KPBSD MATH CURRICULUM
KINDERGARTEN
Year at a Glance

This document provides a birds-eye view of the Kindergarten 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 Kindergarten "curriculum map."

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Time/Money
Title	Building a Mathematical Community through Exploring Attributes	Numbers to 10	Comparing Quantities & Counting	Foundations of Place Value - Exploring Numbers 11-20	Composing and Decomposing Numbers to 10	Exploring Parts and Wholes with Addition and Subtraction	Identifying, Describing, Classifying, and Composing Shapes	Work with Time and Money
Duration	2-3 weeks	5-6 weeks	3-4 weeks	3-5 weeks	4-6 weeks	4-6 weeks	3-4 weeks	1-2 weeks
Content Standards	K.MD.3 K.G.1 K.MD.1 K.MD.2 K.OA.6	K.CC.4 K.CC.2 K.CC.3	K.CC.3 K.CC.4 K.CC.1 K.CC.5 K.CC.6 K.CC.7	K.NBT.1 K.CC.3 K.CC.1	K.OA.3 K.OA.4	K.OA.1 K.OA.2 K.OA.4 K.OA.5	K.G.2 K.G.3 K.G.4 K.G.5 K.G.6	K.MD.4 K.MD.5 K.MD.6
Practice Standards								

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KINDERGARTEN
WORK WITH TIME AND MONEY

Desired Results	
Priority Standards	**Transfer**
K.MD.4. Name in sequence the days of the week. **K.MD.5.** Tell time to the hour using both analog and digital clocks. **K.MD.6.** Identify coins by name.	Students will be able to independently use their learning to… Time and money have specific attributes that help us organize our world.

Meaning	
ENDURING UNDERSTANDINGS Students will understand that… • Coins have specific names. • Minutes, hours, and days are units that can be used to estimate and order time durations.	**ESSENTIAL QUESTIONS** Students will keep considering… • How does time help me organize my world? • What is the purpose of money in my world?

Acquisition	
Students will know… • The days of the week are organized in a specific order. • The short hand on an analog clock tells us the hour; the long hand shows us the minutes. • The numbers on the left of the colon on the digital clock tells us the hour; the numbers on the right tell us the minutes. • US coins can be differentiated by size, color, ridges, and images on the face.	Students will be skilled at… • I can tell the days of the week in order. • I can tell time to the hour using analog and digital clocks. • I can identify a penny, nickel, dime, and quarter.

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KINDERGARTEN
WORK WITH TIME AND MONEY

Evidence

Vocabulary	**Mathematical Practices (Bolded practices are priority for this unit)**
- Time - Analog clock - Digital clock - Penny - Nickel - Dime - Quarter - Day - Week - Sunday - Monday - Tuesday - Wednesday - Thursday - Friday - Saturday	- 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
KINDERGARTEN
UNIT 1 – BUILDING A MATHEMATICAL COMMUNITY THROUGH EXPLORING ATTRIBUTES

Desired Results	

Priority Standards

K.MD.3. Classify objects into given categories (attributes). Count the number of objects in each category (limit category counts to be less than or equal to 10).

K.G.1. Describe objects in the environment using names of shapes and describe their relative positions (e.g., *above*, *below*, *beside*, *in front of*, *behind*, *next to*).

Supporting Standards

K.MD.1. Describe measurable attributes of objects (e.g., length or weight). Match measuring tools to attribute (e.g., ruler to length). Describe several measurable attributes of a single object.

K.MD.2. Make comparisons between two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

K.OA.6. Recognize, identify, and continue simple patterns of color, shape, and size.

Transfer

Students will be able to independently use their learning to…
Build a community of mathematical problem solvers and discover similarities and differences between objects in their environment.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…
- Objects have attributes that allow them to be classified.
- Specific words are used to describe the relative positions of objects.
- Objects can be counted and identified.
- Patterns repeat.
- Numbers represent a quantity.

ESSENTIAL QUESTIONS

Students will keep considering…
- How do I explore my world through comparing and classifying?
- How do I use patterns to predict what will happen next?
- How do I describe shapes, their attributes, and their positions?

