Curriculum Map: Kindergarten Math (2025)

Course: K Math Sub-topic: General

Grade(s): Kindergarten

Course Description:

In Kindergarten math, students will develop a solid foundation in number sense, mathematical operations, and geometric concepts. They will be able to identify, write, compare, compose and decompose numbers 0-20. Students will be able to count on from a given number and also by ones, fives, and tens to 100. They will also be able to apply this knowledge to counting objects with one-to-one correspondence. Students will learn to perform addition and subtraction with numbers up to ten, as well as gain an understanding of length, area, capacity and weight.

Throughout the year, students will also be able to identify, describe and compare both 2-D and 3-D shapes. By the end of the course, students will possess a strong foundation of mathematical concepts and develop problem-solving skills, preparing them for success in First Grade.

Course Textbooks, Workbooks, Materials Citations:

District approved curriculum.

Unit: Unit One - Numbers 1-5, Basic 2D Shapes, Patterns, and Sorting

Timeline: Week 2 to 7

Unit Description:

In Unit One, students will work on their student skills while also recognizing and creating patterns that may contain ab, abb, abc, and aab, patterns.

Students will be taught number names, formation, how to compare numbers, and what the numbers represent.

Students will learn how to count with one-to-one correspondence.
Students will learn about names, identification, and formation strategies for 2D shapes that will include but are not limited to triangles, squares, circles, rectangles, ovals, and diamonds.
Students will also be introduced to the concept of sorting. Students will practice sorting and classifying by size, shape, and other different attributes of the various manipulatives available to them.

Unit Essential Questions:

How is mathematics used to quantify, compare, represent, and model numbers?
How can recognizing repetition in solving problems more efficiently?
How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?
How can recognizing repetition or regularity assist in solving problems more efficiently?

Unit Big Ideas:

Mathematical relationships can be represented, compared, and communicated.
Patterns exhibit relationships that can be extended, described, and generalized.
Geometric relationships can be described, analyzed, and classified based on spatial reasoning and or visualization.

Unit Materials:

Counters
Tens Frames
Five Frames
Attribute Blocks
Tangrams
Unifix Cubes
Geo-Boards
Colorful Bears
Buttons

Rubber Worms
Foam Shapes
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice

Unit Assignments:

Small Groups
Math Centers (sorting, counting, geo-boards, patterns, building)
Number/Shape Sheets
Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Numerals 0-5
Counting
Sides
Vertices
Triangle
Square
Rectangle
Circle
Oval
Diamond
Sorting
Size
Shape

Pattern
Repeat
Categories

STANDARDS: **STANDARDS**

STATE: PA Core Standards (2014)

CC.2.1.K.A.1 (Advanced)	Know number names and write and recite the count sequence.
CC.2.1.K.A.2 (Advanced)	Apply one-to-one correspondence to count the number of objects.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.4.K.A.4 (Advanced)	Classify objects and count the number of objects in each category.

This Curriculum Map Unit has no Topics to display

Unit: Unit Two- Numbers 6-10, Remaining 2D Shapes, Patterns, Sorting and Probability

Timeline: Week 8 to 13

Unit Description: In Unit Two students will work on their student skills while also recognizing and creating patterns that may contain ab, abb, abc, aab, abcd, abcc patterns.

Students will be taught number names, formation, how to compare numbers, and what the numbers represent (6-10).

Students will continue to count to 100 with one-to-one correspondence.
Students will learn about names, identification, and formation strategies for 2D shapes that will include but are not limited to pentagon, rhombus, hexagon, octagon, and trapezoid.
Students will continue to expand their skills in the concept of sorting. Students will practice sorting by size, shape, and other different attributes of the various manipulatives available to them.
Students will learn about probability and practice graphing results.

Unit Essential Questions:

How is mathematics used to quantify, compare, represent, and model numbers?
How can recognizing repetition help in solving problems more efficiently?
How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?
How can data be organized and represented to provide insight into the relationship between quantities?

Unit Big Ideas:

Mathematical relationships can be represented, compared, and communicated.
Patterns exhibit relationships that can be extended, described, and generalized.
Geometric Relationships can be described, analyzed, and classified based on spatial reasoning and or visualization.
Data can be modeled and used to make inferences.

Unit Materials:

Counters
Tens Frames
Five Frames
Attribute Blocks
Tangrams
Unifix Cubes
Geo-Boards
Colorful Bears
Buttons
Rubber Worms

Foam Shapes
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice

Unit Assignments:

Small Groups
Math Centers (sorting, counting, geo-boards, patterns, building)
Number/Shape Sheets
Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Numerals 6-10
Composing and Decomposing Numbers
Greater Than, Less Than
Counting
Rhombus
Pentagon
Hexagon
Trapezoid
Octagon
Sorting
Size

Shape
Pattern
Repeat
Two-Digit Numbers

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.1.K.A.1 (Advanced)	Know number names and write and recite the count sequence.
CC.2.1.K.A.2 (Advanced)	Apply one-to-one correspondence to count the number of objects.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2 (Advanced)	Analyze, compare, create, and compose two- and three-dimensional shapes.
CC.2.4.K.A.4 (Advanced)	Classify objects and count the number of objects in each category.

