answers in simplest forms.

Lesson Plan #2 Title: Ace it! Lesson Twenty

Attached Supporting Documents for Plan #2:

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

- Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Lesson Plan #3 Title: Ace it! Lesson Twenty-two

Attached Supporting Documents for Plan #3:

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

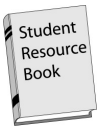
- Round decimals to the nearest whole number, tenth or hundredth.

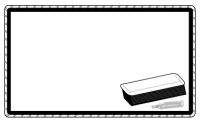
lesson eighteen

LESSON OBJECTIVE:
Add and subtract fractions and mixed numbers having unlike denominators, and write answers in simplest form.

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 18)
- ❑ Dry-erase boards and dry-erase markers
- ❑ Inch rulers

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:

- numerator
- denominator
- least common denominator
- equivalent fraction

proper fraction – A fraction with a numerator that is less than the denominator.
Examples: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{4}{7}$, and $\frac{9}{12}$.

improper fraction – A fraction with a numerator that is greater than or equal to the denominator. Examples: $\frac{3}{2}$, $\frac{8}{4}$, $\frac{7}{7}$, and $\frac{20}{12}$.

mixed number — A number that contains a whole number part and a fraction part. Example: $2\frac{3}{4}$ is a mixed number. 2 is the whole number part and $\frac{3}{4}$ is the fraction part.

simplest form – For any fraction, the form in which 1 is the only common factor of the numerator and denominator. Example: $\frac{23}{24}$ or $\frac{5}{6}$ or $\frac{1}{2}$.

Welcome:


3 mins.

Greet students by name and take attendance.

Introduction:


5 mins.

A. Access Prior Knowledge

NOTE: Write $\frac{3}{8} + \frac{4}{8} =$ _____ on your board.

Everyone, tell me in a whisper:

- ***How are these two fractions the same?***
  (They have the same denominator.)
- ***When we add like fractions, or fractions with the same denominator, do we add the numerators or the denominators?***
  (Numerators.)

- ***On your dry-erase board, add these two fractions. When you are finished, hold up your dry-erase board.*** ($\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$)

NOTE: Write $\frac{7}{10} - \frac{4}{10} =$ _____ on your board.

- ***Everyone tell me in a whisper: Are these two fractions like fractions?***
  (Yes.)

- ***On your dry-erase board, subtract these two fractions. When you are finished, hold up your dry-erase board.*** ($\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$)

B. Explain Connection to New Skill

You already know how to add and subtract like fractions, or fractions that have the same denominator. You also know how to find the least common denominator of two fractions. You can use those skills to add and subtract unlike fractions, or fractions that have different denominators.

NOTE: Write $\frac{1}{2}$ and $\frac{1}{3}$ on your board.

- ***Raise a hand to tell me the least common denominator of $\frac{1}{2}$ and $\frac{1}{3}$.***
  (6)

C. State Lesson Objective

***During today's lesson, we will learn how to add and subtract fractions and* mixed numbers *having unlike denominators and write the answers in* simplest form.**

Direct Skill Instruction and Guided Practice:

In your Student Resource Book, Lesson Eighteen, 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.

NOTE: Write these numbers on your board: $1\frac{2}{3}$, $\frac{3}{4}$, $\frac{10}{5}$, $\frac{6}{8}$, $\frac{9}{4}$, 2.

Raise a hand to answer:

- ***Which numbers on my board are* proper fractions*?*** ($\frac{3}{4}$ and $\frac{6}{8}$.)
- ***Why are they* proper fractions*?***
  (The numerator is less than the denominator.)
- ***Which numbers are* improper fractions*?*** ($\frac{10}{5}$ and $\frac{9}{4}$.)
- ***Why are they* improper fractions*?***
  (The numerator is greater than the denominator.)

Correct!

- ***On the count of three, everyone tell me which number is a*** **mixed number.** ***One, two, three!*** ($1\frac{2}{3}$)

- ***Raise a hand to explain why it is a*** **mixed number.**
  (It uses a whole number and a fraction to name an amount.)

- ***Raise a hand to tell me what it means when a fraction is in*** **simplest form.** (That 1 is the only common factor of its numerator and denominator.)

Good! You have already learned how to use multiplication and division to write fractions in **simplest form.** ***Let's quickly review the process.***

Raise a hand to answer:

- NOTE: Point to $\frac{3}{4}$ on your board. ***Is this fraction in*** **simplest form*?*** (Yes.)

- NOTE: Point to $\frac{6}{8}$ on your dry-erase board. ***Is this fraction in*** **simplest form*?*** (No.)

- ***What is the greatest common factor of 6 and 8?*** (2)

So, we need to divide the numerator and denominator of this fraction by 2 to write it in **simplest form.**

- ***Everyone, on your dry-erase board, write*** $\frac{6}{8}$ ***in*** **simplest form.** ($\frac{3}{4}$)

We all know how to write fractions, whole numbers, and **mixed numbers** ***in different ways. Now, we will use these skills to help us add and subtract unlike fractions. We can use an inch ruler to model and solve addition and subtraction problems with unlike denominators.***
NOTE: Divide the students into pairs. Give each student an inch ruler. On your board, write $\frac{3}{4} + \frac{1}{2} =$ _____.
To model the addition problem, using an inch ruler, we need to complete three steps. As I describe each step, work with a partner to complete the step. Use only one dry-erase board.

- ***Draw a line segment that is $\frac{3}{4}$ of an inch long.*** (A correctly measured line.)

- ***Start at the end of that segment, and draw another segment that is $\frac{1}{2}$ of an inch long.*** (A line measuring $1\frac{1}{4}$ inches total.)

- ***Measure the length of the combined segments.*** ($1\frac{1}{4}$ inches.)

By using the inch ruler, we can see that the entire segment measures $1\frac{1}{4}$ inches. So, the sum of $\frac{3}{4}$ plus $\frac{1}{2}$ equals $1\frac{1}{4}$.

NOTE: Complete the addition problem on your board.

Now let's use our rulers to model a subtraction problem.

NOTE: On your board, write $\frac{7}{8} - \frac{1}{2} =$ _____.

We complete the same basic steps, except we take away part of the segment. Work with your partner, again, to follow the steps.

On your dry-erase board:

- ***Draw a line segment that is $\frac{7}{8}$ of an inch long.***
  (A correctly measured line.)

- ***Measure $\frac{1}{2}$ of an inch of that segment and erase it.***
  (A line measuring $\frac{3}{8}$ inch.)

- ***Measure the length of the remaining segment.*** ($\frac{3}{8}$ inch.)

We can see that the final segment is $\frac{3}{8}$ of an inch long. So, the difference of $\frac{7}{8}$ and $\frac{1}{2}$ equals $\frac{3}{8}$.

