

KPBSD MATH CURRICULUM

2ND GRADE

Year at a Glance

This document provides a birds-eye view of the Second 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 Second Grade “curriculum map.”

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Title	Building a Mathematical Community - Adding and Subtracting within 20	Adding and Subtracting within 100	Skip Counting in Multiple Contexts	Understanding Place Value to Read, Write, and Compare Numbers	Adding and Subtracting within 1,000	Linear Measurement	Data & Two-Step Problem-Solving	Problem-Solving with Money	Reasoning with Shapes
Duration	3-4 weeks	5-6 weeks	1-2 weeks	4-5 weeks	4-5 weeks	2-3 weeks	1-2 weeks	1-2 weeks	2-3 weeks
Content Standards	2.OA.2 2.OA.3 2.MD.6	2.OA.1 2.NBT.2 2.NBT.8 2.NBT.5 2.NBT.6 2.NBT.9 2.MD.6	2.OA.4 2.NBT.2 2.MD.7 2.OA.5	2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.9	2.OA.1 2.NBT.2 2.NBT.7 2.NBT.8 2.NBT.6 2.NBT.9	2.MD.3 2.MD.4 2.MD.5 2.MD.1 2.MD.2 2.MD.6	2.MD.9 2.OA.1 2.MD.10	2.MD.8 2.OA.1	2.G.1 2.G.2 2.G.3
Practice Standards									

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UNIT 1 – BUILDING A MATHEMATICAL COMMUNITY – ADDING AND SUBTRACTING WITHIN 20

Desired Results

<p>Priority Standards</p> <p>2.OA.2. Fluently add and subtract using numbers up to 20 using mental strategies. Know from memory all sums of two one-digit numbers.</p> <p>Supporting Standards</p> <p>2.OA.3. Determine whether a group of objects (up to 20) is odd or even (e.g., by pairing objects and comparing, counting by 2s). Model an even number as two equal groups of objects and then write an equation as a sum of two equal addends.</p> <p>2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1,2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p>	Transfer	
	<p>Students will be able to independently use their learning to...</p> <p>Build a community of mathematical problem solvers and develop conceptual understanding of addition and subtraction.</p>	
	Meaning	
	<p style="text-align: center;">ENDURING UNDERSTANDINGS</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> • Being a member of a positive classroom community boosts memory, promotes deeper reasoning, fosters language development and supports the development of social skills. • There are many strategies to assist with problem solving and mental computation. • Mental strategies are more efficient than counting. • When using a number line the distance between the numbers is what is being “counted” (iteration) rather than counting the tick marks. 	<p style="text-align: center;">ESSENTIAL QUESTIONS</p> <p>Students will keep considering...</p> <ul style="list-style-type: none"> • How can I contribute to a positive and respectful math community? • How can I add and subtract to twenty using mental math strategies? • How do I determine if a number is odd or even and demonstrate it?
	Acquisition	
<p>Students will know...</p> <ul style="list-style-type: none"> • That fluency is flexible, efficient, and accurate thinking using multiple strategies. • Even numbers can be shared fairly into two equal groups. • Odd numbers will have one left over when sharing the number into two equal groups. • A number line diagram represents whole numbers as lengths within it. 	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> • I can fluently add and subtract numbers up to 20 using mental math strategies. • I can write an equation express an even number as a sum of two equal addends. • I can demonstrate partitioning in relation to length. • I can build a number line diagram and represent whole numbers as lengths within it. • I can pair objects and then count them by 2’s to explore concepts of even and odd. 	

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UNIT 1 – BUILDING A MATHEMATICAL COMMUNITY – ADDING AND SUBTRACTING WITHIN 20

Evidence

Vocabulary

- Fact family
- Doubles
- Left overs
- Remainder
- Odd
- Even

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.

