Decimal Unit
4th Grade

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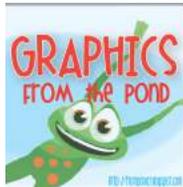
Table of Contents

To The Teacher

Thank you for purchasing this resource! Within it you will find a complete unit for teaching the fourth grade standards for <u>decimals</u> including pre-assessment, content vocabulary, daily warm-ups and exit tickets, daily lessons with student activities, and a post assessment.

While this unit is laid our over a ten day time span do not feel that you must rigidly stick to the timeline. As a teacher you know what is best for your students, and should follow your gut, as some classes may require more time to reach understanding of a concept.

To save on ink and decrease prep time, every page of this unit is created in black and white. To create a more colorful unit print or copy on color paper.

standards

TEKS

4.2E   represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2F   compare and order decimals using concrete and visual models to the hundredths

4.2G   relate decimals to fractions that name tenths and hundredths

4.2H   determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line

CCSS

4.NF.C.6   Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

4.NF.C.7   Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >,=, or <, and justify the conclusions, e.g., by using a visual model.

All About This Unit

This unit is made up of unique elements that can be used independently or together to provide a complete unit of math instruction.

Content Vocabulary

Vocabulary for this <u>decimals</u> unit is included in a few forms.

- Word wall cards make it easy to add your content vocabulary to your word wall
- The word and definition list make a great reference for student math notebooks and teachers alike
  - This list is included completed as well as with blank areas for definitions and examples
- Double-sided word and definition cards are great for review and small group remediation

Pre-Assessment and Student Standard Checklist

To be used an an informal assessment to check students' prior knowledge as well as determine any misconceptions. The data that you gather from this pre-assessment can be recorded on the Student Standards Checklists and used to set student learning goals, form small groups, or partner students based on ability. Checklists fit 11 students per page.

ALL About This Unit

Daily Warm-Ups

Ten days of half-page daily warm-ups are provided along with answer keys. Each day has four standards-based questions for students to think through their learning. A student tracking sheet is also included for students to record their own grow and glow areas. To save paper you may choose to project the warm up each day and have students complete their work in math notebooks.

Exit Tickets

Ten days worth of exit tickets and answer keys, with one question each, are included two to a page for easy copying. Each of the questions is based on how that standard is tested, providing a test bridge and exposing students to test style language. This serves to build familiarity with standardized testing without overwhelming students.

Exit tickets can be checked as a class, or by the teacher. A checklist of questions is included to track how students are doing on their exit tickets.

Assessment

An end of unit assessment is included to check for student mastery on the <u>decimals and fractions</u> standards included. This assessment is meant to be used informally. While students should do their best work, it is best to not place too much importance on the test.

ALL About This Unit

Daily Lessons

Ten daily lessons are included in this unit.
Each lesson includes:

- Guiding question(s)
- Objectives
- List of necessary materials
- Overview of the lesson
- Student activity sheets when applicable
- Suggestions for small group activity

Day 1	Pre-assessment & Decimals Anchor Chart
Day 2	Decimal Models
Day 3	Decimal Models
Day 4	Decimals on a Number Line
Day 5	Decimals on a Number Line
Day 6	Decimals as Fractions
Day 7	Comparing Decimals
Day 8	Ordering Decimals
Day 9	Review Game
Day 10	Assessment

content vocabulary

Vocabulary for this <u>decimal</u> unit is included in a few forms.

- Word wall cards make it easy to add your content vocabulary to your word wall
- The word and definition list make a great reference for student math notebooks and teachers alike
  - This list is included completed as well as with blank areas for definitions and examples
  - TIP: print/copy definition list at 80% to fit perfectly in math notebooks
- Double-sided word and definition cards are great for review and small group remediation
  - To complete these cards print, fold along the dotted line with the word and definition on the outside, then tape or glue to secure the card.

