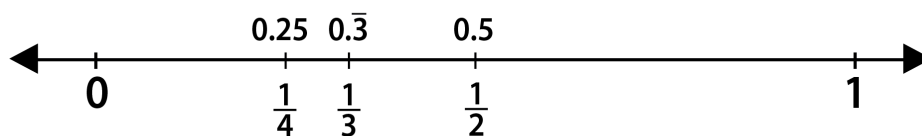


Lesson 2: Fractions and Decimals (3 Days)

☐ Getting Started

It's time to explore the fascinating connection between fractions and decimals. Have you ever wondered how a fraction like $\frac{1}{2}$ becomes 0.5 or why some decimals seem to go on forever? In this lesson, you'll learn how to change fractions into decimals using long division, spot the difference between terminating and repeating decimals, and even figure out how to turn those tricky repeating decimals back into fractions.

You'll also have the chance to fill out some Interactive Notebook Pages to keep track of each step and strategy you learn. These will be your personal review sheets to help you remember how everything works.



Stuff You Need

- calculator (kit)
- Interactive Notebook

Ideas to Think About

- What determines the type of decimal that a fraction will produce?
- How can understanding the connection between fractions and decimals help you in real-life situations?

Things to Know

- A **terminating decimal** stops after a certain number of digits. (ex: 0.5)
- A **repeating decimal** has a pattern that goes on forever. (ex: 0.3333333)
- Use a bar over the repeating number(s) to indicate the repeating pattern.
- To convert a fraction into a decimal, you divide the numerator by the denominator.
- To convert a terminating decimal into a fraction, you write the decimal as a fraction and simplify.
- To convert a repeating decimal into a fraction, you follow these four steps:
 1. Set the decimal as x ,
 2. Multiply to move the repeating digits,
 3. Subtract one x from both sides, and
 4. Solve for x .

Activities

☐ Activity 1: Changing Fractions to Decimals - Interactive Notebook

Have you ever wondered what happens when you turn a fraction into a decimal? Fractions and decimals are just two different ways of showing the same thing—a part of a whole. Today, you are going to learn how to convert fractions into decimals using long division. You'll see how some fractions "stop" (terminate) while others "keep going" (repeat). Watch the following video to see how this works. Don't forget to take notes on the activity pages titled "Changing Fractions to Decimals Notes" and store them in your Interactive Notebook when you are finished.



Changing Fractions to Decimals

www.beyondthepage.com/link/12505/

Fun Tip: How to Predict If a Decimal Will Terminate or Repeat

Before you divide a fraction, you can predict whether its decimal form will terminate (end) or repeat (keep going forever). All you have to do is look at the prime factorization of the denominator — after the fraction is fully simplified.

The Rule:

- If the denominator (in simplest form) has only 2 and/or 5 as prime factors → the decimal will terminate.
- If the denominator has any other prime factor (like 3, 7, 11, etc.) → the decimal will repeat.

Will it Terminate or Repeat?

Example 1	Example 2
FRACTION: $\frac{3}{40}$ Step 1 → Simplify the fraction (<i>it's already simplified</i>). Step 2 → Find the prime factors of 40: $2 \times 2 \times 2 \times 5$ Since there are only 2s and 5s, the decimal will terminate. Let's check: $3 \div 4 = 0.075$ It terminates.	FRACTION: $\frac{2}{9}$ Step 1 → Simplify the fraction (<i>it's already simplified</i>). Step 2 → Find the prime factors of 9: 3×3 Since there is a 3 (not just 2 or 5), the decimal will repeat. Let's check: $2 \div 9 = 0.222...$ It repeats.

Now you can look at a fraction and know what to expect—before ever touching a calculator. Make your own predictions on the activity page titled "Terminating or Repeating."

☐ Activity 2: Changing Fractions to Decimals Practice

Now, it's your turn to practice this skill. For the first four problems on the activity page titled "Changing Fractions to Decimals" use long-division to solve the problem. You may use a calculator for problems 5-8.

Day 2

☐ Activity 3: Repeating Decimals

In the last activity, you learned that some decimals stop, like 0.5 or 0.75—we call these terminating decimals because they end after a certain number of digits. But others, like 0.3333... or 0.252525..., keep repeating forever. These are called repeating decimals.