Acquisition

Students will know…
- Objects can be described, measured, and classified in different ways.
- Objects in our environment can be described using names of shapes.
- Patterns are identified based on color, shape, and size.
- When counting, each number said represents an object.
- That all objects have a position in space related to one another.

Students will be skilled at…
- I can name and tell about shapes I see around me.
- I can count the things that I put into groups and then sort them by how many.
- I can look at two objects and describe similarities and differences.
- I can classify objects by their attributes.
- I can tell the position of different shapes.
- I can identify and continue patterns.
- I can count objects in a set.

KPBSD MATH CURRICULUM
KINDERGARTEN
UNIT 1 – BUILDING A MATHEMATICAL COMMUNITY THROUGH EXPLORING ATTRIBUTES

Evidence	
<u>Vocabulary</u>	**<u>Mathematical Practices (Bolded practices are priority for this unit)</u>**
- Attributes - Compare - Measurable - Difference - Objects - More - Less - Describe - Square - Circle - Triangle - Rectangle - Hexagon - Cube - Cone - Classify - Cylinder - Sphere - Above - Below - In front of - Behind - Next to - Shapes - Environment - Position - Set	**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
KINDERGARTEN
UNIT 2 – NUMBERS TO 10

Desired Results	
Priority Standards	**Transfer**
Count to tell the number of objects. **K.CC.4.** Understand the relationship between numbers and quantities; connect counting to cardinality.	Students will be able to independently use their learning to… Understand the relationship between numbers and quantities.

Priority Standards

Count to tell the number of objects.

K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality.

a) When counting objects, say the number names in standard order, pairing each object with one and only one number name and each number name with one and only one object.

b) Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

c) Understand that each successive number name refers to a quantity that is one larger.

Supporting Standards

K.CC.2. Count forward beginning from a given number within the known sequence.

K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0 - 20 (with 0 representing a count of no objects).

Transfer

Students will be able to independently use their learning to…
Understand the relationship between numbers and quantities.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that…
- The last number name said tells the number of objects counted.
- The number of objects is the same regardless of their arrangement or the order in which they were counted.
- That each successive number name refers to a quantity that is one larger.

ESSENTIAL QUESTIONS

Students will keep considering…
- How does counting help me in my everyday life?
- How do numbers relate and compare to one another?
- How do I show a quantity?

Acquisition

Students will know…
- Number names.
- What a rote number sequence is.
- Each number is matched to an object counted.

Students will be skilled at…
- I can say number names and count in sequence.
- I can count a sequence from a number other than 1.
- I can write the number of objects I count.

KPBSD MATH CURRICULUM
KINDERGARTEN
UNIT 2 – NUMBERS TO 10

Evidence	
Vocabulary	**Mathematical Practices (Bolded practices are priority for this unit)**
- Rote - Counting on - Object - Strategy - How many - Greater than - Less than - Or equal to - Compare - Groups - Matching - Numeral	- 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
KINDERGARTEN
UNIT 3 – COMPARING QUANTITIES & COUNTING

Desired Results

Priority Standards

K.CC.3. Write numbers 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects).

K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality.

a) When counting objects, say the number names in standard order, pairing each object with one and only one number name and each number name with one and only one object.

b) Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

c) Understand that each successive number name refers to a quantity that is one larger.

Supporting Standards

K.CC.1. Count to 100 by ones and by tens.

K.CC.5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

K.CC.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (e.g., by using matching, counting, or estimating strategies).

K.CC.7. Compare and order two numbers between 1 and 10 presented as written numerals.

Transfer

Students will be able to independently use their learning to…
Count and compare quantities in real-world settings.

Meaning

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that… • The number of objects is the same regardless of their arrangement or the order in which they were counted. • That each successive number name refers to a quantity that is one larger. • There is a relationship between numbers and counting. • Each object that is counted stands for one and only one number.	Students will keep considering… • How does counting help me in my everyday life? • How do numbers relate and compare to one another?