NOTE: Complete the subtraction problem on your board.

We can also use equivalent fractions to add and subtract unlike fractions. Let's look at the first problem we solved with our ruler models.

- ***Everyone, on your dry-erase board, write*** $\frac{3}{4}$ ***plus*** $\frac{1}{2}$. $(\frac{3}{4} + \frac{1}{2})$

To add these fractions, they need to have the same denominator. We can use their least common denominator to change the unlike fractions to like fractions.

- ***Raise a hand to tell me the least common denominator of these two fractions.*** (4)

Correct! Three-fourths already has that denominator. We need to change only $\frac{1}{2}$. NOTE: On your board, write $\frac{1}{2} = \frac{\ }{4}$

Everyone, tell me in a whisper:

- ***What times the denominator, 2, equals 4?*** (2)
- ***What is 2 times the numerator, 1?*** (2)
- ***So what numerator should we write in this fraction?*** (2)
  NOTE: Write the numerator on your board.

Using the fraction $\frac{2}{4}$***, we can rewrite our original addition problem.***

NOTE: Write $\frac{3}{4} + \frac{2}{4} =$ _____ on your board.

- ***Everyone whisper the answer: Can we add these two fractions, now?*** (Yes.)
- ***On your dry-erase board, complete the addition problem. Write your answer in*** **simplest form**. ***Remember that if you get an*** **improper fraction** ***for your answer, you should change it to a*** **mixed number.** $(1\frac{1}{4})$
- ***Raise a hand to share and explain your answer.*** ($1\frac{1}{4}$; the original sum was $\frac{5}{4}$, which equals one whole plus $\frac{1}{4}$.)

Notice that this is the same as the sum you found using your ruler. Now, let's use equivalent fractions to subtract **mixed numbers.**

NOTE: On your board, write $2\frac{2}{3} - 1\frac{1}{9} =$ _____.

- ***Show me a "thumbs up" if you think we can subtract these two fractions as they are written.*** (Students should not put up their thumbs)

Raise a hand to answer:

- ***Why can't we subtract these*** **mixed numbers** ***the way they are written?*** (Possible answer: Their fraction parts have unlike denominators.)
- ***What should we use to change the*** **mixed numbers** ***so they have like denominators?*** (The least common denominator.)
- ***What is the least common denominator of*** $\frac{2}{3}$ ***and*** $\frac{1}{9}$***?*** (9)
- ***So, which*** **mixed number** ***do we need to rewrite?*** ($2\frac{2}{3}$)

For this problem, we keep the whole number, 2, the same. Only the fraction portion needs to be rewritten.

- ***On your dry-erase board, rewrite*** $2\frac{2}{3}$ ***using the least common denominator, 9.*** ($2\frac{6}{9}$)
- ***Raise a hand to share and explain your answer.*** ($2\frac{6}{9}$. Possible explanation: to change $\frac{2}{3}$ into a fraction with 9 as a denominator, I multiplied the denominator and the numerator by 3. This gave me $\frac{6}{9}$ for the fraction. But, we also have 2 as a whole number. So, the final answer is $2\frac{6}{9}$.)

NOTE: On your board, below the original problem, write $2\frac{6}{9} - 1\frac{1}{9} =$___.

Everyone whisper the answer:

- ***What is 2 minus 1?*** (1)
- ***What is $\frac{6}{9}$ minus $\frac{1}{9}$?*** ($\frac{5}{9}$)
- ***So what is the answer to our subtraction problem?*** ($1\frac{5}{9}$)
  NOTE: Write the answer on your board.
- ***Is the answer in* simplest form*?*** (Yes.)

Let's try another problem.

NOTE: On your board, write $3\frac{1}{8} - 1\frac{1}{2} =$ ____.

Raise a hand to tell me:

- ***What is the least common denominator of the two fraction parts?*** (8)
- ***What is $\frac{1}{2}$ written as a fraction with a denominator of 8?*** ($\frac{4}{8}$)

NOTE: Below the original problem on your board,
write $3\frac{1}{8} - 1\frac{4}{8} =$ ___.

Now our* mixed numbers *have like denominators. But we still can't subtract them because $\frac{1}{8}$ is less than $\frac{4}{8}$. We have to trade from the whole number part of $3\frac{1}{8}$.

NOTE: On your board write $3\frac{1}{8} = 3 + \frac{1}{8} = 2 + 1 + \frac{1}{8}$.

I have rewritten the fraction to show that $3\frac{1}{8}$ is the same as 2 plus 1 plus $\frac{1}{8}$. We trade one whole number to change the fraction part of the number.

- ***Raise a hand to tell me what one whole number is equivalent to in eighths.*** $(\frac{8}{8})$ NOTE: If students have trouble with this, write $\frac{1}{1}=\frac{8}{8}$ on your board to demonstrate.

If we trade one whole, or $\frac{8}{8}$, and add it to the fraction part, we get 2 and $\frac{9}{8}$. NOTE: As you explain this, demonstrate the step on your board by writing $2 + 1 + \frac{1}{8} = 2 + \frac{8}{8} + \frac{1}{8} = 2\frac{9}{8}$.

- ***On your dry-erase board, rewrite the subtraction problem using the new mixed fraction, 2 $\frac{9}{8}$.*** $(2\frac{9}{8} - 1\frac{4}{8})$

Everyone tell me in a whisper:

- ***What is 2 minus 1?*** (1)
- ***What is $\frac{9}{8}$ minus $\frac{4}{8}$?*** $(\frac{5}{8})$
- ***So, what is the answer to this subtraction problem?*** $(1\ \frac{5}{8})$
- ***Is the answer in*** **simplest form*****?*** (Yes.)

Good job! In your Student Resource Book, please complete the problems in the Guided Practice section for Lesson Eighteen.

Summary/Closure:

A. Define Vocabulary Words

In your Student Resource Book, Lesson Eighteen, in the Summary/Closure section, there are some multiple choice questions using today's vocabulary terms. Take a few minutes to answer the questions.

B. Summarize What We Learned Today

Let's summarize the skill that we have been working on today. In your Student Resource Book, Lesson Eighteen, in the Summary/Closure

section, write two sample problems to show what you learned, today. These problems will be your "help sheet" when you need to remember how to do these types of problems in the future.

C. Apply Skill

On your dry-erase board:

- *Write* $3\frac{7}{8}$ *minus* $1\frac{1}{4}$. $(3\frac{7}{8} - 1\frac{1}{4})$
- *Rewrite the problem using the least common denominator of* $\frac{7}{8}$ *and* $\frac{1}{4}$. $(3\frac{7}{8} - 1\frac{2}{8})$
- *Complete the subtraction problem. Remember to write your answer in* **simplest form**. *When you are finished, raise your board so I can see your answer.* $(2\frac{5}{8})$

Fact Practice:

7 mins.