This Curriculum Map Unit has no Topics to display

Unit: Unit Three- Addition up to 10, Numbers 11-15, 2D Shape Review

Timeline: Week 14 to 19

Unit Description:

In Unit Three, students will be taught two-digit numbers 11-15. They will continue to learn number formation, how to compare numbers, how to compose and decompose two-digit numbers, and what the numbers represent.
Students will count to 100 orally. They will also count to higher numbers using manipulatives with one-to-one correspondence.
Students will review names, identification, and formation strategies for 2D shapes that should include but are not limited to circle, oval, square, rectangle, diamond, pentagon, rhombus, hexagon, octagon, and trapezoid. Students will also position various shapes to create other shapes.
Students will use manipulatives to learn to add numbers to make a sum of 10 or less.

Unit Essential Questions:

How are relationships represented mathematically?
How is mathematics used to quantify, compare, represent, and model numbers?
How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?

Unit Big Ideas:

Mathematical relationships can be represented, compared, and communicated.

Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.
Geometric relationships can be described, analyzed, and classified based on spatial reasoning and or visualization.

Unit Materials:

Counters
Tens Frames
Base Ten Blocks

Unifix Cubes
Geo-Boards
Colorful Bears
Buttons
Rubber Worms
Foam Shapes
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice

Unit Assignments:

Assignments (what we do in class)
Small Groups
Math Centers (adding, counting, geo-boards, patterns, building)
Number/Shape Sheets
Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Numerals 11-15
Counting
Place Value
Addition
Equals
Sum
Greater Than

Less Than
In Addition To
Two-Digit Number
Place Value
Position
Decompose and Compose
Plus
Minus
Take Away
Groups
Tens
Ones
Teens
How Many More/Fewer

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.1.K.A.1 (Advanced)	Know number names and write and recite the count sequence.
CC.2.1.K.A.2 (Advanced)	Apply one-to-one correspondence to count the number of objects.
CC.2.1.K.A.3 (Advanced)	Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 (Advanced)	Use place value to compose and decompose numbers within 19.
CC.2.2.K.A.1 (Advanced)	Extend the concepts of putting together and taking apart to add and subtract within 10.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2	Analyze, compare, create, and compose two- and three-dimensional shapes.

(Advanced)

This Curriculum Map Unit has no Topics to display

Unit: Unit Four- Addition, Subtraction, Numbers 16-20, Count by Tens and Fives, and Count on from a number, recognizing numbers to 100, introducing 3D Shapes.
Timeline: Week 20 to 25

Unit Description: In Unit Four students will be taught about two digit numbers 16-20. They will learn number formation, how to compare numbers, how to compose and decompose two-digit numbers, and what the numbers represent.
Students will practice identifying numbers up to 100.

Students will continue to count to 100 orally and count to 20 with one-to-one correspondence. They will also skip count by tens and fives to 100 and count on from a given number.
Students will use manipulatives to learn to add and subtract numbers within 10.
Students will be introduced to 3D shapes such as cube, rectangular prism, cone, cylinder, pyramid, and sphere.
Students will be exposed to the concept of symmetry and practice identifying and creating lines of symmetry using various objects.
Students will also be exposed to American currency. They will practice identifying various coins and bills.
Students will also count coins to represent their value.

Unit Essential Questions:
How are relationships represented mathematically?
How is mathematics used to quantify, compare, represent, and model numbers?
How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?
How are spatial relationships, including shape and dimension, used to draw, construct, model, and

represent real situations or solve problems?
How are relationships represented mathematically?

Unit Big Ideas: Mathematical relationships can be represented, compared, and communicated.
Geometric relationships can be described, analyzed, and classified based on spatial reasoning and or visualization.
Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.

Unit Materials:
Counters
Tens Frames
Base Ten Blocks
Unifix Cubes
Geo-Boards
Colorful Bears
Buttons
Rubber Worms
Foam Shapes
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice

Unit

Assignments:

Assignments (what we do in class)
Small Groups
Math Centers (adding, counting, geo-boards, patterns, building)
Number/Shape Sheets
Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Numerals 16-20
Counting
Place Value
Addition
Equals
Sum
Greater Than
Less Than
In Addition To
Two-Digit Number
Place Value
Decompose and Compose
Plus
Minus
Take Away
Groups
Tens
Ones
Teens
How Many More/Fewer
Face

Vertice
Penny
Nickel
Dime
Quarter
Dollar
Cents

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.1.K.A.1 (Advanced)	Know number names and write and recite the count sequence.
CC.2.1.K.A.2 (Advanced)	Apply one-to-one correspondence to count the number of objects.
CC.2.1.K.A.3 (Advanced)	Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 (Advanced)	Use place value to compose and decompose numbers within 19.
CC.2.2.K.A.1 (Advanced)	Extend the concepts of putting together and taking apart to add and subtract within 10.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2 (Advanced)	Analyze, compare, create, and compose two- and three-dimensional shapes.