Acquisition

Students will know…	Students will be skilled at…
• A group of counted objects can be represented with a written numeral. • The concept of one to one correspondence. • The number of objects is the same regardless of their arrangement or the order in which they were counted. • The number of objects in one group can be greater than, less than, or equal to the number of objects in another group.	• I can write numbers 0-20. • I can describe the relationships between numbers and counting. • I can count to answer "how many". • I can count sets of 0-20. • I can compare sets of objects 0-10. • I can use zero to represent no objects. • I can count by ones and know that the next number I say is one more.

KPBSD MATH CURRICULUM
KINDERGARTEN
UNIT 3 – COMPARING QUANTITIES & COUNTING

Evidence	
Vocabulary	**Mathematical Practices (Bolded practices are priority for this unit)**
- Objects - Numbers - Greater than - More - Next - Count - Pairing - Group - Number name - Arrangement - Same - Sequence - Array - Measure - Length - Weight - Attributes - Environment	- 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
KINDERGARTEN
UNIT 4 – FOUNDATIONS OF PLACE VALUE – EXPLORING NUMBERS 11-20

Desired Results	
Priority Standards	**Transfer**
K.NBT.1 Compose and decompose numbers from 11-19 into ten ones and some further ones (e.g., by using objects and drawings) and record each composition and decomposition by a drawing or equation (e.g., 18 = 10+8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	Students will be able to independently use their learning to… Use place value to write and place numbers.

	Meaning	
K.CC.3. Write numbers 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects).	**ENDURING UNDERSTANDINGS** Students will understand that… - Numbers follow a pattern. - The base ten number system is based on groups of ten. - The value of a digit in the base ten number system is determined by its place value position.	**ESSENTIAL QUESTIONS** Students will keep considering… - How does a digit's placement determine its value? - How can I express numbers beyond 10?

Supporting Standards	**Acquisition**	
K.CC.1. Count to 100 by ones and by tens.	Students will know… - Digits are 0 to 9. - The highest digit that any place can hold is nine. - Objects/drawings can show how many tens and ones are in a numbers to 20. - Numbers to 20 compose and decompose using tens and ones.	Students will be skilled at… - I can write numbers from 0 to 20. - I can count objects and write the number. - I can use zero to represent no objects. - I can model with manipulatives how many tens and ones are in a number. - I can use a drawing to show how many tens and ones are in a number.

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UNIT 4 – FOUNDATIONS OF PLACE VALUE – EXPLORING NUMBERS 11-20

Evidence

Vocabulary	Mathematical Practices (Bolded practices are priority for this unit)
- Compose - Decompose - Drawing - Numbers - Tens - Ones	- 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
KINDERGARTEN
UNIT 5 – COMPOSING AND DECOMPOSING NUMBERS TO 10

Desired Results	
Priority Standards	**Transfer**
K.OA.3. Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., by using objects or drawings, and record each decomposition by a drawing or equation). *For example, 5 = 2 + 3 and 5 = 4 + 1.* **K.OA.4.** For any number from 1- 4, find the number that makes 5 when added to the given number and, for any number from 1- 9, find the number that makes 10 when added to the given number (e.g., by using objects, drawings, or 10 frames) and record the answer with a drawing or equation.	Students will be able to independently use their learning to… Use symbols to represent numbers, unknowns, and operations in the real-world.

	Meaning	
	ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
	Students will understand that… • Numbers, within 10, can be put together and taken apart in different ways and be recorded using equations or drawings.	Students will keep considering… • How many ways can I compose and decompose numbers to 10?

Acquisition	
Students will know… • There are many ways to make ten. • How many more it takes to get 10, when starting from a number 1-9.	Students will be skilled at… • I can decompose numbers from 0-10 in more than one way. • I can find the number that makes 5 or 10 when added to a given number. • I can use models to decompose numbers.