Operation: Addition

Fact Activity: _____

Count/Record Tokens:

5 mins.

Count and record tokens in the Student Resource Book.

lesson eighteen – teacher resource sheet

Lesson Objective: Add and subtract fractions and mixed numbers having unlike denominators, and write answers in simplest form.

Vocabulary Box

proper fraction – A fraction with a numerator that is less than the denominator. Examples: $\frac{1}{2}, \frac{3}{4}, \frac{4}{7}$, and $\frac{9}{12}$.

improper fraction – A fraction with a numerator that is greater than or equal to the denominator. Examples: $\frac{3}{2}, \frac{8}{4}, \frac{7}{7}$, and $\frac{20}{12}$.

mixed number — A number that contains a whole number part and a fraction part. Example: $2\frac{3}{4}$ is a mixed number. 2 is the whole number part and $\frac{3}{4}$ is the fraction part.

simplest form – For any fraction, the form in which 1 is the only common factor of the numerator and denominator. Example: $\frac{23}{24}$ or $\frac{5}{6}$ or $\frac{1}{2}$.

Guided Practice

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

I. Use a ruler to draw line segments to model each problem. Then solve each problem. You may work with a partner.

1. $\frac{1}{4} + \frac{1}{2}$ *($\frac{3}{4}$ with a correctly drawn line segment.)*

2. $\frac{5}{8} - \frac{1}{4}$ *($\frac{3}{8}$ with a correctly drawn line segment.)*

3. $2\frac{1}{2} + 1\frac{5}{8}$ *($4\frac{1}{8}$ with a correctly drawn line segment.)*

4. $3\frac{1}{4} - 1\frac{1}{2}$ *($1\frac{3}{4}$ with a correctly drawn line segment.)*

II. Use equivalent fractions to solve each problem. Remember to find the least common denominator first, and write your answers in simplest form. You may work with a partner.

1. $\frac{1}{3} + \frac{5}{6}$ *($1\frac{1}{6}$)*

2. $3\frac{1}{2} - 1\frac{1}{5}$ *($2\frac{3}{10}$)*

III. Use equivalent fractions to solve each problem. Remember to write your answers in simplest form. Please work independently.

1. $4\frac{1}{12} - 2\frac{3}{4}$ *($1\frac{1}{3}$)*

2. $1\frac{7}{9} + 2\frac{1}{4}$ *($4\frac{1}{36}$)*

lesson eighteen – teacher resource sheet

Summary/Closure

A. Vocabulary Words

Directions: Circle the correct answer(s) for each question.

1. Which of the following are improper fractions? *(A and B)*

   A. $\frac{4}{3}$ B. $\frac{3}{3}$ C. $\frac{2}{3}$

2. Which of the following are mixed numbers? *(C)*

   A. $\frac{1}{4}$ B. 4 C. $5\frac{3}{4}$

3. Which of the following are in simplest form? *(B)*

   A. $\frac{2}{6}$ B. $3\frac{5}{6}$ C. $1\frac{3}{6}$

4. Which of the following are proper fractions? *(B and C)*

   A. $\frac{8}{8}$ B. $\frac{4}{8}$ C. $\frac{5}{8}$

B. Summarize What We Learned Today

Write and solve two sample problems. Your first problem should involve adding fractions with unlike denominators. Your second problem should involve subtracting mixed numbers with unlike denominators. Use words, numbers, or pictures to explain how you solved each problem and wrote the answer in simplest form. You will use these explanations as a personal reminder. *(Answers will vary.)*

lesson eighteen – student resource sheet

Lesson Objective: Add and subtract fractions and mixed numbers having unlike denominators, and write answers in simplest form.

Vocabulary Box

proper fraction – A fraction with a numerator that is less than the denominator. Examples: $\frac{1}{2}, \frac{3}{4}, \frac{4}{7}$, and $\frac{9}{12}$.

improper fraction – A fraction with a numerator that is greater than or equal to the denominator. Examples: $\frac{3}{2}, \frac{8}{4}, \frac{7}{7}$, and $\frac{20}{12}$.

mixed number — A number that contains a whole number part and a fraction part. Example: $2\frac{3}{4}$ is a mixed number. 2 is the whole number part and $\frac{3}{4}$ is the fraction part.

simplest form – For any fraction, the form in which 1 is the only common factor of the numerator and denominator. Example: $\frac{23}{24}$ or $\frac{5}{6}$ or $\frac{1}{2}$.

Guided Practice

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

I. Use a ruler to draw line segments to model each problem. Then solve each problem. You may work with a partner.

1. $\frac{1}{4}+\frac{1}{2}$

2. $\frac{5}{8}-\frac{1}{4}$

3. $2\frac{1}{2} + 1\frac{5}{8}$

4. $3\frac{1}{4} - 1\frac{1}{2}$

II. Use equivalent fractions to solve each problem. Remember to find the least common denominator first, and write your answers in simplest form. You may work with a partner.

1. $\frac{1}{3} + \frac{5}{6}$

2. $3\frac{1}{2} - 1\frac{1}{5}$

III. Use equivalent fractions to solve each problem. Remember to write your answers in simplest form. Please work independently.

1. $4\frac{1}{12} - 2\frac{3}{4}$

2. $1\frac{7}{9} + 2\frac{1}{4}$

lesson eighteen – student resource sheet

Summary/Closure

A. Vocabulary Words

Directions: Circle the correct answer(s) for each question.

1. Which of the following are improper fractions?

   A. $\frac{4}{3}$ B. $\frac{3}{3}$ C. $\frac{2}{3}$

2. Which of the following are mixed numbers?

   A. $\frac{1}{4}$ B. 4 C. $5\frac{3}{4}$

3. Which of the following are in simplest form?

   A. $\frac{2}{6}$ B. $3\frac{5}{6}$ C. $1\frac{3}{6}$

4. Which of the following are proper fractions?

   A. $\frac{8}{8}$ B. $\frac{4}{8}$ C. $\frac{5}{8}$

B. Summarize What We Learned Today

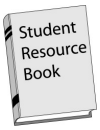
Write and solve two sample problems. Your first problem should involve adding fractions with unlike denominators. Your second problem should involve subtracting mixed numbers with unlike denominators. Use words, numbers, or pictures to explain how you solved each problem and wrote the answer in simplest form. You will use these explanations as a personal reminder.