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UNIT 2 – ADDING AND SUBTRACTING WITHIN 100

Desired Results

<p>Priority Standards</p> <p>2.OA.1. Use addition and subtraction strategies to estimate, then solve one- and two-step word problems (using numbers up to 100) involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (e.g., by using objects, drawings, and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.</p> <p>2.NBT.2. Count up to 1000, skip-count by 5s, 10s, and 100s.</p> <p>2.NBT.8. Mentally add 10 or 100 to a given number 100-900 and mentally subtract 10 or 100 from a given number.</p> <p style="text-align: center;">Supporting Standards</p> <p>2.NBT.5. Fluently add and subtract using numbers up to 100.</p> <p>Use:</p> <ul style="list-style-type: none"> ● Strategies based on place value. ● Properties of operations. ● And/or the relationship between addition and subtraction. <p>2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p>2.NBT.9. Explain or illustrate the processes of addition or subtraction and their relationship using place value and the properties of operations.</p>	Transfer	
	Students will be able to independently use their learning to... Solve real-world problems using addition or subtraction.	
	Meaning	
	<p style="text-align: center;">ENDURING UNDERSTANDINGS</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> ● The value of a digit in our number system is determined by its place value position. ● There is a relationship between addition and subtraction. (Fact families). ● A variety of strategies can be used to solve addition and subtraction problems. ● Regrouping is redistributing place value. ● Base ten blocks represent place value and place value is how much a number is worth. ● Vertically-arranged number sentences need to be aligned by place value. 	<p style="text-align: center;">ESSENTIAL QUESTIONS</p> <p>Students will keep considering...</p> <ul style="list-style-type: none"> ● How do I regroup? ● When do I regroup? ● What strategies can I use to add and subtract within 100? ● How are addition and subtraction related? ● How can estimation be used to check my thinking?
Acquisition		
<p>Students will know...</p> <ul style="list-style-type: none"> ● Fact families show relationships between adding and subtracting. ● Decomposing and composing 10s help solve problems. ● The properties of different operations. ● There are a variety of strategies to solve addition and subtraction problems. ● Place value can be used to solve mental math problems. ● Estimation can be used to check the reasonableness of an answer. 	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> ● I can add and subtract numbers to 100 quickly and accurately. ● I can add and/or subtract to solve one-step word problems using objects, drawings, and equations. ● I can add and/or subtract to solve two-step word problems using objects, drawings, and equations. ● I can model regrouping using manipulatives. ● I can show how the properties are related. 	

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UNIT 2 – ADDING AND SUBTRACTING WITHIN 100

<p>2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1,2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p>		<ul style="list-style-type: none"> • I can add 10 to any number up to 100 in my head without counting. • I can subtract 10 from any number within 100 in my head without counting. • I can use a number line diagram to represent a sum or difference within 100. • I can estimate to check if my answer is reasonable.
Evidence		
<p><u>Vocabulary</u></p> <ul style="list-style-type: none"> • Skip count • Repeated pattern • Fact families • Place value • Regrouping • Properties of operations • Expanded form • Addition and subtraction strategies • Fluency • Add • Subtract 	<p><u>Mathematical Practices (Bolded practices are priority for this unit)</u></p> <ul style="list-style-type: none"> • 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. 	

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UNIT 3 – SKIP COUNTING IN MULTIPLE CONTEXTS

Desired Results

<p>Priority Standards</p> <p>2.OA.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns. Write an equation to express the total as repeated addition (e.g., array of 4 by 5 would be $5 + 5 + 5 + 5 = 20$).</p> <p>2.NBT.2. Count up to 1000, skip-count by 5s, 10s, and 100s.</p> <p>2.MD.7. Tell and write time to the nearest five minutes using a.m. and p.m. from analog and digital clocks.</p> <p>Supporting Standards</p> <p>2.OA.5. Identify, continue, and label number patterns (e.g., aabb, abab). Describe a rule that determines and continues a sequence or pattern.</p>	Transfer	
	Students will be able to independently use their learning to... Recognize patterns and connections in math.	
	Meaning	
	<p style="text-align: center;">ENDURING UNDERSTANDINGS</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> • A rectangular array is any arrangement of things in rows and columns. Rectangular arrays (with repeated addition) is a building block for multiplication. • Skip counting by 5s and telling time to the nearest five minutes on an analog clock are connected. • The pattern created when skip counting helps solve problems more efficiently. 	<p style="text-align: center;">ESSENTIAL QUESTIONS</p> <p>Students will keep considering...</p> <ul style="list-style-type: none"> • How do I use models to solve problems? • How are skip counting and telling time related? • How do I describe a rule that determines and continues a number pattern?
	Acquisition	
<p>Students will know...</p> <ul style="list-style-type: none"> • Equations can be used to express the total as a sum of equal addends modeled with an array. • Skip counting by 5's, 10's, and 100's to 1000. • How to tell time on both analog and digital clocks to the nearest five minutes. • Number patterns are used as a strategy to solve problems. 	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> • I can create a model array using various objects. • I can skip count by 5's, 10's, and 100's to 1000. • I can tell time (both clocks) to the nearest 5 minutes. • I can identify, continue, and label number patterns. 	

