

Unit 6: Decimals

Content Area: **Mathematics**
Course(s): **Mathematics 4**
Time Period: **February**
Length: **4 weeks**
Status: **Published**

Enduring Understandings

Parts of a whole or set may be represented in a variety of ways - fractions, decimal fractions, improper fractions, and mixed numbers.

Decimals are another way of writing fractions. The decimal point separates the whole from the fractional part.

Essential Questions

How can we show multiple representations of decimals?

How is a baseball pitcher's ERA calculated?

Why are fractions and decimals important?

Content

Vocabulary

Diagram

Digits

Base 10 system

Denominator

Dollar system

Metric system

Sum

Tenths

Whole numbers

Place value

Distance

Diagram

Meter stick

http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_4.html



k5learning.com



tenmarks.com



parcc.pearson.com



<http://nextgen.apps.sparcc.org/math/3-5>



<http://www.insidemathematics.org/common-core-resources/mathematical-content-standards/standards-by-grade/4th-grade>



<https://learnzillion.com/resources/17036-math-lesson-plans-4th-grade>



<http://www.mathgoodies.com/standards/alignments/grade4.html>

Skills

Use a place value chart to read and write numbers.

Explore decimals on a number line.

Name whole numbers that decimals lie between.

Read decimals appropriately.

Discuss how you can use a 10 by 10 grid to represent decimals.

Express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

Compare fractions and decimals.

Describe a length as 0.62 meters; locate 0.62 on a number line diagram.

Use base ten blocks to add decimals.

Subtract decimals.

Use problem solving strategies while working with decimals.

Discuss how one can add money amounts in decimal form.

Explore real life applications of decimals (example: ERA.)

Use number line diagrams to represent measurement quantities.

Use decimal notation for fractions with denominators 10 or 100.

Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

Solve one-step word problems involving multiplying two two-digit numbers.

Solve real life word problems involving masses of objects.

Solve real life word problems involving liquid volumes.

Standards

CCSS.Math.Content.4.MD.A	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
CCSS.Math.Content.4.MD.A.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
CCSS.Math.Content.4.NF.C	Understand decimal notation for fractions, and compare decimal fractions.
CCSS.Math.Content.4.NF.C.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.
CCSS.Math.Content.4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100.
CCSS.Math.Content.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.
CCSS.Math.Content.4.NBT.A	Generalize place value understanding for multi-digit whole numbers.
CCSS.Math.Content.4.NBT.A.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
CCSS.Math.Content.4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.