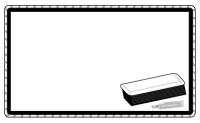
lesson twenty

LESSON OBJECTIVE:
Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

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 20)
- ❑ Dry-erase boards and dry-erase markers
- ❑ Colored pencils, 1 blue and 1 yellow per student pair
- ❑ Plain 8 1/2 x 11 paper, 1 sheet per student pair

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:

- numerator
- denominator
- improper fraction
- mixed number
- whole number
- simplest form

product – The result of two numbers being multiplied; the answer to a multiplication problem. Example: In 3 x 5 = 15, 15 is the product of 3 and 5.

factor – One of two or more numbers that are multiplied to get a product. Example: In 2 x 4 = 8, 2 and 4 are factors of 8.

Welcome:


3 mins.

Greet students by name and take attendance.

Introduction:


5 mins.

A. Access Prior Knowledge

NOTE: On your board, draw a rectangle and draw lines to divide it into four equal parts. Shade the first part.

Everyone, tell me in a whisper:

- ***How many equal parts does this rectangle have?*** (4)
- ***How many of those parts are shaded?*** (1)
- ***What fraction names the shaded part of the whole rectangle?*** $(\frac{1}{4})$

NOTE: Shade the second part of the rectangle.

- ***Raise a hand to tell me the fraction that names the shaded part of the rectangle, now.*** $(\frac{2}{4})$
- ***On the count of three, everyone tell me the simplest form of*** $\frac{2}{4}$***. One, two, three!*** $(\frac{1}{2})$

NOTE: Shade the rest of the rectangle.

- ***Raise a hand to tell me what fraction names the shaded part of the rectangle, now.*** $(\frac{4}{4})$

- ***On the count of three, tell me what*** $\frac{4}{4}$ ***equals as a whole number.***

  One, two, three! (1)

B. Explain Connection to New Skill

You already know how to use fractions to name a part of a whole, and you know how to write fractions in simplest form. You also know how to multiply whole numbers.

- ***On the count of three, everyone tell me the answer to the multiplication problem 5 times 4. One, two, three!*** (20)

- ***Raise a hand to tell me what*** $\frac{2}{6}$ ***is in simplest form.*** ($\frac{1}{3}$)

C. State Lesson Objective

During today's lesson, we will learn how to multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Direct Skill Instruction and Guided Practice:

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

- ***Raise a hand to give us the definition of*** **product.**
  (The answer to a multiplication problem.)

- ***Raise a hand to give us the definition of*** **factor.**
  (A number that is multiplied by another number to find a product.)

NOTE: On your board, write $\frac{1}{2} \times \frac{1}{4}$ = _____

When I snap my fingers, everyone answer:

- ***What are the*** **factors** ***in this multiplication problem?***

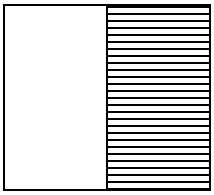
  NOTE: Wait a few moments, then snap. ($\frac{1}{2}$ and $\frac{1}{4}$.)

- ***What do we need to find in order to solve this problem?***
  NOTE: Wait a few moments, then snap. (The product.)

We can make a model to solve this problem.
NOTE: Divide the class into pairs. Give each pair a sheet of blank 8 1/2 x 11 paper and yellow and blue colored pencils. As you explain how to model the problem described below, demonstrate each step with your own model.

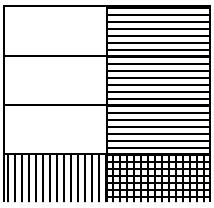
First, we need to model $\frac{1}{2}$.

- ***Fold your sheet of paper, vertically, into two equal parts. Shade one part yellow.*** (Example below.)



Now we need to model $\frac{1}{4}$.

- ***Fold your sheet of paper, horizontally, into four equal parts. Shade one of those parts blue.*** (Example below.)



Notice that some of your yellow and blue shading overlaps to make green. That green part of the total sheet of paper shows the **product** ***of the two fractions you modeled.***

Everyone, tell me in a whisper:

- ***How many parts does your whole sheet of paper have now?*** (Eight.)

- ***How many parts are green?*** (One.)

- ***What fraction names the green part of the whole sheet of paper?*** $(\frac{1}{8})$

- ***So what is*** $\frac{1}{2}$ ***times*** $\frac{1}{4}$***?*** $(\frac{1}{8})$

Correct! Instead of using models, we can use math to multiply fractions.

NOTE: Write $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ on your board.

- ***Raise a hand to tell me what two numbers were multiplied to get the numerator of the*** **product.** (1 x 1 = 1)

- ***Raise a hand to tell me how we got 8 for the denominator of the*** **product.** (2 x 4 = 8)

NOTE: On your board, write $\frac{3}{4} \times \frac{1}{6}$ = _____.

When using math to multiply fractions, we follow three steps. First, multiply the numerators. Next, multiply the denominators. Finally, we write the **product** ***in simplest form.*** NOTE: You may want to record these steps on a poster or large sheet of paper before class. Add the title, How to Multiply Fractions. Leave the steps displayed for students to refer to as they work independently.

- ***When I snap my fingers, tell me the*** **product** ***of the numerators.***
  NOTE: Wait a few moments, then snap. (3)
  NOTE: Record the numerator, 3, on your board.

- ***When I snap my fingers, tell me the*** **product** ***of the denominators.***
  NOTE: Wait a few moments, then snap. (24)
  NOTE: Record the denominator, 24, on your board.

- ***Nod yes if you think the*** **product** ***is in simplest form.***
  (Students should not nod.)

To finish the problem, write the **product** ***in simplest form.***

- ***Raise a hand to tell me the greatest number that divides evenly into both 3 and 24.*** (3)

Correct! We divide the numerator and denominator by 3.

- ***On your dry-erase board, write the* product *in simplest form. When you are finished, hold up your dry-erase board.*** $(\frac{1}{8})$

You can use the same steps to multiply a whole number by a fraction. You just need to add one extra step to the beginning of the process. First, write the whole number as an improper fraction. Then, multiply the numerators. Multiply the denominators, next. And finally, write the* product *in simplest from. Remember, if the* product *is an improper fraction, write it as a whole number or mixed number in simplest form.

Let's use these steps to solve a problem together.

NOTE: On your board, write $4 \times \frac{2}{5} =$ _____

First, we write the whole number, 4, as an improper fraction.

- ***Raise a hand to tell me how to write 4 as an improper fraction.*** (4 over 1) NOTE: On your dry-erase board, below the original problem, write $\frac{4}{1} \times \frac{2}{5} =$ _____.

Now, we multiply the fractions in the usual way.

Everyone, tell me in a whisper:

- ***What is the* product *of the numerators?*** (8)
  NOTE: Record the numerator, 8, on your board.

- ***What is the* product *of the denominators?*** (5)
  NOTE: Record the denominator, 5, on your board.

- ***Is this* product *in simplest form?*** (No.)