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UNIT 3 – SKIP COUNTING IN MULTIPLE CONTEXTS

Evidence

Vocabulary

- Row
- Column
- Skip counting
- Array
- Hour
- Minute
- Clock
- Digital clock
- Analog clock

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.**

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UNIT 4 – UNDERSTANDING PLACE VALUE TO READ, WRITE, AND COMPARE NUMBERS

Desired Results

<p style="text-align: center;">Priority Standards</p> <p>2.NBT.1. Model and identify place value positions of three digit numbers. Include:</p> <ul style="list-style-type: none"> a. 100 can be thought of as a bundle of ten tens - called a "hundred". b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). <p>2.NBT.2. Count up to 1000, skip-count by 5s, 10s, and 100s.</p> <p style="text-align: center;">Supporting Standards</p> <p>2.NBT.3. Read, write, order up to 1000 using base-ten numerals, number names, and expanded form.</p> <p>2.NBT.4. Compare two three-digit numbers based on the meanings of the hundreds, tens, and ones digits, using $>$, $=$, $<$ symbols to record the results.</p> <p>2.NBT.9. Explain or illustrate the processes of addition or subtraction and their relationship using place value and the properties of operations.</p>	Transfer	
	Students will be able to independently use their learning to... Use place value to read, write, compare, and order numbers.	
	Meaning	
	ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
	Students will understand that... <ul style="list-style-type: none"> • Our number system is based on groups of ten. • The value of a digit in our number system is determined by its place value position. 	Students will keep considering... <ul style="list-style-type: none"> • How does a digit’s place affect its order?
	Acquisition	
	Students will know... <ul style="list-style-type: none"> • The highest digit that any place can hold is nine. • Concrete materials can represent 100's, 10's, and 1's. • Numbers have place value. • Numbers can be written in expanded and word form. • The meaning of greater than, less than, and equal when comparing numbers. • Each digit within a number has an independent value, that when added, creates the number’s overall value. • Numbers are compared beginning with the highest place value. 	Students will be skilled at... <ul style="list-style-type: none"> • I can identify the ones digit, tens digit, and hundreds digit in a three-digit number. • I can identify the value of each digit. • I can use manipulatives or a picture to show the ones, tens, and hundreds in a three-digit number. • I can compare 3-digit numbers by looking at the hundreds, tens, and ones digits. • I can read numbers up to 1,000 in standard form, word, form, and expanded form. • I can write numbers up to 1,000 in expanded form, standard form, and word form. • I can use the symbols $>$, $<$, and $=$ to compare 3-digit numbers.

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UNIT 4 – UNDERSTANDING PLACE VALUE TO READ, WRITE, AND COMPARE NUMBERS

Evidence

Vocabulary

- Place value
- Value
- Digit
- Ones
- Tens
- Hundreds
- Greater than
- Less than
- Equal to

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.**

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UNIT 5 – ADDING AND SUBTRACTING WITHIN 1000