Repeating decimals follow a pattern. Instead of writing out all the repeating numbers, we use a special bar notation (a horizontal line) over the digits that repeat. See the example to the right:

0.3333...	is written as	$0.\bar{3}$
0.252525...	is written as	$0.\overline{25}$
0.7121212...	is written as	$0.7\overline{12}$

There are two main types of repeating decimals:

1. Simple Repeating Decimals (Start Repeating Immediately)

These are decimals where the repeating pattern starts right after the decimal point. Did you notice how the bar is drawn only over the repeating part?

0.4444...	written as	$0.\bar{4}$
0.818181...	written as	$0.\overline{81}$
0.727272...	written as	$0.\overline{72}$

2. Delayed Repeating Decimals (Start Repeating After a Few Digits)

Sometimes, a decimal doesn't start repeating right away. The repeating pattern might begin after the first or second decimal place.

0.166666...	written as	$0.1\bar{6}$
0.833333...	written as	$0.8\bar{3}$
0.7121212...	written as	$0.7\overline{12}$

The bar only goes over the digits that repeat—NOT over the whole decimal!

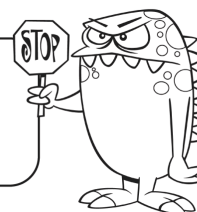
Let's practice this skill on the activity page titled "Changing Fractions to Decimals - Part 2."

☐ Activity 4: Terminating Decimals to Fractions

In this activity, you will be reviewing how to convert decimals into fractions. You've seen decimals like 0.12 or 0.6 before, and you know these can also be expressed as fractions. Decimals and fractions are simply two ways of representing the same value. By the end of this review, you'll be able to confidently convert any terminating decimal into its equivalent fraction.

In Activity 1, you learned about terminating decimals. What are terminating decimals? A terminating decimal is a decimal number that stops after a certain number of digits. For example:

0.12 stops after the 2
0.6 stops after the 6



These are different from repeating decimals, which you will learn more about tomorrow.

Turning a decimal into a fraction is all about place value. Let's break it down into steps:

Turning a Decimal into a Fraction

Step 1
Write the decimal as a fraction.

The digits in the decimal become the numerator (the top number). The place value tells you the denominator (the bottom number).

Examples:

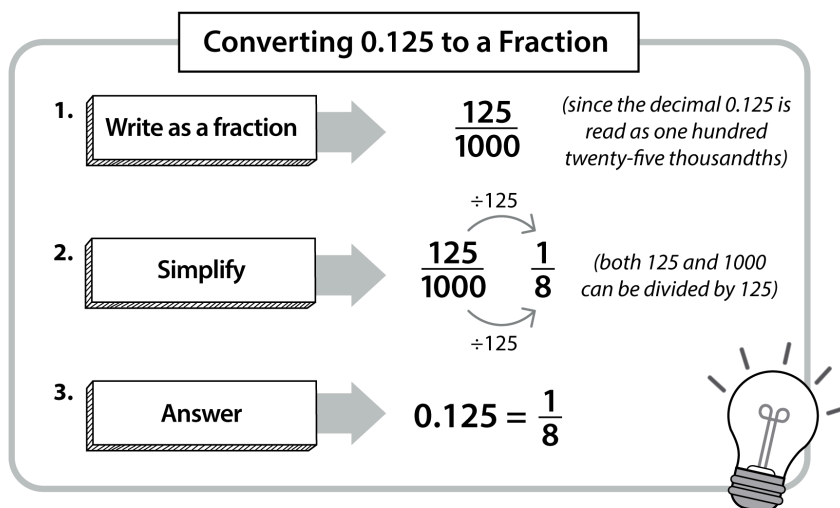
0.12 The decimal 0.12 is read as "twelve hundredths," so the fraction is: $\frac{12}{100}$	0.6 The decimal 0.6 is read as "six tenths," so the fraction is: $\frac{6}{10}$
--	---

Use the greatest common factor (GCF) to simplify your fraction.

Examples:

$\frac{12}{100}$ Both 12 and 100 can be divided by 4. $\frac{12}{100} \xrightarrow{\div 4} \frac{3}{25}$	$\frac{6}{10}$ Both 6 and 10 can be divided by 2. $\frac{6}{10} \xrightarrow{\div 2} \frac{3}{5}$
---	--

Soon, it will be your turn to practice! Follow these steps. Start by identifying the place value of the decimal to determine the denominator, then write the decimal as a fraction with that denominator. Don't forget to simplify your fraction by dividing the numerator and denominator by their greatest common factor (GCF). Simplification is the final step to ensure your fraction is in its simplest form. Let's try one more example together.