So, we need to write $\frac{8}{5}$ ***as a whole number or mixed number.***

- ***On your dry-erase board write*** $\frac{8}{5}$ ***as a whole number or mixed number. Hold up your dry-erase board when you are finished.*** $(1\frac{3}{5})$

Everyone, tell me in a whisper:

- ***Is the* product *now in simplest form?*** (Yes.)

- *So what is 4 times $\frac{2}{5}$?* ($1\frac{3}{5}$)

Let's put all your multiplication skills into practice. In your Student Resource Book, complete the problems in the Guided Practice section for Lesson Twenty. NOTE: Walk around as the students are solving the problems and give assistance, as needed.

Summary/Closure:

10 mins.

A. Define Vocabulary Words

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

B. Summarize What We Learned Today

Let's summarize the skills that we have been working on today. In your Student Resource Book, Lesson Twenty, in the Summary/Closure section, write two sample problems that involve multiplying mixed fractions. Make sure one of your samples includes a fraction times a whole number. Then use pictures, words, or numbers to explain how you found each **product** ***and wrote it in simplest form. These problems will be your "help sheet" when you need to remember how to do these types of problems in the future.***

C. Apply Skill

- *On your dry-erase board, write $\frac{4}{9}$ times $\frac{5}{6}$.* ($\frac{4}{9} \times \frac{5}{6}$)
- ***Raise a hand to tell us the first step for completing this problem.*** (Multiply the numerators.)
- ***Complete this step on your dry-erase board.*** (Put a 20 in the numerator position of the product.)
- ***Raise a hand to tell me the next step for completing this problem.*** (Multiply the denominators.)
- ***On your dry-erase board, complete this step and finish the problem by writing your answer in simplest form.*** ($\frac{10}{27}$)

- ***When my finger touches the board, everyone read the problem and the* product.** ($\frac{4}{9} \times \frac{5}{6} = \frac{20}{54} = \frac{10}{27}$)

Fact Practice:

7 mins.

Operation: Multiplication

Fact Activity: _____

Count/Record Tokens:

5 mins.

Count and record tokens in the Student Resource Book.

lesson twenty

Lesson Objective: Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Vocabulary Box

product – The result of two numbers being multiplied; the answer to a multiplication problem. Example: In 3 x 5 = 15, 15 is the product of 3 and 5.

factor – One of two or more numbers that are multiplied to get a product. Example: In 2 x 4 = 8, 2 and 4 are factors of 8.

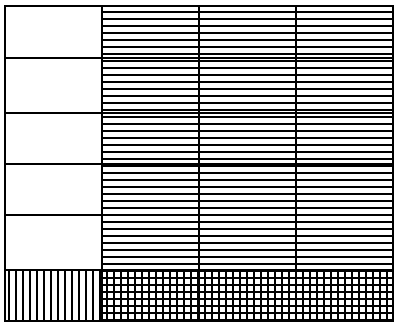
Guided Practice

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

I. Work with a partner to shade the model and solve each multiplication problem. Use yellow shading to model the first factor. Use blue shading to model the second factor. Then, use the model to find the product and write it in simplest form.

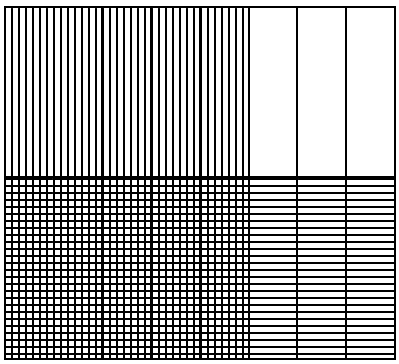
1. $\frac{3}{4} \times \frac{1}{6}$

$(\frac{1}{8})$



2. $\frac{5}{8} \times \frac{1}{2}$

$(\frac{5}{16})$



II. Work with a partner to find each product. Write your answers in simplest form.

1. $\frac{2}{5} \times \frac{3}{4}$ *($\frac{3}{10}$)*

2. $\frac{7}{10} \times \frac{1}{6}$ *($\frac{7}{60}$)*

3. $3 \times \frac{1}{4}$ *($\frac{3}{4}$)*

4. $5 \times \frac{3}{8}$ *($1\frac{7}{8}$)*

III. Work independently to find each product. Write your answers in simplest form.

1. $\frac{1}{2} \times \frac{9}{12}$ *($\frac{3}{8}$)*

2. $\frac{8}{9} \times \frac{1}{4}$ *($\frac{2}{9}$)*

3. $\frac{2}{3} \times 12$ *(8)*

4. $2 \times \frac{3}{5}$ *($1\frac{1}{5}$)*

Summary/Closure

A. Vocabulary Words

Directions: Complete the sentences to describe each multiplication problem.

1. $\frac{2}{5} \times \frac{5}{6} = \frac{10}{30}$

The factors are _____ and _____. ($\frac{2}{5}$; $\frac{5}{6}$)

The product is _____. ($\frac{10}{30}$)

The product in simplest form is _____. ($\frac{1}{3}$)

2. $\frac{7}{8} \times \frac{4}{5} = \frac{28}{40}$

The factors are _____ and _____. ($\frac{7}{8}$; $\frac{4}{5}$)

The product is _____. ($\frac{28}{40}$)

The product in simplest form is _____. ($\frac{7}{10}$)

B. Summarize What We Learned Today

Write two sample problems that involve multiplying mixed fractions. Make sure one of your samples includes a fraction times a whole number. Then use pictures, words, or numbers to explain how you found each product and wrote it in simplest form. You will use these explanations as a personal reminder. *(Answers will vary.)*

lesson twenty

Lesson Objective: Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Vocabulary Box

product – The result of two numbers being multiplied together; the answer to a multiplication problem. Example: In 3 x 5 = 15, 15 is the product of 3 and 5.

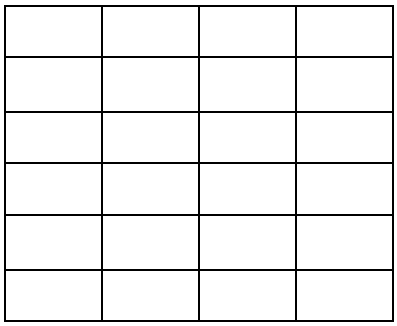
factor – One of two or more numbers that are multiplied to get a product. Example: In 2 x 4 = 8, 2 and 4 are factors of 8.

Guided Practice

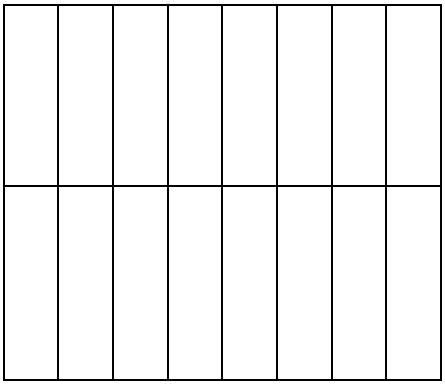
Directions: Complete the following practice problems. Your teacher will review the answers. Make sure you show all your work.