Desired Results

Desired Results		
<p style="text-align: center;">Priority Standards</p> <p>2.OA.1. Use addition and subtraction strategies to estimate, then solve one- and two-step word problems (using numbers up to 100) involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions (e.g., by using objects, drawings and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.</p> <p>2.NBT.2. Count up to 1000, skip-count by 5s, 10s, and 100s.</p> <p>2.NBT.7. Add and subtract using numbers up to 1000.</p> <p>Use:</p> <ul style="list-style-type: none"> • Concrete models or drawings and strategies based on place value. • Properties of operations. • And/or relationship between addition and subtraction. <p>Relate the strategy to a written method and explain the reasoning used.</p> <p>Demonstrate in adding or subtracting three-digit numbers, hundreds and hundreds are added or subtracted, tens and tens are added or subtracted, ones and ones are added or subtracted and sometimes it is necessary to compose a ten from ten ones or a hundred from ten tens.</p>	Transfer	
	Students will be able to independently use their learning to... Solve real-world problems using addition or subtraction.	
	Meaning	
<p style="text-align: center;">ENDURING UNDERSTANDINGS</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> • Numbers in the 10s and 100s place values can be composed and decomposed to solve addition and subtraction problems within 1000. • There is a relationship between addition and subtraction. (Fact families). • A variety of strategies can be used to solve addition and subtraction problems. • Regrouping is redistributing place value. • Base ten blocks represent place value and place value is how much a number is worth. • Vertically-arranged number sentences need to be aligned by place value. • Each digit in a three-digit number has a specific place value. • The ability to add and subtract by 10 and 100 mentally is essential to efficient problem solving. 	<p style="text-align: center;">ESSENTIAL QUESTIONS</p> <p>Students will keep considering...</p> <ul style="list-style-type: none"> • How do I regroup? • When do I regroup? • What strategies can I use to add and subtract within 1000? • How are addition and subtraction related? • How can estimation be used to check my thinking? 	

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UNIT 5 – ADDING AND SUBTRACTING WITHIN 1000

<p>2.NBT.8. Mentally add 10 or 100 to a given number 100-900 and mentally subtract 10 or 100 from a given number.</p>	Acquisition	
<p style="text-align: center;">Supporting Standards</p> <p>2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p>2.NBT.9. Explain or illustrate the processes of addition or subtraction and their relationship using place value and the properties of operations.</p>	<p>Students will know...</p> <ul style="list-style-type: none"> • Fact families show relationships between adding and subtracting. • Decomposing and composing 10s and 100s help solve problems. • The properties of different operations. • There are a variety of strategies to solve addition and subtraction problems. • Place value can be used to solve mental math problems (e.g. making groups of 10). • Estimation can be used to check the reasonableness of an answer. • Inverse operations can be used to solve for an unknown number. • Adding and subtracting by 10s and 100s has a predictable pattern that can be found by skip counting. 	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> • I can show the relationship between addition and subtraction properties. • I can add and subtract numbers to 1000 in many ways using a strategy, model, or drawing that makes sense to me. • I can use place value understanding to regroup when adding or subtracting if I need to. • I can record and explain my thinking. • I can add up to 4 two-digit numbers using many strategies. • I can add 10 or 100 to any number from 100-900 in my head without counting. • I can subtract 10 or 100 from any number from 100-900 in my head without counting. • I can show, draw, or explain the strategies I use to solve addition and subtraction problems. • I can estimate to check if my answer is reasonable. • I can explain how to find an unknown number. • I can add and/or subtract to solve two-step word problems using objects, drawings, and equations.

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UNIT 5 – ADDING AND SUBTRACTING WITHIN 1000

Evidence

Vocabulary

- Basic facts
- Place value
- Properties of operations
- Regrouping
- Fact families
- Fluently
- Strategies
- Expanded form
- Digit
- Add
- Concrete
- Decompose numbers
- Compose numbers
- Skip count
- Mental math
- Estimate

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
2nd GRADE
UNIT 6 – LINEAR MEASUREMENT

