KPBSD MATH CURRICULUM
5th GRADE
Year at a Glance

This document provides a birds-eye view of the Fifth Grade math "curriculum map." Please note, some standards are partially taught in early units and re-visited throughout the year. For complete understanding of content to be taught, please visit the Fifth Grade "curriculum map."

	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**	**Unit 7**	**Unit 8**
Title	Build a Mathematical Community Through Real Data	Using Models to Explore Properties of Multiplication and Division	Using Models to Multiply and Divide Fractions	Understanding Place Value	Using Models to Add and Subtract Decimals and Fractions	Using Models and Measurement to Multiply and Divide Whole Numbers, Decimals, and Fractions	Measurement with an Emphasis on Time	Classifying Quadrilaterals
Duration	3-4 weeks	4-5 weeks	3-4 weeks	1-2 weeks	4-5 weeks	5-6 weeks	1-2 weeks	2-3 weeks
Content Standards	5.MD.3 5.MD.4 5.G.1 5.G.2 5.OA.3	5.NBT.5 5.NBT.6 5.MD.5 5.MD.6 5.MD.7 5.OA.1 5.OA.2	5.NF.3 5.NF.4 5.NF.6 5.NF.7	5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.4	5.NF.1 5NF.2 5.NBT.7 5.OA.2	5.MD.1 5.NBT.5 5.NBT.6 5.NBT.7 5.NF.4 5.NF.5 5.NF.6 5.NF.7 5.OA.2	5.MD.1 5.MD.2	5.G.3 5.G.4
Practice Standards	1,2,3,4,8	1,2,4,5,6	1,2,3,4,5,6,7,8	1,4,6,7,8	2,4,6	1,2,3,4,5,6,7,8	1,2,3,5,6	1,2,3,4,6

KPBSD MATH CURRICULUM
5th GRADE
UNIT 1 – BUILD A MATHEMATICAL COMMUNITY THROUGH REAL DATA

Desired Results

Priority Standards

5.MD.3. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

5.G.2. Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Supporting Standards

5.G.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

5.MD.4. Explain the classification of data from real-world problems shown in graphical representations including the use of terms mean and median with a given set of data. (L)

Transfer

Students will be able to independently use their learning to…

Build a community of mathematical problem solvers through collecting and interpreting data for real-world use.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Patterns can be used to form ordered pairs.
- One value affects another in a pattern.
- Data can be collected and displayed.

ESSENTIAL QUESTIONS

Students will keep considering…

- How do I solve problems using data (fractions) represented in a line plot?
- How does math help me better understand my community?

Acquisition

Students will know…

- Strategies to generate number patterns using a given rule.
- How to recognize patterns in coordinate planes.
- Two intersecting number lines form a coordinate plane.
- The relationship between the numbers (terms) in a pattern.
- Strategies to collect, display, and formulate conclusions in regards to data that is presented in fractions of ½, ¼, and ⅛.
- Each point on a coordinate plane has a specific set of ordered pair of numbers.
- The first number in an ordered pair points start at the origin (0,0) and moves horizontally on the x-axis.
- The second number in ordered pair points moves vertically on the y-axis.

Students will be skilled at…

- I can determine whether a survey question will yield categorical or numerical data, or data that changes over time.
- I can graph ordered pairs in the first quadrant of a coordinate plane.
- I can identify and interpret the x and y coordinates to solve problems.
- I can form ordered pairs consisting of corresponding terms from the two patterns.
- I can collect, display, and formulate conclusions for data that is presented in fractions of ½, ¼, and ⅛.
- I can create and label a line plot to display a data set containing fractions.
- I can calculate the mean of a data set containing fractions with unlike denominators.

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5th GRADE
UNIT 1 – BUILD A MATHEMATICAL COMMUNITY THROUGH REAL DATA

5.OA.3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*		• I can solve problems by graphing points.

Evidence

Vocabulary

- Number line
- Perpendicular lines
- X-axis
- Y-axis
- Coordinates
- Ordered pair of numbers
- Intersection
- Line plot
- Fractions
- Data
- Mean (average)
- Median
- Ordered pairs
- Function tables (number patterns)
- Coordinate plane (graph)
- Quadrants

Mathematical Practices (Bolded practices are priority for this unit)

- **Make sense of problems and persevere in solving them.**
- **Reason abstractly and quantitatively.**
- **Construct viable arguments and critique the reasoning of others.**
- **Model with mathematics.**
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- **Look for and express regularity in repeated reasoning.**

KPBSD MATH CURRICULUM
5th GRADE
UNIT 2 – USING MODELS TO EXPLORE PROPERTIES OF MULTIPLICATION AND DIVISION

Desired Results

Priority Standards

5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognizing that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

5.NBT.5. Fluently multiply multi-digit whole numbers using a standard algorithm.