I. Work with a partner to shade the model and solve each multiplication problem. Use yellow shading to model the first factor. Use blue shading to model the second factor. Then use the model to find the product and write it in simplest form.

1. $\frac{3}{4} \times \frac{1}{6}$



2. $\frac{5}{8} \times \frac{1}{2}$



lesson twenty

II. Work with a partner to find each product. Write your answers in simplest form.

1. $\frac{2}{5} \times \frac{3}{4}$

2. $\frac{7}{10} \times \frac{1}{6}$

3. $3 \times \frac{1}{4}$

4. $5 \times \frac{3}{8}$

III. Work independently to find each product. Write your answers in simplest form.

1. $\frac{1}{2} \times \frac{9}{12}$

2. $\frac{8}{9} \times \frac{1}{4}$

3. $\frac{2}{3} \times 12$

4. $2 \times \frac{3}{5}$

Summary/Closure

A. Vocabulary Words

Directions: Complete the sentences to describe each multiplication problem.

1. $\frac{2}{5} \times \frac{5}{6} = \frac{10}{30}$

The factors are _____ and _____.

The product is _____.

The product in simplest form is _____.

2. $\frac{7}{8} \times \frac{4}{5} = \frac{28}{40}$

The factors are _____ and _____.

The product is _____.

The product in simplest form is _____.

B. Summarize What We Learned Today

Write two sample problems that involve multiplying mixed fractions. Make sure one of your samples includes a fraction times a whole number. Then use pictures, words, or numbers to explain how you found each product and wrote it in simplest form. You will use these explanations as a personal reminder.

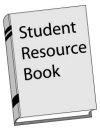
lesson twenty

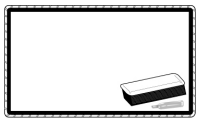
lesson twenty-two

LESSON OBJECTIVE:
Round decimals to the nearest whole number, tenth, or hundredth.

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 22)
- ❑ 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:

- decimal
- whole number
- comparison terms: greater than, less than, and equal to
- round

tenths – The largest decimal place value; 1 whole = 10 tenths. Example: In the decimal 2.739, the digit 7 is in the tenths place. It has a value of 7 tenths, or 0.7.

hundredths – The second largest decimal place value; 1 whole = 100 hundredths. Example: In the decimal 2.739, the digit 3 is in the hundredths place. It has a value of 3 hundredths, or 0.03.

thousandths – The third largest decimal place value; 1 whole = 1,000 thousandths. Example: In the decimal 2.739, the digit 9 is in the thousandths place. It has a value of 9 thousandths, or 0.009.

Welcome:


3 mins.

Greet students by name and take attendance.

Introduction:


5 mins.

A. Access Prior Knowledge

NOTE**:** On your board, draw a number line from zero to 10, and label its intervals in ones. Plot 7 on the number line**.** Point to the 7.

I want to round 7 to the nearest 10. NOTE: Point to zero and 10 on the number line.

So, my two choices are round to zero or round to 10.

Everyone, tell me in a whisper:

- ***Is 7 closer to zero or 10?*** (10)
- ***So, what is 7 rounded to the nearest 10?*** (10)

NOTE: Erase the labels on your number line and change them to 20 and 30 with intervals of 1. Plot 25 on the number line.

Raise a hand to answer:

- ***What number did I plot on the number line?*** (25)
- ***I want to round 25 to the nearest 10. What are my two rounding choices?*** (20 and 30)
- ***Is 25 closer to 20 or to 30?*** (Neither.)

That's right! Twenty-five is halfway between 20 and 30. It is not closer to either rounding choice. When a number is halfway between two rounding choices, always round up to the greater number.

- ***On the count of three, tell me what 25 is, rounded to the nearest ten. One, two, three!*** (30)

B. Explain Connection to New Skill

You already know how to round whole numbers. You also know about decimal place values. You can use facts you already know and skills you already have to round decimals to the nearest **tenth** ***or*** **hundredth.**

- ***Raise a hand to tell me how a decimal is different from a whole number.*** (Possible responses: they have different place values; a decimal has digits to the right of a decimal point; and a decimal can name amounts less than 1.)
  NOTE: Take several responses.

C. State Lesson Objective

During today's lesson, we will learn how to round decimals.

Direct Skill Instruction and Guided Practice:

In your Student Resource Book, Lesson Twenty-Two, 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.

NOTE: On your board, write the decimal 5.183.

Everyone, tell me in a whisper:

- ***What kind of number is this?*** (A decimal.)
- ***Which digit is in the ones place?*** (5)
- ***Which digit is in the*** **tenths** ***place?*** (1)

Correct! The digit 1 has a value of $\frac{1}{10}$.

Raise a hand to tell me:

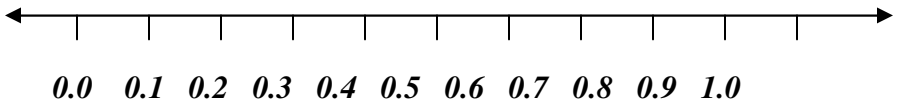
- ***Which digit is in the*** **hundredths** ***place and what is its value?*** (8; 8 hundredths.)
- ***Which digit is in the*** **thousandths** ***place and what is its value?*** (3; 3 thousandths.)

- ***Which digit has the greatest value?*** (5)

- ***Which digit has the least value?*** (3)

Just like whole numbers, each digit in a decimal has its own value. Now let's try rounding some decimals. We can use number lines to help us.

NOTE: Show a prepared dry-erase board with a number line drawn and labeled in tenths like the one shown below. Plot the number 0.7 on the number line.



Take a look at this number line. It is divided into* tenths*, so each number is written to the* tenths *place. I have plotted the decimal 0.7 on the number line, and I want to round it to the nearest one, or whole number.

Everyone, tell me in a whisper:

- ***What are my two rounding choices for this problem?*** (zero, 1)

- ***Is 0.7 closer to zero or 1?*** (1)

- ***So, what is 0.7 rounded to the nearest one?*** (1)

NOTE: Erase the plotted 0.7 from the number line and plot 0.5.

Raise a hand to answer:

- ***What decimal did I plot on this number line?*** (0.5)

- ***I want to round this number to the nearest one. What are my two rounding choices?*** (0, 1)

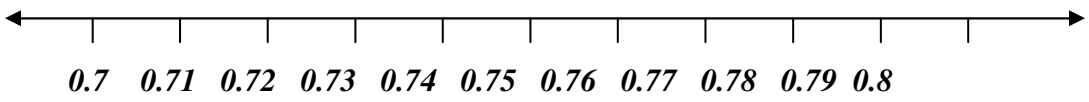
- ***Is 0.5 closer to zero or 1?*** (Neither.)