Desired Results

<p style="text-align: center;">Priority Standards</p> <p>2.MD.3. Estimate, measure, and draw lengths using whole units of inches, feet, yards, centimeters, and meters.</p> <p>2.MD.4. Measure to compare lengths of two objects, expressing the difference in terms of a standard length unit.</p> <p>2.MD.5. Solve addition and subtraction word problems using numbers up to 100 involving length that are given in the same units (e.g., by using drawings of rulers). Write an equation with a symbol for the unknown to represent the problem.</p> <p style="text-align: center;">Supporting Standards</p> <p>2.MD.1. Measure the length of an object by selecting and using standard tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>2.MD.2. Measure the length of an object twice using different length units for the two measurements. Describe how the two measurements relate to the size of the unit chosen.</p> <p>2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1,2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p>	Transfer	
	<p>Students will be able to independently use their learning to... Recognize that objects are measurable and apply that understanding to problem solve.</p>	
	Meaning	
	<p style="text-align: center;">ENDURING UNDERSTANDINGS</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> • Attributes are measurable. • Measurement is a process of comparing a unit to the object being measured. • Measurement is a consistent duration and distance. • The length of objects can be measured using customary &/or metric units. • The same unit of measure needs to be used in order to compare lengths. • A ruler, yardstick, and a meter stick are special types of number lines that are used for linear measurement. • What I am measuring determines the unit I use to measure. 	<p style="text-align: center;">ESSENTIAL QUESTIONS</p> <p>Students will keep considering...</p> <ul style="list-style-type: none"> • How is measurement used in the real-world? • How can I compare measurements? • What makes a reasonable estimate? • Why do I need to be able to estimate a measurement or value? • Why are there standardized units of measure? • How can I decide on appropriate units of measurement, and what tools to use? • How does accuracy affect measurement?

KPBSD MATH CURRICULUM
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UNIT 6 – LINEAR MEASUREMENT

Acquisition	
	<p>Students will know...</p> <ul style="list-style-type: none"> • Lengths of objects can be estimated using personal benchmarks in relation to a standard unit and explain and justify their length estimates. • Addition and subtraction can be used to determine the difference of two objects' lengths or the combination of the length of two objects that do not overlap. • Addition and subtraction (within 100) solve word problems involving lengths that are given in the same units (ie – such as drawings of rulers, etc.). • Whole numbers can be represented as lengths on a number line diagram. The length of any object can be used as a measurement unit for length, but a standard unit is always the same length.
	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> • I can compare lengths of two objects and determine how much longer one object is than the other using a standard unit of measure. • I can measure lengths of objects using appropriate tools. • I can add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number. • I can estimate and measure length using standard units of measurement. • I can create a reasonable estimate that is close to the actual measurement. • I can measure one object using two different units of measurement. • I can compare two different units of measurement of one object. • I can to represent, solve, and justify solutions to addition and subtraction problems within 100.

KPBSD MATH CURRICULUM
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UNIT 6 – LINEAR MEASUREMENT

Evidence

Vocabulary

- Standard Units of Measure
- Unit
- Length
- Centimeter (cm)
- Meter
- Inch
- Foot
- Yard
- Width
- Height

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.

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UNIT 7 – DATA AND TWO-STEP PROBLEM SOLVING

Desired Results

<p>Priority Standards</p> <p>2.MD.9. Collect, record, interpret, represent, and describe data in a table, graph, or line plot.</p> <p>2.OA.1. Use addition and subtraction strategies to estimate, then solve one- and two-step word problems (using numbers up to 100) involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (e.g., by using objects, drawings and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.</p> <p>Supporting Standards</p> <p>2.MD.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</p>	Transfer	
	Students will be able to independently use their learning to... Collect, represent, and analyze data to solve problems.	
	Meaning	
	ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
	Students will understand that... <ul style="list-style-type: none"> • Data can be displayed visually and organized in different ways. • Each type of graph is most appropriate for certain kinds of data. • Inferences can be made based on data to solve problems. 	Students will keep considering... <ul style="list-style-type: none"> • What are some ways data can be organized? • How can I decide what type of graph to use once I have collected data? • How is data used in the real-world?
Acquisition		
Students will know... <ul style="list-style-type: none"> • Graphs make it easy to compare and understand data. • Line plots are useful tools for collecting data because they show the number of things along a numeric scale. • A number line has evenly spaced points corresponding to the numbers. 	Students will be skilled at... <ul style="list-style-type: none"> • I can collect and display data on a line plot. • I can draw a picture and/or bar graph to represent a given a set of data. • I can measure lengths accurately and show the data using a line plot. • I can interpret data from graphs to solve simple word problems. 	