5.NBT.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, number lines, real life situations, and/or area models.

5.MD.5. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
b. A solid figure that can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.

5.MD.7. Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.

a. Estimate and find the volume of a right rectangular prism with whole-number side lengths by packing it

Transfer

Students will be able to independently use their learning to…
Identify and solve real-world problems using multiplication and division.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- There are a variety of strategies used to divide numbers.
- There is a relationship between multiplication and division.
- Volume refers to the space taken up by an object itself.
- It is important to follow an order of operations.

ESSENTIAL QUESTIONS

Students will keep considering…

- How are multiplication and division related?
- What strategies can be used to illustrate and explain the calculation of multiplication and division?
- How can I find the volume of cubes and rectangular prisms?

Acquisition

Students will know…

- The order of operations to calculate the correct answer.
- The use of parentheses in numerical expressions can be used to accurately represent real-world problems.
- Equations, rectangular arrays, and area models can be used to find whole number quotients.
- The volume of a solid can be measured in a variety of cubic units.
- Volume can be found in a variety ways.
- Volume of rectangular prisms is additive.

Students will be skilled at…

- I can evaluate numerical expressions by following the order of operations.
- I can interpret real-world problems and write them as numerical expressions.
- I can show my work and explain how I got the answer through equations, rectangular array, and/or an area model.
- I can show how multiplication and division are related.
- I can measure volume using a unit cubes and improvised units.
- I can measure the volume of composite figures.

with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Demonstrate the associative property of multiplication by using the product of three whole numbers to find volumes (length x width x height). b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real-world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems. **Supporting Standards** **5.MD.6.** Estimate and measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units. **5.OA.1.** Use parentheses to construct numerical expressions, and evaluate numerical expressions with these symbols.		• I can distinguish between which cubic measurements to use for a given situation. • I can check my work using the appropriate inverse operation. • I can illustrate and explain division by using equations, rectangular arrays, or area models. • I can use manipulatives to measure the volume of right rectangular prisms. • I can use the volume formulas to determine the volume of right rectangular prisms. • I can decompose solid figures into smaller rectangular prisms. • I can add the volumes of several rectangular prisms to determine the volume of the original figure. • I can estimate and measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units. • I can use parentheses to construct numerical expressions.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 2 – USING MODELS TO EXPLORE PROPERTIES OF MULTIPLICATION AND DIVISION

Evidence	
Vocabulary • Order of operations • Parentheses ( ) • Brackets [ ] • Braces { } • Expression • Algorithm • Multi-digit Whole Number • Product • Factor • Dividend • Quotient • Divisor • Inverse operation • Rectangular array • Area model • Equation • Volume • Measure • Cubic unit • Cubic in • Cubic ft • Cubic cm • Face • Estimate • Right rectangular prism • Additive	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • **Reason abstractly and quantitatively.** • Construct viable arguments and critique the reasoning of others. • **Model with mathematics.** • **Use appropriate tools strategically.** • **Attend to precision.** • Look for and make use of structure. • Look for and express regularity in repeated reasoning.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 3 – USING MODELS TO MULTIPLY AND DIVIDE FRACTIONS

Desired Results

Priority Standards

5.NF.3. Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers (e.g., by using visual fraction models or equations to represent the problem). *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3*.
b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*
c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division

Transfer

Students will be able to independently use their learning to…
Solve real-world problems using multiplication and division of fractions.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Fractions lie between two whole numbers.
- Fractions represent division of a whole.

ESSENTIAL QUESTIONS

Students will keep considering…

- How can I use problem solving strategies/ideas to multiply fractions and mixed numbers?
- How can I use problem solving strategies/ideas to divide fractions and mixed numbers?

Acquisition

Students will know…

- Multiplication of fractions and mixed numbers help us solve real-world problems.
- Manipulatives and models help to prove and explain solutions.
- Multiplying by a whole number or a mixed number increases the product.
- A quantity can be represented as a mixed number or improper fraction.
- There is a relationship between a mixed number and an improper fraction as one can be converted to the other.