- ***What do we do when a number we want to round is halfway between two rounding choices***? (Round up to the greater number.)

Good!

- ***When I snap my fingers, everyone tell me the answer. What is 0.5 rounded to the nearest one?*** NOTE: Wait a moment, then snap. (1)

NOTE: Show another prepared dry-erase board with a number line drawn and labeled in hundredths like the one shown below. Plot the number 0.76.



Each number on this number line is written to the* hundredths *place.

- ***Raise a hand to tell me the decimal I plotted on this number line.*** (0.76)

Correct, I plotted 0.76, or 76* hundredths*. I want to round this number to the nearest* tenth*. That means I want the decimal to have only one place value to the right of the decimal point. As it is written now, it has two places to the right of the decimal point.

Everyone, tell me in a whisper:

- ***What are my two rounding choices?*** (0.7, 0.8)
- ***Is 0.76 closer to 0.7 or to 0.8?*** (0.8)
- ***So what is 0.76 rounded to the nearest* tenth*?*** (0.8)

NOTE: Erase the plotted 0.76 from the number line and plot 0.75.

- ***When I snap my fingers, tell me what number I plotted.***
  NOTE: Wait a moment, then snap. (0.75)

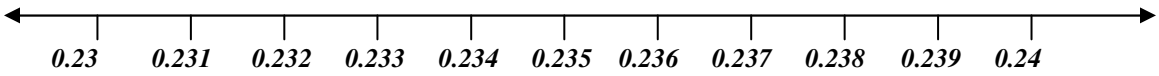
Raise a hand to answer:

- ***What are my two choices if I want to round this number to the nearest* tenth*?*** (0.7, 0.8)
- ***Is 0.75 closer to 0.7 or to 0.8?*** (Neither.)
- ***What do we do when a number we want to round is halfway between our two rounding choices*?** (Round up to the greater number.)

Correct!

- ***Everyone whisper the answer: What is 0.75 rounded to the nearest* tenth*?*** (0.8)

NOTE: Show another prepared dry-erase board with a number line drawn and labeled with thousandth intervals as shown below. Plot the number 0.238.



- ***On the count of three, tell me the decimal place value used on this number line. One, two, three!*** (Thousandths.)

Everyone, tell me in a whisper:

- ***What decimal did I plot on this number line?*** (0.238)
- ***I want to round this number to the nearest* hundredth*. What are my two rounding choices?*** (0.23, 0.24)
- ***Is 0.238 closer to 0.23 or to 0.24?*** (0.24)
- ***So what is 0.238 rounded to the nearest* hundredth*?*** (0.24)

You did an excellent job using the number line to round decimals! Now, instead of using number lines, we can use place values and the rounding rules. NOTE: You may want to write the following rounding rules on a poster board or large sheet of paper before class. Then, you can leave the rules displayed for students to refer to as they work independently. On your board, write the decimal 2.64.

I want to round this decimal to the nearest one (or whole number). The first step is to circle the digit in the place value to which you want to round.

- ***Raise a hand to tell me which digit to circle.*** (2) NOTE: Circle the 2.

Step two is to underline the digit to its right.

- ***On the count of three, tell me in a whisper which digit to underline. One, two, three!*** (6) NOTE: Underline the 6.

The final step is to compare your underlined digit to 5. If the underlined digit is less than 5, round down. That means you leave your circled digit as it is. Then, change all the digits to its right to zeros. If the underlined digit is greater than or equal to 5, round up. Add 1 to your circled digit. Then, change all the digits to its right to zeros. Do not change any digits to the left of your circled digit.

- ***Show me a "thumbs up" if the underlined digit is less than 5.*** (Students should not put up their thumbs.)

- ***Show me a "thumbs up' if the underlined digit is greater than 5.*** (Students should put up their thumbs.)

Correct! The underlined digit is greater than 5, so we should round up. Change the circled digit to the next greatest digit and change all the digits to its right to zeros. Remember, any zeros written at the end of a decimal do not change its value.

- ***On the count of three, everyone tell me what 2.64 is rounded to the nearest one. One, two, three!*** (3) NOTE: Complete this step on your board. Show that 3.00 has the same value as 3.

Let's use these steps to round another decimal.

- ***On your dry-erase board, write the decimal 0.638.***

I want you to round this decimal to the nearest **tenth.**

Everyone tell me in a whisper:

  - ***Which digit should we circle?*** (6)

  - ***Which digit should we underline?*** (3)

  - ***To what number should we compare the underlined digit?*** (5)

Excellent!

- ***On your dry-erase board, follow the steps to round the decimal to the nearest*** **tenth.** ***When you are finished, hold up your dry-erase board for me to see.*** (0.6) NOTE: If students need extra help, direct them to work in pairs or complete each step as a class.

In your Student Resource Book, please complete the problems under the Guided Practice section, Lesson Twenty-Two.

Summary/Closure:

10 mins.

A. Define Vocabulary Words

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

E 2

B. Summarize What We Learned Today

Let's summarize the skill that we have been working on, today. In your Student Resource Book, Lesson Twenty-Two, in the Summary/Closure section, write three sample problems to show what we did, today. These problems will be your "help sheet" when you need to remember how to do these types of problems in the future.

C. Apply Skill

NOTE: After each statement below, ask students to hold up their dry-erase boards for you to check.

On your dry-erase board:

- ***Write the decimal 2.475.***
- ***Round this decimal to the nearest one.*** (2)
- ***Round the decimal to the nearest*** **tenth.** (2.5)
- ***Round the decimal to the nearest*** **hundredth.** (2.48)

Fact Practice:

7 mins.

Operation: Subtraction

Fact Activity: _____

Count/Record Tokens:

5 mins.

Count and record tokens in the Student Resource Book.

lesson twenty-two

Lesson Objective: Round decimals to the nearest whole number, tenth, or hundredth.

Vocabulary Box

tenths – The largest decimal place value; 1 whole = 10 tenths. Example: In the decimal 2.739, the digit 7 is in the tenths place. It has a value of 7 tenths, or 0.7.