Topic:

Unit: Unit Five- Unit Five- Addition, Subtraction, 3D Shapes, Measurement, Count by Tens, and Count on from a number.
Timeline: Week 24 to 29

Unit Description: In Unit Five, students will practice identifying numbers up to 100.

Students will continue to count to 100 orally. They will also skip count by tens and fives to 100 and count on from a given number.
Students will count on to solve various math equations.
Students will represent and solve addition and subtraction equations within 10.
Students will expand their understanding of 3D shapes such as cube, rectangular prism, cone, cylinder, pyramid, and sphere.
Students will be exposed to the concepts of weight, capacity, length, height, and mass.
They will practice applying these principles to different items to compare and contrast their various attributes.

Unit Essential Questions:
How are relationships represented mathematically?
How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?
Why does "what" we measure influence "how" we measure?
What makes a tool and/or strategy appropriate for a given task?

Unit Big Ideas: Mathematical relationships can be represented, compared, and communicated.
Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.

Geometric relationships can be described, analyzed, and classified based on spatial reasoning and or visualization.

Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.

Unit Materials:

Counters
Tens Frames
Base Ten Blocks
Unifix Cubes
Colorful Bears
Buttons
Rubber Worms
Foam Shapes
Scale
Ruler
3D Shape Manipulatives
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice

Unit Assignments:

Small Groups
Math Centers (measuring, counting, weighing, building)
Number/Shape Sheets

Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Counting
Place Value
Addition
Equals
Sum
Greater Than
In Addition To
Two-Digit Number
Weight
Longer
Shorter
Inch
Foot
Yard
Meter
Pound
Ounce
Ton
Rectangular Prism
Sphere
Cube
Pyramid
Cylinder
Cone
Side
Face
Vertice

Ruler
Scale

STANDARDS: **STANDARDS**

STATE: PA Core Standards (2014)

CC.2.1.K.A.3 (Advanced)	Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 (Advanced)	Use place value to compose and decompose numbers within 19.
CC.2.2.K.A.1 (Advanced)	Extend the concepts of putting together and taking apart to add and subtract within 10.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2 (Advanced)	Analyze, compare, create, and compose two- and three-dimensional shapes.
CC.2.4.K.A.1 (Advanced)	Describe and compare attributes of length, area, weight, and capacity of everyday objects.

This Curriculum Map Unit has no Topics to display

Unit: Unit Six- 3D Shapes, Addition, subtraction, Measurement and Weight.

Timeline: Week 32 to 37

Unit Description: In Unit Six, students will practice identifying numbers up to 100.

Students will continue to count to 100 orally. They will also skip count by twos to twenty, fives to 100, and

count on from a given number.
Students will count on to solve various math equations.
Students will represent and solve addition and subtraction equations within 10.
Students will expand their understanding of 3D shapes such as cube, rectangular prism, cone, cylinder, pyramid, and sphere.
Students will deepen their understanding of the concepts of weight, capacity, length, height, and mass. They will practice applying these principles to different items to compare and contrast their various attributes.
Students will be exposed to digital and analogue clocks. They will practice telling time to the hour and half hour.

Unit Essential Questions:

How are relationships represented mathematically?
What makes a tool and/or strategy appropriate for a given task?
In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?
How can recognizing repetition or regularity assist in solving problems more efficiently?

Unit Big Ideas:

Mathematical relationships can be represented, compared, and communicated.
Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.
Patterns exhibit relationships that can be extended, described, and generalized.
Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.

Unit Materials:

Counters
Tens Frames

Base Ten Blocks
Unifix Cubes
Colorful Bears
Buttons
Rubber Worms
Foam Shapes
Scale
Ruler
3D Shape Manipulatives
Straws
Popsicle Sticks
Colorful Pegs
Stackers
Dominos
Dice
Judy Clocks

Unit Assignments:

Small Groups
Math Centers (measuring, adding/subtracting weighing, telling time)
Number/Shape Sheets
Personalized Learning and Assessment Software (Such as i-Ready/ESGI)

Unit Key Terminology & Definitions:

Counting
Place Value
Addition
Equals
Sum
Greater Than

In Addition To
Two-Digit Number
Weight
Longer
Shorter
Inch
Foot
Yard
Meter
Pound
Ounce
Ton
Rectangular Prism
Sphere
Cube
Pyramid
Cylinder
Cone
Side
Face
Vertice
Ruler
Scale
Hour Hand
Minute Hand
AM
PM
Digital
Analog
Second
Minute
Hour
Half Hour
Colon

Clock

STANDARDS: **STANDARDS**

STATE: PA Core Standards (2014)

CC.2.1.K.A.3 (Advanced)	Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 (Advanced)	Use place value to compose and decompose numbers within 19.
CC.2.2.K.A.1 (Advanced)	Extend the concepts of putting together and taking apart to add and subtract within 10.
CC.2.3.K.A.1 (Advanced)	Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2 (Advanced)	Analyze, compare, create, and compose two- and three-dimensional shapes.
CC.2.4.K.A.1 (Advanced)	Describe and compare attributes of length, area, weight, and capacity of everyday objects.

This Curriculum Map Unit has no Topics to display