Now it's your turn. Grab your pencil and complete the activity page "Terminating Decimals to Fractions." Remember to simplify your fractions.

Day 3

☐ Activity 5: Repeating Decimals to Fractions

You know that some decimals go on forever but did you know there is a secret formula to turn them into fractions? Today, you're diving into the world of repeating decimals.

For example, decimals like:

$0.\bar{3}$ $0.\bar{17}$

How do we transform a repeating decimal that never stops into a fraction?

You will use a special method to "catch" these repeating patterns and express them as fractions. Watch the following video to learn step-by-step how to turn repeating decimals into fractions. Don't forget to take notes on the page titled "Repeating Decimals to Fractions Notes" and store it in your Interactive Notebook when you are finished.

**Repeating Decimals to Fractions**www.beyondthepage.com/link/12506/

Now it's your turn to practice this skill. Complete the problems on the activity sheet titled, "Repeating Decimals to Fractions."

☐ **Activity 6: Review Quiz**

You will complete the "Review Quiz - Lessons 1 and 2." This review practices skills that you've learned in the first two lessons of this unit. In your answers, be sure to simplify fractions if needed and include unit labels. Use scratch paper if more room is needed to solve a problem.

Wrapping Up

You've learned how to convert fractions into decimals, identify terminating and repeating decimals, and even turn repeating decimals back into fractions. These skills are important building blocks for understanding how numbers work together in math and everyday life.

Next, you'll explore the properties of exponents, which will give you powerful tools to simplify and solve problems involving powers of numbers. Get ready to take your math skills to the next level—great things are ahead!

☐ **Life Application: Fractions & Decimals Matching Game (Optional)**

If you would like some extra practice, play the game using the following link.

**Fractions & Decimals Matching Game**www.beyondthepage.com/link/12507/**Learning Gates**

Take the [Learning Gates quiz](#) for this lesson.



Changing Fractions to Decimals Notes

Directions: Fill in the blanks. Pause the video if you need more time to write.

1 What Does It Mean to Divide a Fraction?

Every fraction is a _____ problem waiting to happen! For example:
 $\frac{3}{4}$ means _____ $\div$ _____. The _____ (the top number) is divided by the _____ (the bottom number).

When you divide, you'll either get:

- A _____ decimal – a decimal that stops after a certain number of digits.
- A _____ decimal – a decimal with a pattern that goes on forever.

2 Let's Try a Terminating Decimal

Let's convert $\frac{3}{4}$ into a decimal.

Divide:

$$\begin{array}{r} .75 \\ 4 \overline{) 3.00} \\ \underline{-28} \\ 20 \end{array}$$

So, $\frac{3}{4} = 0.75$

This is called a _____ decimal because it ends with a _____ of _____.

3 Let's Try a Repeating Decimal

Let's convert $\frac{1}{3}$ into a decimal.

Divide:

$$\begin{array}{r} .333 \\ 3 \overline{) 1.000} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

So, $\frac{1}{3} = 0.333... = \boxed{}$

When a decimal repeats over and over and over we put a _____ over the number to indicate that it keeps repeating.

Terminating or Repeating

Directions: For each fraction below, predict whether its decimal form will terminate or repeat. First, simplify the fraction (if needed), then look at the prime factorization of the denominator. Circle Terminate or Repeat for each one. You may check your answer by dividing if you want.

1.

Terminate or Repeat? $\frac{5}{16}$

2.

Terminate or Repeat? $\frac{7}{45}$

3.

Terminate or Repeat? $\frac{4}{125}$

4.

Terminate or Repeat? $\frac{11}{18}$

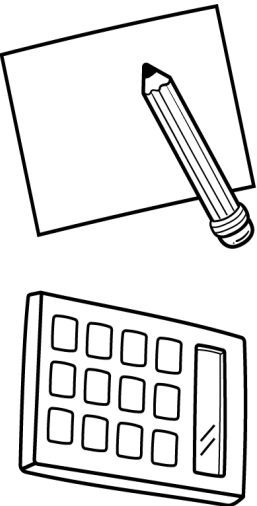
5.

Terminate or Repeat? $\frac{9}{20}$

6.

Terminate or Repeat? $\frac{13}{22}$

CHANGING FRACTIONS TO DECIMALS



Instructions: Use long division to convert the following fractions into decimals. Circle whether it is a terminating or repeating decimal.