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UNIT 7 – DATA AND TWO-STEP PROBLEM SOLVING

Evidence

Vocabulary

- Bar graph
- Data
- Symbol
- Pictograph
- Categorical data
- Numerical data
- Line plot
- Picture graph
- Scale
- Set

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.
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KPBSD MATH CURRICULUM
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UNIT 8 – PROBLEM SOLVING WITH MONEY

Desired Results

<p>Priority Standards 2.MD.8. Solve word problems involving dollar bills and coins using the \$ and ¢ symbols appropriately.</p> <p>Supporting Standards 2.OA.1. Use addition and subtraction strategies to estimate, then solve one- and two-step word problems (using numbers up to 100) involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (e.g., by using objects, drawings, and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.</p>	Transfer	
	Students will be able to independently use their learning to... Use addition and subtraction to solve real-world finance problems.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... <ul style="list-style-type: none"> • Coins and dollars have specific values. • Estimation can be used to check the reasonableness of an answer. 	ESSENTIAL QUESTIONS Students will keep considering... <ul style="list-style-type: none"> • How can I solve problems involving money? • How can I represent the value of money?
	Acquisition	
Students will know... <ul style="list-style-type: none"> • The values of quarters, dimes, nickels, pennies, and dollars. • The appropriate way to show dollars and cents using the \$ and ¢ symbols. • Addition and subtraction can solve money problems. 	Students will be skilled at... <ul style="list-style-type: none"> • I can count money to solve word problems. • I can add and subtract to solve word problems involving money. • I can use estimation to check the reasonableness of an answer. • I can write monetary values using the \$ and ¢ symbols. 	

Evidence

<p><u>Vocabulary</u></p> <ul style="list-style-type: none"> • Dollar • Penny • Cent • Quarter • Nickel • Dime • Symbol 	<p><u>Mathematical Practices (Bolded practices are priority for this unit)</u></p> <ul style="list-style-type: none"> • 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.
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KPBSD MATH CURRICULUM
2nd GRADE
UNIT 9 – REASONING WITH SHAPES

Desired Results

<p>Priority Standards</p> <p>2.G.1. Identify and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces compared visually, not by measuring. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p> <p>2.G.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p> <p>2.G.3. Partition circles and rectangles into shares, describe the shares using the words halves, thirds, half of, third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p>	Transfer	
	<p>Students will be able to independently use their learning to... Reason about shapes based on their attributes and the equal shares they can be partitioned into.</p>	
	Meaning	
	ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
	<p>Students will understand that...</p> <ul style="list-style-type: none"> • A shape’s attributes help identify it. • A shape can be partitioned into equal shares. • The inside of a rectangle can be measured. 	<p>Students will keep considering...</p> <ul style="list-style-type: none"> • How can I describe and analyze shapes by examining their attributes? • When would you need to partition a shape? • How do I describe the equal shares of a partitioned shape?
Acquisition		
<p>Students will know...</p> <ul style="list-style-type: none"> • Shapes have defining attributes. • Circles and rectangles can be partitioned to show equal parts of a whole. • Equal shares of identical wholes need not have the same shape. 	<p>Students will be skilled at...</p> <ul style="list-style-type: none"> • I can identify triangles, quadrilaterals, pentagons, hexagons, and cubes. • I can draw shapes with specific attributes, including faces and angles. • I can partition a rectangle into rows and columns of equal-sized squares and count them. • I can partition circles and rectangles into halves, thirds, and fourths. • I can explain why equal shares of identical wholes may not have the same shape. 	

KPBSD MATH CURRICULUM
2nd GRADE
UNIT 9 – REASONING WITH SHAPES

Evidence

Vocabulary

- Attributes
- Angles
- Faces
- Triangles
- Quadrilaterals
- Pentagons
- Hexagons
- Cubes
- Partition
- Rows
- Columns
- Shares
- Halves
- Thirds
- Fourths

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.