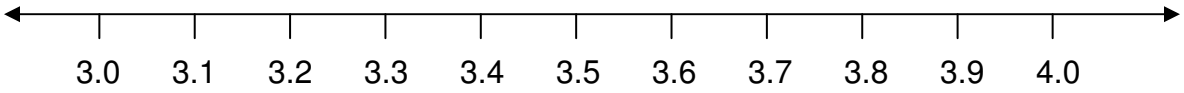
hundredths – The second largest decimal place value; 1 whole = 100 hundredths. Example: In the decimal 2.739, the digit 3 is in the hundredths place. It has a value of 3 hundredths, or 0.03.

thousandths – The third largest decimal place value; 1 whole = 1,000 thousandths. Example: In the decimal 2.739, the digit 9 is in the thousandths place. It has a value of 9 thousandths, or 0.009.

Guided Practice

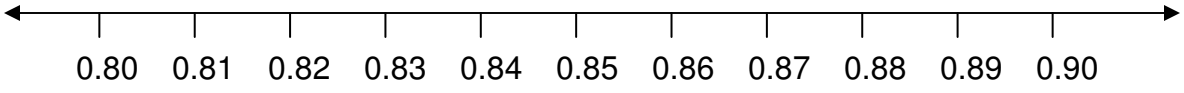
Directions: Complete the following practice problems. Your teacher will review the answers. Make sure you show all your work.

I. Use the number lines to round each decimal. You may work with a partner.



Round to the nearest one or whole number:

1. 3.8 *(4)*
2. 3.5 *(4)*
3. 3.3 *(3)*

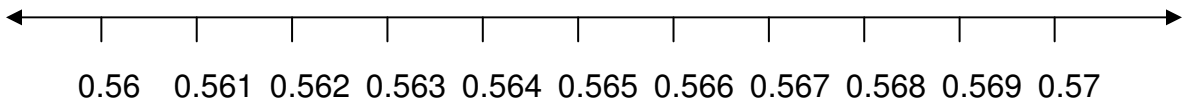


Round to the nearest tenth:

1. 0.85 *(0.9)*

2. 0.82 *(0.8)*

3. 0.86 *(0.9)*



Round to the nearest hundredth:

1. 0.564 *(0.56)*

2. 0.569 *(0.57)*

3. 0.565 *(0.57)*

II. Use place value and rounding rules to round each decimal. You may work with a partner.

Round to the nearest one, or whole number:

1. 0.72 *(1)*

2. 4.29 *(4)*

3. 12.541 *(13)*

Round to the nearest tenth:

1. 3.65 *(3.7)*

2. 0.291 *(0.3)*

3. 4.058 *(4.1)*

III. Use place value and rounding rules to round each decimal to the nearest hundredth. Please work independently.

1. 0.162 *(0.16)*

2. 5.374 *(5.37)*

3. 9.058 *(9.06)*

Summary/Closure

A. Vocabulary Words

Directions: Complete the chart by writing the place value of the bold digit in each decimal. Then, write the value of that digit. The first problem has been completed as an example.

	Number	Place Value	Value
1.	7.**3**6	tenths	0.3
2.	1**5**.79	*(ones)*	*(5)*
3.	0.2**8**	*(hundredths)*	*(0.08)*
4.	0.64**2**	*(thousandths)*	*(0.002)*
5.	31.6**9**	*(hundredths)*	*(0.09)*
6.	1**7**.4	*(ones)*	*(7)*
7.	35.8**1**4	*(hundredths)*	*(0.01)*
8.	2.04**6**	*(thousandths)*	*(0.006)*

B. Summarize What We Learned Today

Write a decimal in which the greatest place value is ones and the least place value is thousandths. Then, explain how to round that decimal to the nearest one, tenth, and hundredth. You will use this explanation as a personal reminder. *(Answers will vary.)*

Lesson Objective: Round decimals to the nearest whole number, tenth, or hundredth.

E 2

Vocabulary Box

tenths – The largest decimal place value; 1 whole = 10 tenths. Example: In the decimal 2.739, the digit 7 is in the tenths place. It has a value of 7 tenths, or 0.7.

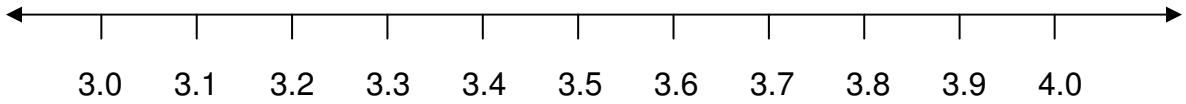
hundredths – The second largest decimal place value; 1 whole = 100 hundredths. Example: In the decimal 2.739, the digit 3 is in the hundredths place. It has a value of 3 hundredths, or 0.03.

thousandths – The third largest decimal place value; 1 whole = 1,000 thousandths. Example: In the decimal 2.739, the digit 9 is in the thousandths place. It has a value of 9 thousandths, or 0.009.

Guided Practice

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

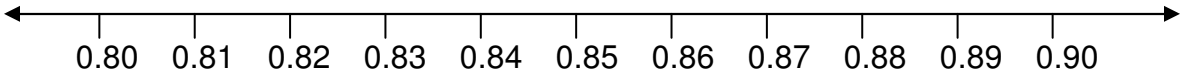
I. Use the number lines to round each decimal. You may work with a partner.



Round to the nearest one or whole number:

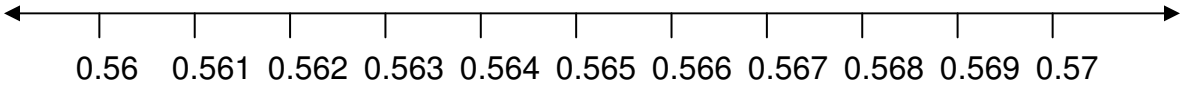
1. 3.8
2. 3.5
3. 3.3

lesson twenty-two



Round to the nearest tenth:

1. 0.85
2. 0.82
3. 0.86



Round to the nearest hundredth:

1. 0.564
2. 0.569
3. 0.565

II. Use place value and rounding rules to round each decimal. You may work with a partner.

Round to the nearest one, or whole number:

1. 0.72
2. 4.29
3. 12.541

Round to the nearest tenth:

1. 3.65
2. 0.291
3. 4.058

III. Use place value and rounding rules to round each decimal to the nearest hundredth. Please work independently.

1. 0.162

2. 5.374

3. 9.058

Summary/Closure

A. Vocabulary Words

Directions: Complete the chart by writing the place value of the bold digit in each decimal. Then, write the value of that digit. The first problem has been completed as an example.

	Number	Place Value	Value
1.	7.**3**6	tenths	0.3
2.	1**5**.79		
3.	0.2**8**		
4.	0.64**2**		
5.	31.6**9**		
6.	1**7**.4		
7.	35.8**1**4		
8.	2.04**6**		

B. Summarize What We Learned Today

Write a decimal in which the greatest place value is ones and the least place value is thousandths. Then, explain how to round that decimal to the nearest one, tenth, and hundredth. You will use this explanation as a personal reminder.

lesson twenty-two