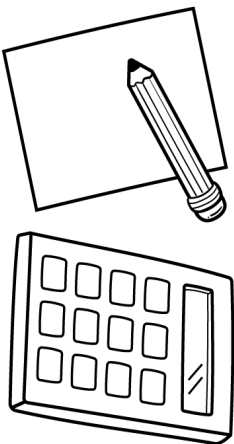
1. $\frac{3}{4}$	2. $\frac{7}{8}$	3. $\frac{2}{3}$	4. $\frac{5}{6}$
Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?

Instructions: Use a calculator to convert the following fractions into decimals. Circle whether it is a terminating or repeating decimal.

5. $\frac{13}{40}$	6. $\frac{7}{24}$	7. $\frac{11}{50}$	8. $\frac{17}{33}$
Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?	Answer: _____ terminating or repeating?

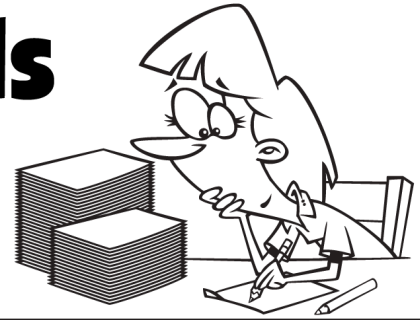
REPEATING DECIMALS

Directions: For the first five problems, write the repeating decimal using bar notation. For the last five problems, divide the fraction to find its decimal form and write it using bar notation. You may use your calculator.



1. 0.444444...	2. 0.585858...	3. 0.727272...	4. 0.71212...	5. 0.166666...
6. $\frac{1}{3}$	7. $\frac{2}{11}$	8. $\frac{5}{6}$	9. $\frac{1}{6}$	10. $\frac{10}{27}$

Terminating Decimals to Fractions



Directions: Convert each decimal into a fraction. Simplify the fraction.

1 0.3 Answer:	2 0.45 Answer:
3 0.08 Answer:	4 0.75 Answer:
5 0.625 Answer:	6 0.50 Answer:



Changing Repeating Decimals to Fractions Notes

page 1

Directions: Fill in the blanks. Pause the video if you need more time to write.

What You Need to Know

Repeating Decimals vs. Terminating Decimals:

- ① Repeating Decimals: A decimal with a digit or group of digits that _____ forever.

Examples:

$$0.\overline{3} = 0.333$$

$$0.\overline{17} = 0.171717...$$

- ② Terminating Decimals: A decimal that _____. (You learned how to handle these in the previous activity.)

- ③ All repeating decimals can be expressed as _____.

- ④ Key Idea: To convert a repeating decimal into a fraction, we'll use algebra.

Step-by-Step Method

Let's break this down into easy steps:

EXAMPLE 1

Converting $0.\overline{3}$ into a Fraction

STEP 1

Let _____ equal the repeating decimal.

$$x = 0.\overline{3}$$



Changing Repeating Decimals to Fractions Notes

page 2

STEP 2

_____ both sides by 10 (Since there's one repeating digit, multiply by 10):

$$10x = 3.\bar{3}$$

STEP 3

_____ the original equation from this new equation.

$$10x - x = 3.\bar{3} - 0.\bar{3}$$

This simplifies to:

$$9x = 3$$

STEP 4

_____ for x.

$$x = \frac{3}{9} = \frac{1}{3}$$

$$\text{So, } 0.\bar{3} = \frac{1}{3}$$

EXAMPLE 2

Converting $0.\bar{17}$ into a Fraction

STEP 1

Let $x = 0.\bar{17}$

STEP 2

Multiply both sides by _____ (since the repeating block has _____ digits).

$$100x = 17.\bar{17}$$



Changing Repeating Decimals to Fractions Notes

page 3

STEP 3 Subtract the original equation from this new equation.

$$100x - x = 17.\overline{17} - 0.\overline{17}$$

This simplifies to:

$$99x = 17$$

STEP 4 Solve for x.

$$x = \frac{17}{99}$$

$$\text{So, } 0.\overline{17} = \frac{17}{99}$$

Review

Let's review the steps 1 more time:

- **STEP 1:** Set the repeating decimal equal to _____.
- **STEP 2:** _____ both sides by 10 (or 100 if there are two repeating numbers like 0.1717....)
- **STEP 3:** _____ the original equation from the new equation.
- **STEP 4:** Solve for x and _____ if needed.