Evidence	
Vocabulary	**Mathematical Practices (Bolded practices are priority for this unit)**
• Compose • Decompose • Represent • Drawings • Equal • More • Less • Fewer • All together • Total	• 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
KINDERGARTEN
UNIT 6 – EXPLORING PARTS AND WHOLES WITH ADDITION AND SUBTRACTION

Desired Results

Priority Standards

K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps) acting out situations, verbal explanations, expressions, or equations.

Supporting Standards

K.OA.2. Add or subtract whole numbers to 10 (e.g., by using objects or drawings to solve word problems).

K.OA.4. For any number from 1- 4, find the number that makes 5 when added to the given number and, for any number from 1- 9, find the number that makes 10 when added to the given number (e.g., by using objects, drawings or 10 frames) and record the answer with a drawing or equation.

K.OA.5. Fluently add and subtract numbers up to 5.

Transfer
Students will be able to independently use their learning to… Build a community of mathematical problem solvers and discover similarities and differences between objects in their environment.

Meaning	
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that… - Addition is putting together and adding to, and understand that subtraction is taking apart and taking from. - Real-world problems can be solved using addition and subtraction.	Students will keep considering… - How can I represent addition and subtraction? - How do addition and subtraction help me solve real-world problems?

Acquisition	
Students will know… - There is a correlation between number and quantities. - Addition and subtraction can be modeled or expressed with an equation. - Numbers, within 10, can be put together and taken apart in different ways and recorded using equations or models. - Two quantities can be compared to find how much more/less one quantity is than the other is one interpretation of subtraction.	Students will be skilled at… - I can add numbers to 10. - I can subtract numbers to 10. - I can solve problems. - I can fluently recall addition and subtraction problems up to 5.

KPBSD MATH CURRICULUM
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UNIT 6 – EXPLORING PARTS AND WHOLES WITH ADDITION AND SUBTRACTION

Evidence	
Vocabulary	**Mathematical Practices (Bolded practices are priority for this unit)**
- Compose - Decompose - Add - Addition - Put together - Plus - Subtract - Subtraction - Take apart - Minus - Equation - Equal - Total - Five frame - Ten frame - Same as	**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
KINDERGARTEN
UNIT 7 – IDENTIFYING, DESCRIBING, CLASSIFYING, AND COMPOSING SHAPES

Desired Results	

Priority Standards

K.G.2. Name shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) regardless of their orientation or overall size.

K.G.3. Identify shapes as two-dimensional (flat) or three-dimensional (solid).

K.G.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices), and other attributes (e.g., having sides of equal lengths).

K.G.5. Build shapes (e.g., using sticks and clay) and draw shapes.

K.G.6. Put together two-dimensional shapes to form larger shapes (e.g., join two triangles with full sides touching to make a rectangle).

Transfer

Students will be able to independently use their learning to…
Identify, describe, classify, and compose shapes based on their attributes.

Meaning

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that… • Shapes have attributes and characteristics that define them. • Shapes are all around us in the world. • Real world objects have a shape or are composed of shapes. • Objects in our environment can be described using names of shapes. • Shapes do not change regardless of orientation or size. • Small shapes can be put together to form larger shapes.	Students will keep considering… • What shapes do I see in the world around me? • How do I compare two objects? • How can I use smaller shapes to make a new shape?

Acquisition

Students will know…	Students will be skilled at…
• Shapes have names that do not change despite size or orientation. • Shapes can be described by their positions. • Shapes are 2D or 3D. • Shapes can be compared. • Small shapes can be put together to make larger shapes.	• I can identify my shapes. • I can correctly name a shape no matter what size it is or how it is turned. • I can tell if a shape is two-dimensional or three-dimensional. • I can compare different shapes. • I can build and draw shapes that model the shapes I see around me. • I can put small shapes together to form larger shapes.

KPBSD MATH CURRICULUM
KINDERGARTEN
UNIT 7 – IDENTIFYING, DESCRIBING, CLASSIFYING, AND COMPOSING SHAPES

Evidence	
Vocabulary • Square • Circle • Triangle • Hexagon • Rectangle • Cube • Cone • Cylinder • Sphere • 2-dimensional • 3-dimensional • Analyze • Compare • Orientation • Size	**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.