Students will be skilled at…

- I can identify a fraction as division of a whole.
- I can write a quotient as a fraction, whole number, or mixed number.
- I can multiply a fraction or whole number by a fraction.
- I can divide a fraction by a whole number greater than 0.
- I can use models to prove my answers.
- I can find the area of a rectangle using fraction side lengths.
- I can interpret word problems (with fractions) and apply the correct operations to solve.

of whole numbers by unit fractions (e.g., by using visual fraction models and equations to represent the problem). *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?* **5.NF.6.** Solve real-world problems involving multiplication of fractions and mixed numbers (e.g., by using visual fraction models or equations to represent the problem). **Supporting Standards** **5.NF.4.** Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.		

KPBSD MATH CURRICULUM
5th GRADE
UNIT 3 – USING MODELS TO MULTIPLY AND DIVIDE FRACTIONS

Evidence	
Vocabulary • Fraction • Division • Numerator • Denominator • Visual fraction • Model • Whole number • Product • Improper fraction • Proper fraction • Mixed number	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • **Reason abstractly and quantitatively.** • **Construct viable arguments and critique the reasoning of others.** • **Model with mathematics.** • **Use appropriate tools strategically.** • **Attend to precision.** • **Look for and make use of structure.** • **Look for and express regularity in repeated reasoning.**

KPBSD MATH CURRICULUM
5th GRADE
UNIT 4 – UNDERSTANDING PLACE VALUE

Desired Results

Priority Standards

5.NBT.3. Read, write, and compare decimals to thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form [e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 (1/10) + 9 (1/100) + 2 (1/1000)].
b. Compare two decimals to thousandths place based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

5.NBT.2. Explain and extend the patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain and extend the patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Supporting Standards

5.NBT.1. Recognize that in a multi-digit number, a digit in ones place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5.NBT.4. Use place values understanding to round decimals to any place.

Transfer

Students will be able to independently use their learning to…
Use the base 10 system to solve real-world problems involving decimals.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- How the placement of a digit in our base 10 number system determines the value of that digit.
- Decimals represent a fractional part of a whole number.

ESSENTIAL QUESTIONS

Students will keep considering…

- How does placement of the digit affect its value?
- How does context help in rounding decimals?

Acquisition

Students will know…

- The number system is a base 10 system.
- Exponents are used to represent powers of 10.
- Rounding decimals should be "sensible/reasonable" for the context of the problem.
- Multiplying a whole number by a power of 10 affects the product as repeated addition.

Students will be skilled at…

- I can read, write, and compare decimals to thousandths.
- I can compare two decimals using >,<, or =.
- I can explain patterns I found when multiplying by the power of 10.
- I can explain and relate how the value of a digit changes when a number is multiplied or divided by powers of 10.
- I can use exponents to show powers of 10.
- I can explain and compare the use of powers of 10 and whole number exponents.
- I can round decimals.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 4 – UNDERSTANDING PLACE VALUE

Evidence	
Vocabulary • Exponent • Power of 10 • Product • Quotient • Placement • Measurement • Unit • Fractions • Benchmark fractions • Operations of fractions • Line plot • Scale • Fractional names of place value positions	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • Reason abstractly and quantitatively. • Construct viable arguments and critique the reasoning of others. • **Model with mathematics.** • Use appropriate tools strategically. • **Attend to precision.** • **Look for and make use of structure.** • **Look for and express regularity in repeated reasoning.**

KPBSD MATH CURRICULUM
5th GRADE
UNIT 5 – USING MODELS TO ADD AND SUBTRACT DECIMALS AND FRACTIONS

Desired Results

Priority Standards

5.NF.1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd).*

5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between the operations. Relate the strategy to a written method and explain their reasoning in getting their answers.

5.NF.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators (e.g., by using visual fraction models or equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and check the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*

5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognizing that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

Transfer

Students will be able to independently use their learning to…
Use the base ten system to solve real-world problems involving decimals.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Each digit has a specific place value.
- Algorithms help us solve problems.
- Addition and subtraction are related.
- Estimation helps us solve problems and check for reasonableness.
- There is more than one way to add and subtract numbers (including fractions and decimals).

ESSENTIAL QUESTIONS

Students will keep considering…

- How does placement of the digit affect its value?
- How does context help in rounding decimals?

Acquisition

Students will know…

- There are multiple ways to find common denominators.
- Common denominators makes comparison, addition, and subtraction of fractions possible.
- Multiple strategies may be used to perform operations with decimals to the hundredths.
- Fractions and decimals are all parts of a whole and are two different ways of recording the same number.

