



Sedalia School District #200

Level: Elementary

Subject Area: Math

Unit/Grade: Unit 1---Fifth Grade

Essential Questions:

- Why is understanding place value important when working with whole numbers?
- What is the relationship between multiplying and dividing by ten, hundred, and thousand?
- How do I determine what strategy to use to solve real-world problems involving multiplication and division?

Pacing/ Calendar

Priority Standards

Big Idea

Unit Objectives

Chapter 1

5.NBT.A.1 - Read, write, and identify numbers from billion to thousandths using number names, base ten numerals, and expanded form

5.NBT.A.3 - Understand that in a multi-digit number, a digit represents $\frac{1}{10}$ times what it would represent in the place to its left.

5.NBT.A.5 - Round numbers from billions to thousandths place.

5.NBT.A.7 - Multiply multi-digit whole numbers and decimals to the hundredths place, and justify the solution.

5.NBT.A.8 - Divide multi-digit whole numbers and decimals to the hundredths place using up to two-digit divisors and four-digit dividends, and justify the solution.

Chapter 2

35 days
(August 29-
October 17)

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Chapter 1: Whole Numbers---In chapter 1, it is very important for students to understand that in a multi-digit whole number a digit in one place represents ten times as much as the digit in the place to its right and $\frac{1}{10}$ of the digit in the place to its left. Students will use concrete materials, technology, and charts to help master this concept. Emphasizes will be put on that the value of a digit is determined by its place value position.

Chapter 2: Whole Number Multiplication and Division--- Students are expected to be very solid with multiplications of whole numbers by the end of grade 5. Students will practice estimation strategies, and incorporate estimation throughout the whole year. A Focus is put on patterns when multiplying and dividing by 10, 100, and 1,000. This chapter is built on the understanding of multiplying and dividing by multiples of 10.

Chapter 1: Whole Numbers-

- Round whole numbers to any place
- Read and write numbers in standard, word, and expanded form
- Compare whole numbers using $<$, $>$, or $=$
- Understand place value to billions

Chapter 2: Whole Number Multiplication and Division-

- Multiply and divide numbers by 10, 100, or 1,000 understanding patterns
- Multiply whole numbers by 10 squared or 10 cubed
- Multiply up to a 4-digit number by a 2-digit number
- Divide up to a 4-digit number by a 32-digit number



Sedalia School District #200

Level: Elementary

Subject Area: Math

Unit/Grade: Unit 2---Fifth Grade

Essential Questions:

- How are fractions and mixed numbers used in our daily lives?
- How does understanding place value of whole numbers the same as understanding place value of fractions?
- How are multiplying and dividing fractions the same as multiplying and dividing whole numbers?

Pacing/ Calendar

Priority Standards

Big Idea

Unit Objectives

Chapter 3

5.NF.A.1 - Understand that parts of a whole can be expressed as fractions and/or decimals.
5.NF.A.2 - Convert decimals to fractions and fractions to decimals.
5.NF.B.4 - Estimate results of sums, differences and products with fractions and decimals to the thousandths.
5.NF.B.6 - Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solution.
5.NF.B.5 - Justify the reasonableness of a product when multiplying with fractions.

Chapter 4

a) Estimate the size of the product based on the size of the two factors.
b) Explain why multiplying a given number by a fraction greater than 1 results in a product larger than the given number.
c) Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.
d) Explain why multiplying the numerator and denominator by the same number is equivalent to multiplying the fraction by 1.
5.NF.B.7 - Extend the concept of multiplication to multiply a fraction or whole number by a fraction.

a) Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths.
b) Calculate and interpret the product of a fraction by a whole number and a whole number by a fraction.

Calculate and interpret the product of two fractions less than one.
5.NF.B.8 - Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.

a) Calculate and interpret the quotient of a unit fraction by a non-zero whole number.

Calculate and interpret the quotient of a whole number by a unit fraction.

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32 days
(October 21-
December
10)

Chapter 3: Fractions and Mixed Numbers

---Chapter 3 is a very important chapter as mastery of addition and subtraction of fractions is a MLS big idea for grade 5. Visual models are used to represent fractions. This chapter expects that students can find common denominators. Number lines will be used to locate fractions and operations will be modeled with number lines.

Chapter 4: Multiplication and Division

Fractions and Mixed Numbers---In chapter 4, time is spent on developing conceptual understanding of multiplying fractions. Visual models are used to represent problems along with the algorithm, to help students see the connections between the two. Area models are very useful for all multiplication situations and is emphasized in MLS, especially for multiplication of fractions. Note that division only includes division of fractions by whole numbers and whole numbers by fractions, but not fractions by fractions. Avoid moving too fast to the algorithm so students develop an understanding of the operations of fractions.