fraction

a numerical representation of part of a whole or part of a set

decimal

Number that represent part of a whole recorded with a decimal point. Examples: 1.7, 30.09, or 100.25

numerator

the top number in a fraction that represents how many parts of the whole are present

denominator

the bottom number in a fractions that represents how many parts make up a whole

Decimal & Fraction Vocabulary

decimal	number that represent part of a whole recorded with a decimal point. Examples: 1.7, 30.09, or 100.28
fraction	a numerical representation of part of a whole or part of a set
numerator	the top number in a fraction that represents how many parts of the whole are present
denominator	the bottom number in a fraction that represents how many parts make up a whole
tenth	one out of ten parts of a whole
hundredth	one out of a hundred parts of a whole
compare	consider the value of two numbers and use a symbol such as <, >, or = to determine which is greater
relate	make a connection between
represent	show in picture or model form
model	a visual representation
equivalent	equal to, the same

fraction

a numerical representation of part of a whole or part of a set

decimal

Number that represent part of a whole recorded with a decimal point.
Examples: 1.7, 30.09, or 100.25

numerator

the top number in a fraction that represents how many parts of the whole are present
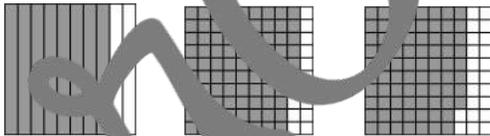
Name _____

1 Shade the model to show 0.62.
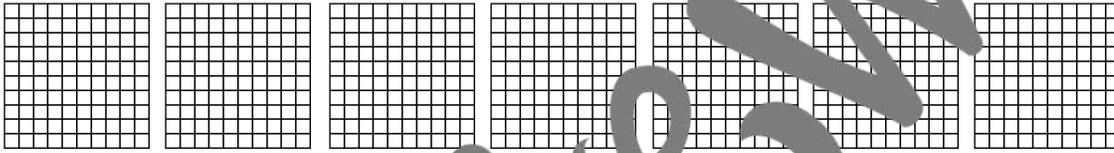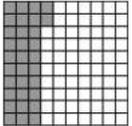
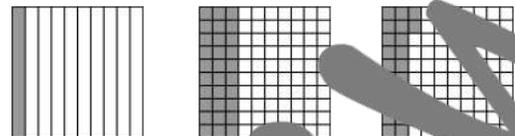**2** What decimal is represented by the model?

3 What decimal is represented by the model?
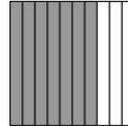
4 Order the decimals from least to greatest.

5 Order the decimals from greatest to least.

6 What decimal is represented on the number line as point Z?

0   0.1   Z

7 Write the fraction 2/100 as a decimal?

8 Write the decimal 0.16 as a fraction.
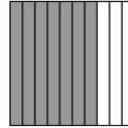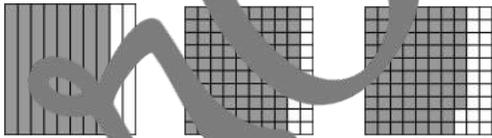
9 Name the model using both a fraction and a decimal.
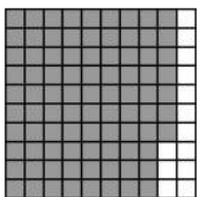
10 Name the model using both a fraction and a decimal.
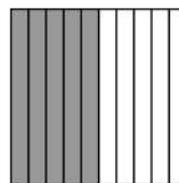
Answer Key

1 Shade the model to show 0.62.
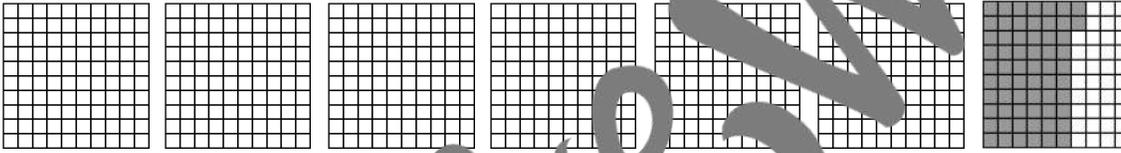
2 What decimal is represented by the model?
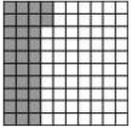
0.32