Students will be skilled at…

- I can calculate and model the sum and difference of fractions.
- I can create and model equivalent fractions by finding common denominators.
- I can use models, drawings, graph paper, and other strategies to add and subtract decimals.
- I can communicate what strategy was used in the expression or equation and justify why that strategy was appropriate.
- I can read and write numbers with decimal points.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 5 – USING MODELS TO ADD AND SUBTRACT DECIMALS AND FRACTIONS

Evidence	
Vocabulary • Numerator • Denominator • Common denominator • Equivalent fractions • Mixed number • Improper fraction • Simplify • Relationship • Decimal • Inverse • Properties of operation (commutative, associative, distributive, identity, zero)	**Mathematical Practices (Bolded practices are priority for this unit)** • Make sense of problems and persevere in solving them. • **Reason abstractly and quantitatively.** • Construct viable arguments and critique the reasoning of others. • **Model with mathematics.** • Use appropriate tools strategically. • **Attend to precision.** • Look for and make use of structure. • Look for and express regularity in repeated reasoning.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 6 – USING MODELS AND MEASUREMENT TO MULTIPLY AND DIVIDE WHOLE NUMBERS, DECIMALS, AND FRACTIONS

Desired Results

Priority Standards

5.NBT.5. Fluently multiply multi-digit whole numbers using a standard algorithm.

5.NBT.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, number lines, real life situations, and/or area models.

5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between the operations. Relate the strategy to a written method and explain their reasoning in getting their answers.

5.NF.6. Solve real-world problems involving multiplication of fractions and mixed numbers (e.g., by using visual fraction models or equations to represent the problem).

5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*

Transfer

Students will be able to independently use their learning to…

Solve real-world problems involving the multiplication and division of fractions and decimals.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Each digit has a specific place value.
- Algorithms help us solve problems.
- Multiplication and division are related.
- Estimation helps us solve problems and check for reasonableness.
- There is more than one way to multiply and divide numbers (including fractions and decimals).

ESSENTIAL QUESTIONS

Students will keep considering…

- How do inverse operations help solve for a given variable?
- How do I use place value to multiply and divide?
- What strategies can be used to multiply and divide fractions and decimals?
- How can I represent rational numbers in multiple ways?
- What does it mean when decimals are multiplied, divided, or ordered by 10 or powers of 10?
- How is computation with rational numbers similar or different to whole number computation?
- What does it mean to multiply a number by a fraction?

<table>
<tr><td rowspan="2"></td><td colspan="2">Acquisition</td></tr>
<tr><td>Students will know…
The relationship between addition and multiplication.
Scaling is a form of multiplication.
The effect of multiplying a number by a fraction greater than 1.
The effect of multiplying a number by a fraction less than 1.
There is a relationship between the properties of operations and solutions of division problems.
There are a variety of strategies used to multiply and divide numbers (including decimals and fraction).
Equations, rectangular arrays, and area models can be used to find whole number quotients.
There is a relationship between multiplication and division.
There is a relationship between division and subtraction.
The area of a rectangle can be found by multiplying fractions.</td><td>Students will be skilled at…
I can fluently multiply multi-digit numbers using the standard algorithm.
I can solve word problems using multiplication.
I can divide a multi-digit number by a two-digit number.
I can show my work and explain how I got the answer through equations, rectangular array, and/or an area model.
I can check my work using inverse operations.
I can multiply a fraction or whole number by a fraction.
I can find the area of a rectangle using fraction side lengths.
I can find the area of a rectangle by tiling it with unit squares.
I can convert between mixed numbers and improper fractions.
I can divide a fraction by a whole number.
I can divide a whole number by a fraction.
I can compare scaled shapes and multiply numbers to find a product.</td></tr>
<tr><td>b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.
c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions (e.g., by using visual fraction models and equations to represent the problem). For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?
Supporting Standards
5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)
b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional</td><td></td><td></td></tr>
</table>

side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **5.MD.1**. Identify, estimate measure, and convert equivalent measures within systems English length (inches, feet, yards, miles), weight (ounces, pounds, tons) volume (fluid ounces, cups, pints, quarts, gallons), temperature (Fahrenheit), metric length (millimeters, centimeters, meters, kilometers), volume (milliliters, liters), temperature (Celsius), (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems using appropriate tools. **5.OA.2.** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognizing that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.* **5.NF.5**. Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. (Division of a fraction by a fraction is not a requirement at this grade.)		