Chapter 3: Fractions and Mixed Numbers-

- Add and subtract unlike fractions where one denominator is not a multiple of the other.
- Understand and apply the relationships between fractions, mixed numbers, and division expressions.
- Express fractions, division expressions, and decimals as mixed numbers.
- Add and subtract mixed numbers.
- Solve real-world problems involving fractions and mixed numbers.

Chapter 4: Multiplication and Division Fractions and Mixed Numbers-

- Multiply and divide proper and improper fractions.
- Multiply and divide fractions and whole numbers.
- Solve real-world problems involving multiplication and division of fractions.



Sedalia School District #200

Level: Elementary

Subject Area: Math

Unit/Grade: Unit 3---Fifth Grade

Essential Questions:

- What kind of a problem is this and what must be found?
- Does my approach and answer make sense?

Pacing/ Calendar

Priority Standards

Big Idea

Unit Objectives

Chapter 5

Chapter 6

12 days
December
11-January 13

5.RA.A.1 - Investigate the relationship between two numeric patterns.

- Generate two numeric patterns given two rules.
- Translate two numeric patterns into two sets of ordered pairs.
- Graph numeric patterns on the Cartesian coordinate plane.
- Identify the relationship between two numeric patterns.

5.RA.A.2 - Write a rule to describe or explain a given numeric pattern.

5.RA.B.3 - Write, evaluate and interpret numerical expressions using the order of operations.

5.RA.B.4 - Translate written expressions into algebraic expressions.

5.RA.C.5 - Solve and justify multi-step problems involving variables, whole numbers, fractions, and decimals

5.NF.B.7 - Extend the concept of multiplication to multiply a fraction or whole number by a fraction.

- Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths.
- Calculate and interpret the product of a fraction by a whole number and a whole number by a fraction.
- Calculate and interpret the product of two fractions less than one.

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Chapter 5: Algebra---In this chapter students learn that algebra is a language that is used to create mathematical models of real-world situations and handle problems that cannot be solved using just arithmetic. This chapter aims to develop students' algebraic fluency by providing them with the skills needed to solve equations and perform important manipulations with numbers, variables, equations, and inequalities.

Chapter 6: Area-- In this chapter students learn when the sides of a rectangles are fractional units, the area formula $A = l \times w$ still applies the same as with whole numbers.

Chapter 5: Algebra-

- Recognize , write, simplify, and evaluate simple algebraic expressions in one variable.
- Write and evaluate inequalities.
- Solve real-world problems involving algebraic expressions.

Chapter 6: Area-

- Find the area of a rectangle with the fractional side lengths by counting square units, and by using a formula.



Sedalia School District #200

Level: Elementary

Subject Area: Math

Unit/Grade: Unit 4---Fifth Grade

Essential Questions:

- Have I tested the accuracy of my answer?
- How can using a model help me to better understand how decimals multiply and divide?

Pacing/ Calendar

Priority Standards

Big Idea

Unit Objectives

Chapter 8

5.NBT.A.2 - Compare two numbers from billions to thousandths using the symbols $>$, $=$ or $<$, and justify the solution.

5.NBT.A.4 - Evaluate the value of powers of 10 and understand the relationship to the place value system.

5.NF.A.3 - Compare and order fractions and/or decimals to the thousandths place using the symbols $>$, $=$ or $<$, and justify the solution.

5.NBT.A.5 - Round numbers from billions to thousandths place.

5.NBT.A.6 - Add and subtract multi-digit whole numbers and decimals to the thousandths place, and justify the solution.

5.NBT.A.7 - Multiply multi-digit whole numbers and decimals to the hundredths place and justify the solution.

5.NBT.A.8 - Divide multi-digit whole numbers and decimals to the hundredths place using up to two-digit divisors and four-digit dividends and justify the solution.

5.RA.C.5 - Solve and justify multi-step problems involving variables, whole numbers, fractions, and decimals.

5.NF.A.1 - Understand that parts of a whole can be expressed as fractions and/or decimals.

5.NF.A.2 - Convert decimals to fractions and fractions to decimals.

5.NF.B.8 - Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.

- a) Calculate and interpret the quotient of a unit fraction by a non-zero whole number.
- b) Calculate and interpret the quotient of a whole number by a unit fraction

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Chapter 9

26 days
January 14-
February 25

Chapter 8: Decimals---This is another critical chapter. This chapter builds on the understanding of decimals as fractions and place value concepts. Chapter 8 will require students to have a good mastery of the 4th grade decimal content (chapter 7). Place value chips, charts, and number lines will be used. Time is spent writing basic fractions as decimals to help students make connections of $0.001=1/100$ etc. Students should have a strong understanding of the visual models for tenths and hundredths so they can extend their understanding to thousandths. Students should understand decimals both as fractions and as part of place value.