Repeating Decimals to Fractions

Directions: Convert each repeating decimal into a fraction. Show your work for each problem.

1 $0.\overline{4}$ Answer: 	2 $0.\overline{81}$ Answer:
3 $0.\overline{3}$ Answer: 	4 $0.\overline{72}$ Answer:
5 $0.\overline{5}$ Answer: 	6 $0.\overline{6}$ Answer:

Challenge Problems (optional):

7 $0.\overline{327}$ Answer: <i>Hint: Use $x=0.\overline{327}$. Multiply x by 1000 to move the repeating part.</i>	8 $0.\overline{186}$ Answer:
---	--

Review Quiz

Lessons
1 & 2

1. What is the result of adding a positive number and its negative counterpart, such as $5 + (-5) =$
2. A scuba diver descends 20 feet (negative) and then ascends 15 feet (positive). What is the diver's current position relative to the starting point? →
3. What is the rule for multiplying a negative number by a negative number?
4. If the temperature drops 2.5°F per hour for 6 hours, what is the total temperature change? →
5. What is the product of $(-3) \times (-4)$?
6. What is the decimal equivalent of $\frac{3}{4}$?
7. What type of decimal is $0.\bar{3}$?
8. Convert 0.45 into a fraction in its simplest form.
9. Which fraction converts into a terminating decimal?
a) $\frac{1}{3}$ b) $\frac{5}{8}$ c) $\frac{1}{6}$ d) $\frac{4}{9}$
10. Convert $0.\bar{37}$ into a fraction.

Lesson 2: Fractions and Decimals (3 Days)

Getting Started

✿ Ideas to Think About

- What determines the type of decimal that a fraction will produce?
- How can understanding the connection between fractions and decimals help you in real-life situations?



Things to Know

- A **terminating decimal** stops after a certain number of digits. (ex: 0.5)
- A **repeating decimal** has a pattern that goes on forever. (ex: 0.3333333)
- Use a bar over the repeating number(s) to indicate the repeating pattern.
- To convert a fraction into a decimal, you divide the numerator by the denominator.
- To convert a terminating decimal into a fraction, you write the decimal as a fraction and simplify.
- To convert a repeating decimal into a fraction, you follow these four steps:
 1. Set the decimal as x ,
 2. Multiply to move the repeating digits,
 3. Subtract one x from both sides, and
 4. Solve for x .

⦿ Skills

- Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
- Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

Introducing the Lesson

In this lesson, your child will explore the connection between fractions and decimals, focusing on how these two forms of numbers represent parts of a whole. By learning to convert fractions to decimals through long division, he will discover why some decimals terminate (stop after a certain number of digits) and others repeat (have a recurring pattern). He will also learn to reverse the process by converting terminating and repeating decimals back into fractions, using strategies such as understanding place value and solving equations.

This lesson provides a foundation for understanding rational numbers and their representations, helping your child build confidence in working with fractions and decimals in both academic and real-world contexts. Interactive Notebook Pages will be used to reinforce learning and serve as valuable study tools for future topics.

Activities

Activity 1: Changing Fractions to Decimals - Interactive Notebook

In this activity, your child will watch a video and complete an Interactive Notebook page that explores how to convert fractions into decimals using long division. He learns that every fraction is essentially a division problem and discovers how to identify whether the result is a terminating decimal (one that ends) or a repeating decimal (one with a recurring pattern). He also learns how to predict whether a fraction will have a terminating or repeating decimal by examining the prime factors of its denominator. This helps build number sense and deepens understanding of how fractions and decimals are connected. The "Changing Fractions to Decimals Notes" Answer Key is below

Answer Key:

Directions: Fill in the blanks. Pause the video if you need more time to write.

1 What Does It Mean to Divide a Fraction?

Every fraction is a division problem waiting to happen! For example:
 $\frac{3}{4}$ means 3 $\div$ 4. The numerator (the top number) is divided by the denominator (the bottom number).

When you divide, you'll either get:

- A terminating decimal – a decimal that stops after a certain number of digits.
- A repeating decimal – a decimal with a pattern that goes on forever.

2 Let's Try a Terminating Decimal

Let's convert $\frac{3}{4}$ into a decimal.

Divide:
$$\begin{array}{r} .75 \\ 4 \overline{)3.00} \\ \underline{-28} \\ 20 \end{array}$$

So, $\frac{3}{4} = 0.75$

This is called a terminating decimal because it ends with a remainder of 0.