3 What decimal is represented by the model?

0.7

4 Order the decimals from least to greatest.

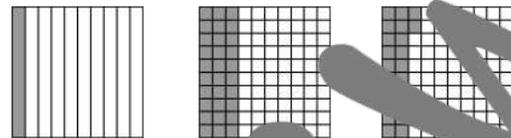**0.78   0.8   0.85**

5 Order the decimals from greatest to least.

0.1   0.22   0.3

6 What decimal is represented on the number line as point Z?

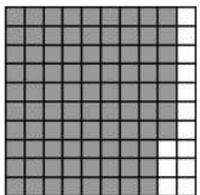0   0.1   Z

Z=0.18

7 Write the fraction 2/100 as a decimal?

0.02

8 Write the decimal 0.16 as a fraction.

16/100

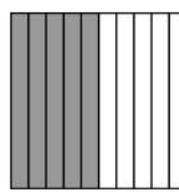**9** Name the model using both a fraction and a decimal.

0.87 or 87/100

10 Name the model using both a fraction and a decimal.

0.5 or 5/10

Pre-assessment
Student Standards Checklist

Student	1. Modeling a Decimal	2. ID a decimal from a model	3. ID a decimal from a model	4. Comparing and Ordering	5. Comparing and Ordering	6. Decimals on a Number Line	7. Relating Decimals to Fractions	8. Relating Decimals to Fractions	9. Relating Decimals to Fractions	10. Relating Decimals to Fractions

Daily Warm-Ups

Ten days of half-page daily warm-ups are provided along with answer keys.

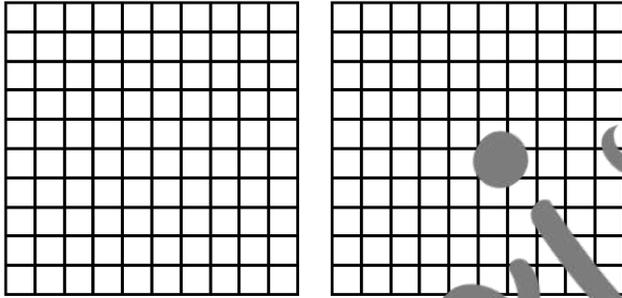Each day has four standards-based questions for students to think through their learning.

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To save paper you may choose to project the warm up each day and have students complete their work in math notebooks.
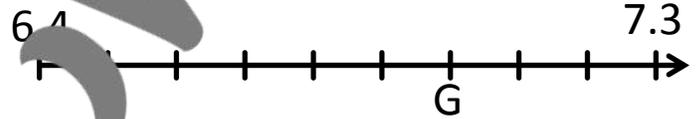
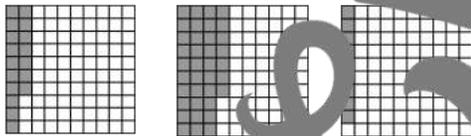# Name _____

Models for Decimals

Shade the model to represent 0.23.

Number Lines

What number is represented by G?

6.4   7.3

G

Comparing & Ordering
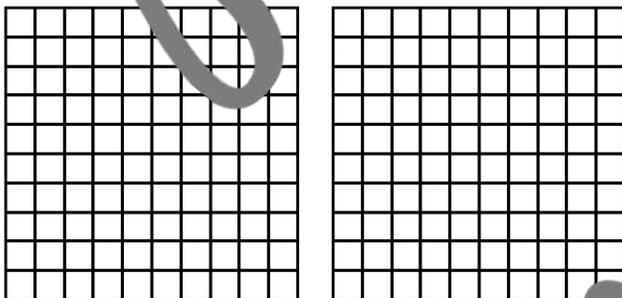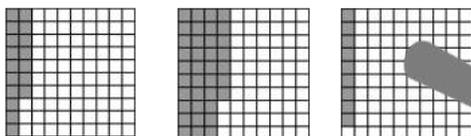
Order the decimals shown from least to greatest.

Decimals as Fractions

Write the decimal 2.68 as a fraction.

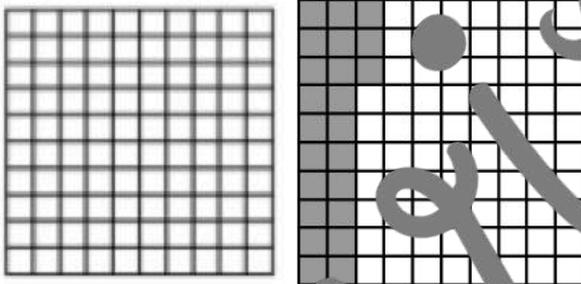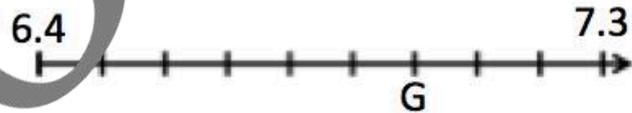# Daily Warm-Up Answer Key

Name _____

Models for Decimals
Shade the model to represent 0.23.