Chapter 9: Multiplying and Dividing Decimals---Before chapter 9, time may need to be spent reviewing adding and subtracting decimals. This is an important chapter for students and a time to review the relationship between multiplication and division. The big idea is an understanding that a digit in one place is 10 times the place to its right and $1/10$ the place to its left. Explore patterns with the decimal point and why we place the decimal; avoid teaching a "trick" for placing a decimal.

Chapter 8: Decimals-

- Read and write thousandths in decimal and fractional forms.
- Represent and interpret thousandths in models and in place-value charts.
- Round, compare, and order decimals.
- Rewrite decimals as fractions and mixed numbers in simplest form.

Chapter 9: Multiplying and Dividing Decimals-

- Multiply and divide tenths and hundredths by a whole number.
- Round quotients to the nearest tenth or hundredth.



Sedalia School District #200

Level: Elementary

Subject Area: Math

Unit/Grade: Unit 5---Fifth Grade

Essential Questions:

- Does using a model make sense when finding volume?
- What are the limits of mathematical modeling/representation when finding volume.

Pacing/ Calendar

Priority Standards

Big Idea

Unit Objectives

Chapter 14

5.GM.A.3 - Analyze and describe the properties of prisms and pyramids.
5.GM.B.4 - Understand the concept of volume and recognize that volume is measured in cubic units.
a) Describe a cube with edge length 1 unit as a “unit cube” and is said to have “one cubic unit” of volume and can be used to measure volume.
Understand that the volume of a right rectangular prism can be found by stacking multiple layers of the base.
5.GM.B.5 - Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for volume of right rectangular prisms with whole-number edge lengths.

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18 days
February 26-
March 30

Chapter 14: Surface Area and Volume---

Focus is on understanding and measuring volume, sections 14.5-14.7. Use 3-D shapes to identify faces, edges, and vertices. Students will spend time creating 3-D figures from nets. Chapter 14 covers both surface and volume, but more time is spent on understand the concept of volume and relate volume to multiplication and addition. Concrete materials and hands on activities are used. Students will understand the concept of volume and why the formula for volume of a prism works. Developing understanding of volume is a big idea for grade 5.

Chapter 14: Surface Area and Volume-

- Build solids using unit cubes and determine the number of unit cues in an irregular solid.
- Identify and classify prisms and pyramids.
- Find the total surface area of a prism.
- Find the volume of rectangular prisms.
- Compare volumes of objects.
- Solve real-world problems on the volume of a composite solid.



Unit/Grade: Unit 6--Fifth Grade

- Why are geometry and geometric figures relevant and important?
- How can geometric ideas be communicated using a variety of representations? (i.e maps, grids, charts, spreadsheets)
- How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Pacing/ Calendar	Priority Standards	Big Idea	Unit Objectives
Chapter 11 Chapter 12 Chapter 13 21 days March 31- April 30	5.GM.C.6 -Define a first quadrant Cartesian coordinate system. a) Represent the axes as scaled perpendicular number lines that both intersect at 0, the origin. b) Identify any point on the Cartesian coordinate plane by its ordered pair coordinates. c) Define the first number in an ordered pair as the horizontal distance from the origin. d) Define the second number in an ordered pair as the vertical distance from the origin. 5.GM.C.7 - Plot and interpret points in the first quadrant of the Cartesian coordinate plane. 5.DS.A.1 -Create a line graph to represent a data set, and analyze the data to answer questions and solve problems. 5.DS.A.2 -Create a line plot to represent a given or generated data set, and analyze the data to answer questions and solve problems, recognizing the outliers and generating the median. 5.GM.A.1 - Understand that attributes belonging to a category of figures also belong to all subcategories. 5.GM.A.2 - Classify figures in a hierarchy based on properties. Missouri Learning Standards Show Me Standards	Chapter 11: Graphs and Probability----(Spend ample time on 11.1, 11.3, 11.4.) Focus on line plots with fractional units,, coordinate planes and experience with interpreting graphs. Students will apply their understanding of whole numbers, fractions, and decimals as they construct and analyze graphs. Chapter 12: Angles---Students are introduced to the properties of angles on a line, angles on a point, and vertical angles in this chapter. Concrete and hands-on activities are used for understanding. Chapter 13: Properties of Triangles and Four Sided Figures--- Students learn the attributes of triangles and quadrilaterals and be able to classify them based on their properties.	Chapter 11: Graphs and Probability- • Make and interpret line plots and double bar graphs. • Use fractions and their operations to solve problems using data. • Read and plot points on a coordinate grid. • Compare two sets of data. Chapter 12: Angles- • Understand and apply the property that the sum of angle measures on a line is 180° and measures at a point is 360°. • Understand and apply the property that vertical angles have equal measures. Chapter 13: Properties of Triangles and Four Sided Figures- • Classify figures in a hierarchy based on properties. • Understand and apply the properties of triangle, parallelogram, rhombus, and trapezoid.