3 Let's Try a Repeating Decimal

Let's convert $\frac{1}{3}$ into a decimal.

Divide:
$$\begin{array}{r} .333 \\ 3 \overline{)1.000} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

So, $\frac{1}{3} = 0.333... = \boxed{0.\overline{3}}$

When a decimal repeats over and over and over we put a line over the number to indicate that it keeps repeating.

Answer Key:

1. Terminate ($16 = 2^4$)
2. Repeat ($45 = 3^2 \times 5$)
3. Terminate ($125 = 5^3$)
4. Repeat ($18 = 2 \times 3^2$)
5. Terminate ($20 = 2^2 \times 5$)
6. Repeat ($22 = 2 \times 11$)

Activity 2: Changing Fractions to Decimals Practice

By working through a variety of problems—some by hand and some with a calculator—your child develops practical skills for recognizing patterns and understanding how fractions and decimals are two ways of representing parts of a whole. This activity builds foundational math skills and introduces concepts he will use in higher-level math and real-world problem-solving.

Answer Key:

CHANGING FRACTIONS TO DECIMALS



1. 0.75 (terminating decimal)
2. 0.875 (terminating decimal)
3. $0.\overline{6}$ (repeating decimal)
4. $0.8\overline{3}$ (repeating decimal)
5. 0.325 (terminating decimal)
6. $0.291\overline{6}$ (repeating decimal)
7. 0.22 (terminating decimal)
8. $0.5\overline{1}$ (repeating decimal)

Day 2**Activity 3: Repeating Decimals**

In this activity, your child explores the concept of repeating decimals and learns how to express them using bar notation. He discovers that while some decimals terminate (such as 0.5 or 0.75), others repeat indefinitely, following a predictable pattern. He practices identifying two types of repeating decimals: those that start repeating immediately and those that have a delayed repeating pattern. He also learns to convert fractions into repeating decimals and properly place the bar over only the repeating digits. The Repeating Decimals Answer Key is below.

Answer Key:

1. 0.444444...	2. 0.585858...	3. 0.727272...	4. 0.71212...	5. 0.166666...
$0.\overline{4}$	$0.5\overline{8}$	$0.7\overline{2}$	$0.7\overline{12}$	$0.1\overline{6}$
6. $\frac{1}{3}$	7. $\frac{2}{11}$	8. $\frac{5}{6}$	9. $\frac{1}{6}$	10. $\frac{10}{27}$
$0.\overline{3}$	$0.1\overline{8}$	$0.8\overline{3}$	$0.1\overline{6}$	$0.3\overline{70}$

Activity 4: Terminating Decimals to Fractions

In this activity, your child reviews how to convert terminating decimals into fractions. He learns that every decimal can be expressed as a fraction by using its place value to determine the denominator. For example, 0.12 becomes $12/100$ because 0.12 is twelve hundredths. He also practices simplifying fractions by finding the greatest common factor (GCF), ensuring his answers are in their simplest form. This activity reinforces the connection between decimals and fractions, helping your child see how these two forms of numbers are related. Tomorrow, he will build on this knowledge by learning about repeating decimals and how to convert them into fractions.

Answer Key:

1. $3/10$

2. $45/100=9/20$

3. $8/100=2/25$

4. $75/100=3/4$

5. $625/1000=5/8$

6. $50/100=1/2$

Day 3**Activity 5: Repeating Decimals to Fractions**

In this activity, your child watches a video to learn how to convert repeating decimals into fractions. He learns that while repeating decimals go on forever, they are still rational numbers that can be expressed as fractions. Using an algebraic approach, your child practices setting up equations, isolating the repeating part, and solving for the fraction equivalent.

Through guided examples and practice problems, your child gains confidence in applying the four key steps: setting the decimal as x , multiplying to move the repeating digits, subtracting one x from both sides, and solving for x . This activity deepens his understanding of rational numbers and prepares him for future lessons on how decimals and fractions are interconnected.