Number Lines
What number is represented by G?

6.4 ———————————— 7.3

7.0

Comparing & Ordering
Order the decimals shown from least to greatest.

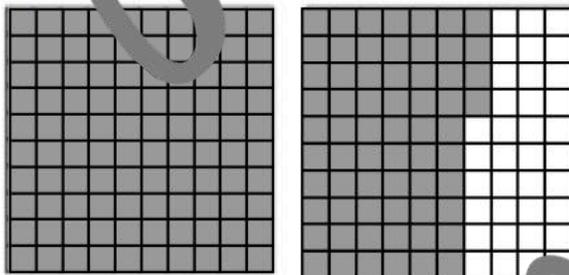### Decimals as Fractions
Write the decimal 2.68 as a fraction.

2 68/100

0.09   0.07   0.37

Name _____

Models for Decimals
Shade the model to represent 1.64.
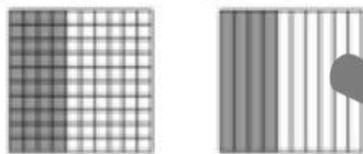
Number Lines
What number is represented by G?

3.5

3.9

Comparing & Ordering
Write a comparative statement for the decimals shown below.

Decimals as Fractions
Write the fraction 2/10 as a decimal.

0.2

0.40=0.4

Name _____
Personal Daily Warm-Up Tracking Sheet

	Models for Decimal	Number Lines	Comparing & Ordering	Decimals as Fractions
Day 1				
Day 2				
Day 3				
Day 4				
Day 5				
Day 6				
Day 7				
Day 8				
Day 9				
Day 10				

Exit Tickets

Ten days worth of exit tickets and answer keys, with one question each, are included two to a page for easy copying.
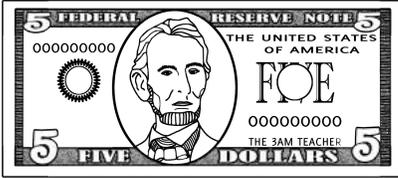
Each of the questions is based on how that standard is tested, providing a test bridge and exposing students to test style language. This serves to build familiarity with standardized testing without overwhelming students.

Exit tickets can be checked as a class, or by the teacher. A checklist of questionsis including to track how students are doing on their exit tickets.

Name _____

The picture below represents an amount of money? What digit is in the tenths place of the value represented?

a. 6
b. 0
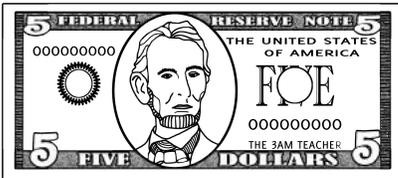c. 7
d. 3

Decimals

Name _____

The picture below represents an amount of money? What digit is in the tenths place of the value represented?

a. 6
b. 0
c. 7
d. 3

Decimals

Exit Ticket Answer Key

Day 1	C
Day 2	A
Day 3	B
Day 4	D
Day 5	C
Day 6	B
Day 7	C
Day 8	D
Day 9	A
Day 10	B

Exit Ticket Student Checklist

Student	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10

Daily Lessons

Ten daily lessons are included in this unit. Each lesson includes:

- Guiding question(s)
- Objectives
- List of necessary materials
- Overview of the lesson
- Student activity sheets when applicable
- Suggestions for small group activity

Day 1   Pre-assessment & Decimals Anchor Chart

Day 2   Decimal Models

Day 3   Decimal Models

Day 4   Decimals on a Number Line

Day 5   Decimals on a Number Line

Day 6   Decimals as Fractions

Day 7   Comparing Decimals

Day 8   Ordering Decimals

Day 9   Review Game

Day 10   Assessment

Pre-Assessment &
Decimal Anchor Chart

Guiding Question

How can I use pictorial models to help me understand decimals?