KPBSD MATH CURRICULUM
5th GRADE
UNIT 6 – USING MODELS AND MEASUREMENT TO MULTIPLY AND DIVIDE WHOLE NUMBERS, DECIMALS, AND FRACTIONS

Evidence	
Vocabulary • Algorithm • Multi-digit • Whole Number • Product • Factor • Dividend • Quotient • Divisor • Inverse operation • Rectangular array • Area model equations • Place Value • Reciprocal • Equation • Fact family • Unit fraction • Numerator • Denominator • Mixed number • Improper fractions • Area • Rectangle • Decimal • Rational number	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • **Reason abstractly and quantitatively.** • **Construct viable arguments and critique the reasoning of others.** • **Model with mathematics.** • **Use appropriate tools strategically.** • **Attend to precision.** • **Look for and make use of structure.** • **Look for and express regularity in repeated reasoning.**

KPBSD MATH CURRICULUM
5th GRADE
UNIT 7 – MEASUREMENT WITH AN EMPHASIS ON TIME

Desired Results

Priority Standards

5.MD.1. Identify, estimate measure, and convert equivalent measures within systems English length (inches, feet, yards, miles), weight (ounces, pounds, tons) volume (fluid ounces, cups, pints, quarts, gallons), temperature (Fahrenheit), metric length (millimeters, centimeters, meters, kilometers), volume (milliliters, liters), temperature (Celsius), (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems using appropriate tools.
5.MD.2. Solve real-world problems involving elapsed time between world time zones. (Local Standard)

Transfer

Students will be able to independently use their learning to…
Solve real-world problems involving elapsed time between time zones.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Time is a unit of measure.
- Standard units of measure enable us to interpret results or data.

ESSENTIAL QUESTIONS

Students will keep considering…

- How does time change depending on my location in the world?
- How can I use measurement to help solve real-world problems?

Acquisition

Students will know…

- There are 24 time zones in the world that correspond to established boundaries.
- There is a relationship between units of measure within a system (e.g., seconds, minutes, hours).

Students will be skilled at…

- I can read local time and calculate local time of different time zones.
- I can calculate elapsed time between time zones.
- I can tell and write time to the nearest minute and measure time intervals in minutes.
- I can solve word problems involving addition and subtraction of time intervals in minutes or hours.
- I can convert measurements.
- I can solve problems using different units of measure.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 7 – MEASUREMENT WITH AN EMPHASIS ON TIME

Evidence	
Vocabulary • Elapsed time • Inch • Feet • Yards • Volume • Temperature • Conversion • Millimeter • Liters • Meters • Kilometers • Celsius • Fluid Ounce • Cup • Pint • Pound • Ton • Gallon	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • **Reason abstractly and quantitatively.** • **Construct viable arguments and critique the reasoning of others.** • Model with mathematics. • **Use appropriate tools strategically.** • **Attend to precision.** • Look for and make use of structure. • Look for and express regularity in repeated reasoning.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 8 – CLASSIFYING QUADRILATERALS

Desired Results

Supporting Standards

5.G.3. Understand that attributes belonging to a category of two-dimensional (plane) figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

5.G.4. Classify two-dimensional (plane) figures in a hierarchy based on attributes and properties.

Transfer

Students will be able to independently use their learning to…
Describe and classify geometric figures based on their attributes and properties.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…

- Two-dimensional figures are classified by their properties.
- Two-dimensional figures can fit into more than one category.

ESSENTIAL QUESTIONS

Students will keep considering…

- Where is geometry found in my everyday world?
- How do attributes help me classify quadrilaterals?

Acquisition

Students will know…

- Plane figures can be categorized and classified.
- Quadrilaterals have similarities and differences that can be compared.
- Kites are not classified as parallelograms.
- A square is always a rectangle.
- Attributes are used to categorize two-dimensional figures.

Students will be skilled at…

- I can classify different types of quadrilaterals.
- I can identify and describe properties of two-dimensional figures more precisely.
- I can identify properties of quadrilaterals.
- I can classify and categorize two-dimensional figures in multiple ways based on their attributes.

KPBSD MATH CURRICULUM
5th GRADE
UNIT 8 – CLASSIFYING QUADRILATERALS

Evidence	
Vocabulary • Classify • Attribute • Quadrilateral • Rectangle • Rhombus • Square • Trapezoid • Two-dimensional figure • Parallel lines • Parallelogram • Perpendicular • Perpendicular lines • Plane	**Mathematical Practices (Bolded practices are priority for this unit)** • **Make sense of problems and persevere in solving them.** • **Reason abstractly and quantitatively.** • **Construct viable arguments and critique the reasoning of others.** • **Model with mathematics.** • Use appropriate tools strategically. • **Attend to precision.** • Look for and make use of structure. • Look for and express regularity in repeated reasoning.