Answer Key:

What You Need to Know	
Repeating Decimals vs. Terminating Decimals:	
①	Repeating Decimals: A decimal with a digit or group of digits that repeat forever.
Examples:	$0.\overline{3} = 0.333$ $0.\overline{17} = 0.171717...$
②	Terminating Decimals: A decimal that ends . (You learned how to handle these in the previous activity.)
③	All repeating decimals can be expressed as fractions .
④	Key Idea: To convert a repeating decimal into a fraction, we'll use algebra.
=====	
Step-by-Step Method	
Let's break this down into easy steps:	
EXAMPLE 1	Converting $0.\overline{3}$ into a Fraction
	STEP 1 Let x equal the repeating decimal.
$x = 0.\overline{3}$	

STEP 2 Multiply both sides by 10 (Since there's one repeating digit, multiply by 10)

$$10x = 3.\bar{3}$$

STEP 3 Subtract the original equation from this new equation.

$$10x - x = 3.\bar{3} - 0.\bar{3}$$

This simplifies to:

$$9x = 3$$

STEP 4 Solve for x.

$$x = \frac{3}{9} = \frac{1}{3}$$

So, $0.\bar{3} = \frac{1}{3}$

EXAMPLE 2 Converting $0.\bar{17}$ into a Fraction

STEP 1 Let $x = 0.\bar{17}$

STEP 2 Multiply both sides by 100 (since the repeating block has two digits).

$$100x = 17.\bar{17}$$

STEP 3 Subtract the original equation from this new equation.

$$100x - x = 17.\bar{17} - 0.\bar{17}$$

This simplifies to:

$$99x = 17$$

STEP 4 Solve for x.

$$x = \frac{17}{99}$$

So, $0.\bar{17} = \frac{17}{99}$

Review

Let's review the steps 1 more time:

- **STEP 1:** Set the repeating decimal equal to x.
- **STEP 2: Multiply** both sides by 10 (or 100 if there are two repeating numbers like $0.\bar{17}$...)
- **STEP 3: Subtract** the original equation from the new equation.
- **STEP 4:** Solve for x and simplify if needed.

Answer Key:

1. $\frac{4}{9}$
2. $\frac{9}{11}$
3. $\frac{1}{3}$
4. $\frac{8}{11}$

5. $\frac{5}{9}$
6. $\frac{2}{3}$
7. Challenge (optional) $\frac{109}{333}$
8. Challenge (optional) $\frac{62}{333}$

Activity 6: Review Quiz

Your child will complete a Review Quiz. This quiz focuses on skills learned in Lessons 1 and 2 and encourages knowledge retention. If your child scores 80% or below on the review quiz for Lessons 1 and 2, don't worry! This is a great opportunity to revisit key concepts and build a stronger foundation. Start by rewatching the instructional videos for each lesson to reinforce the steps and strategies for converting fractions to decimals and vice versa. Encourage your child to review his notes in his Interactive Notebook, focusing on examples and steps he has written down.

Next, have him practice additional problems similar to the ones he struggled with on the quiz, either from his activity pages or by creating new problems together. If simplifying fractions or identifying repeating decimals is a challenge, work through these skills step by step, using a calculator when needed to confirm answers. The goal is to ensure he feels confident and comfortable before moving on to new material.

Answer Key:

1. 0
2. -5 feet
3. Negative x Negative = Positive
4. -15 degrees F
5. 12
6. .75
7. repeating
8. $\frac{9}{20}$
9. B) $\frac{5}{8}$
10. $\frac{37}{99}$

Wrapping Up

In this lesson, your child explored the relationship between fractions and decimals, building a deeper understanding of how these forms of numbers represent parts of a whole. He practiced converting fractions into decimals using long division, learned to distinguish between terminating and repeating decimals, and mastered strategies for converting both types of decimals back into fractions. Through guided practice and interactive activities, he strengthened his number sense and gained valuable skills that will support future work with rational numbers and real-world problem-solving.

Life Application: Fractions & Decimals Matching Game (Optional)

As an option, a link to an online matching game is provided for some extra practice with converting fractions and decimals.

Questions to Discuss

- What is the difference between a terminating decimal and a repeating decimal? *A terminating decimal is a decimal that stops after a certain number of digits, like 0.75. A repeating decimal has a pattern that goes on forever, like 0.333... or $0.3\overline{}$.*
- Can you explain the steps to convert a repeating decimal into a fraction? *(Set the repeating decimal to equal x . Multiply both sides of the equation by a power of 10 that moves the repeating part to the left of the decimal. Subtract the original equation from this new equation to eliminate the repeating part. Solve for x to find the fraction, and simplify if needed.)*

Things to Review

- Review the steps for converting a fraction into a decimal.
- Review the steps for converting a terminating decimal into a fraction.
- Review the steps for converting a repeating decimal into a fraction.