Materials

- Pre-assessment
- Anchor chart paper
- Base ten manipulatives
- Decimal models to shade

Learning Objective

We will model decimals to the hundredths using base ten manipulatives and shaded models.

Lesson

Begin by giving students the pre-assessment as a check for prior understanding.
As a class talk about what they already know about decimals and create a list of ways that you see decimals in every day life. Review where decimals are found on the place value chart (right of the decimal) and remind students that they will be working with tenths and hundredths. Using the anchor chart, demonstrate how a base ten flat that used to represent one hundred now represents one whole when talking about decimals by relating it to a dollar. Use a dry erase marker to shade in a decimal and identify it. Continue this practice a couple more times identifying the decimal each time you shade it. Add your shaded models to the anchor chart.

Small Group Ideas

Use base ten manipulatives to continue to model decimals and naming them. Begin to work with students to identify the difference between a tenth and a hundredth relating back to place value when a digit to the left has ten times the value of the digit to its right.

Anchor Chart Example

Decimals I 👀 Every Day

$ Money   Measurements

Temperature   Radio Stations

Judging Scores Gallons of Gas

Decimals

ones.	tenths	hundredths
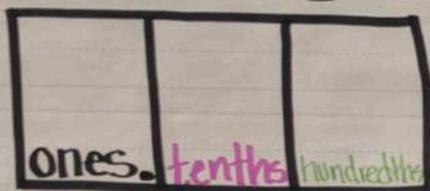
decimals are found to the <u>right</u> of the decimal point

■ = 1 whole | = tenth   ▪ = hundredth

Blank Decimal Models

Blank Decimal Models

Name _____

1 Shade the model to show 0.54.
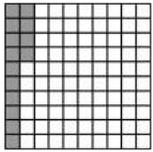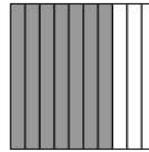
2 What decimal is represented by the model?

3 What decimal is represented by the model?

4 Order the decimals from least to greatest.

5 Order the decimals from greatest to least.

6 What decimal is represented on the number line as point R?

R   0.3   0.4

7 Write the fraction 27/100 as a decimal?

8 Write the decimal 0.61 as a fraction.

9 Name the model using both a fraction and a decimal.
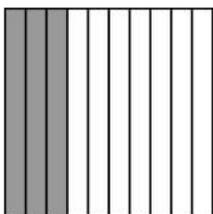
10 Name the model using both a fraction and a decimal.
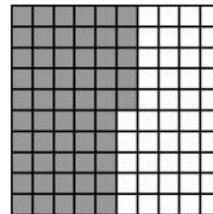
Answer Key

1 Shade the model to show 0.54.
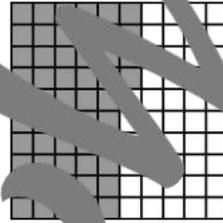
2 What decimal is represented by the model?
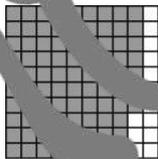
0.14

3 What decimal is represented by the model?
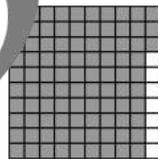
0.7

4 Order the decimals from least to greatest.
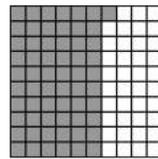
0.87   0.4   0.93
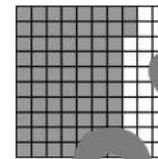
5 Order the decimals from greatest to least.

0.72   0.7   0.61

6 What decimal is represented on the number line as point R?
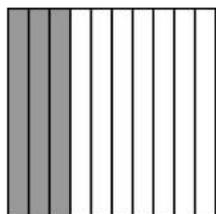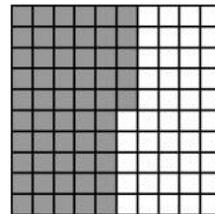
R   0.3   0.4

R=0.25

7 Write the fraction 27/100 as a decimal?

0.27

8 Write the decimal 0.61 as a fraction.

61/100

9 Name the model using both a fraction and a decimal.

0.3
3/10

10 Name the model using both a fraction and a decimal.

0.55
55/100