Verona Public School District
Curriculum Overview

Kindergarten Math

Supervisor:
Glen Stevenson

Curriculum Developed:
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Verona Public Schools
121 Fairview Ave., Verona, NJ 07044
www.veronaschools.org

Verona Public Schools Mission Statement:

The mission of the Verona Public Schools, the center of an engaged and supportive community, is to empower students to achieve their potential as active learners and productive citizens through rigorous curricula and meaningful, enriching experiences.

Course Description:

Kindergarten Math focuses on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Prerequisite(s):

None

Standard 8: Technology Standards

8.1: Educational Technology: *All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.*	**8.2: Technology Education, Engineering, Design, and Computational Thinking - Programming:** *All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.*
X A. Technology Operations and Concepts B. Creativity and Innovation **X** C. Communication and Collaboration D. Digital Citizenship E. Research and Information Fluency **X** F. Critical thinking, problem solving, and decision making	A. The Nature of Technology: Creativity and Innovation B. Technology and Society C. Design D. Abilities for a Technological World E. Computational Thinking: Programming

SEL Competencies and Career Ready Practices

Social and Emotional Learning Core Competencies: *These competencies are identified as five interrelated sets of cognitive, affective, and behavioral capabilities*	**Career Ready Practices:** *These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.*
Self-awareness: The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.	**X** CRP2. Apply appropriate academic and technical skills. CRP9. Model integrity, ethical leadership, and effective management. CRP10. Plan education and career paths aligned to personal goals.
Self-management: The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.	CRP3. Attend to personal health and financial well-being. CRP6. Demonstrate creativity and innovation. **X** CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity.
Social awareness: The ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports.	**X** CRP1. Act as a responsible and contributing citizen and employee. CRP9. Model integrity, ethical leadership, and effective management.
Relationship skills: The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed.	**X** CRP4. Communicate clearly and effectively and with reason. CRP9. Model integrity, ethical leadership, and effective management. CRP12. Work productively in teams while using cultural global competence.
Responsible decision making: The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.	CRP5. Consider the environmental, social, and economic impact of decisions. CRP7. Employ valid and reliable research strategies. **X** CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership, and effective management.

Standard 9: 21st Century Life and Careers

9.1: Personal Financial Literacy: *This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.*	**9.2: Career Awareness, Exploration & Preparation:** *This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.*	**9.3: Career and Technical Education:** *This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.*
A. Income and Careers B. Money Management C. Credit and Debt Management D. Planning, Saving, and Investing **X** E. Becoming a Critical Consumer F. Civic Financial Responsibility G. Insuring and Protecting	**X** A. Career Awareness (K-4) B. Career Exploration (5-8) C. Career Preparation (9-12)	A. Agriculture, Food & Natural Res. B. Architecture & Construction C. Arts, A/V Technology & Comm. D. Business Management & Admin. E. Education & Training F. Finance G. Government & Public Admin. H. Health Science I. Hospital & Tourism J. Human Services K. Information Technology L. Law, Public, Safety, Corrections & Security M. Manufacturing N. Marketing **X** O. Science, Technology, Engineering & Math P. Transportation, Distribution & Log.

Course Materials

Core Instructional Materials: *These are the board adopted and approved materials to support the curriculum, instruction, and assessment of this course.*	**Differentiated Resources**: *These are teacher and department found materials, and also approved support materials that facilitate differentiation of curriculum, instruction, and assessment of this course.*
• Pearson EnVision Kindergarten 2012 Edition	• Eureka Math http://greatminds.net/maps/math/module-pdfs-v3 • Building Conceptual Understanding and Fluency Through Games Kindergarten http://www.kannapolis.k12.nc.us/UserFiles/Servers/Server_1025364/File/Math/2014-2015/Kindergarten/K%20GAMES%20DPI.pdf • Common Core State Standards http://www.corestandards.org/Math/Content/k/introduction/ • Howard County MD Grade K Mathematics https://gradekcommoncoremath.wikispaces.hcpss.org/Kindergarten+Home • Khan Academy Early Math https://www.khanacademy.org/math/early-math • Extension Activities for Gifted Math Learners http://ncaigirp.ncdpi.wikispaces.net/Mathematics+K-2

Curriculum Scope & Sequence

Subject/Grade Level: MATHEMATICS/KINDERGARTEN

Unit	Duration	Common Core Standards/ Unit Goals	Transfer Goal(s)	Enduring Understandings	Essential Questions
One to Five	8 Days	**Standards:** K.CC.3 K.CC.4 K.CC.4.a K.CC.4.b K.CC.4.c K.CC.5 **enVisionMath Units:** 1-1 Counting 1, 2, 3 1-2 Counting 1, 2, 3 in Different Arrangements 1-3 Reading and Writing 1, 2, 3 1-4 Counting 4 and 5 1-5 Counting 4 and 5 in Different Arrangements 1-6 Reading and Writing 4 and 5 1-7 Problem Solving: Use Objects	Students will be able to independently use their learning to read and write numbers one through five.	1.) Counting tells how many are in a set no matter which order they are counted. 2.) The last number counted in the set is the total. 3.) There is a unique symbol that goes with each number word. 4.) There is more than one way to show a number. 5.) If you compare two groups and the numbers match, the groups are the same; if one group has items left over, that group has more, and the other group has fewer. 6.) Some problems can be solved by generating a list of outcomes.	1.) How does counting tell how many? 2.) Why is the last number that you say important when counting a set? 3.) Why is writing numbers important? 4.)
Comparing and Ordering Zero to Five	10 Days	**Standards:** K.CC.3 K.CC.4 K.CC.4.b K.CC.4.c K.CC.5 K.CC.6 **enVisionMath Units:** 2-1 More, Fewer, and Same As 2-2 1 and 2 More 2-3 1 and 2 Fewer 2-4 The Number Zero 2-5 Reading and Writing Zero 2-6 As Many, More, and Fewer 2-7 Ordering Numbers 0 to 5 2-8 Ordinals Numbers Through Fifth 2-9 Problem Solving: Use Objects	Students will be able to independently use their learning to compare two groups of objects.	1.) Zero represents no objects. 2.) If you compare two groups and the numbers match, the groups are the same; if one group has items left over, that group has more, and the other group has fewer. 3.) Some problems can be solved by generating a list of outcomes.	1.) What number should you use to show no objects? 2.) Why can you show the same number of objects in different ways? 3.) How does one to one correspondence help you to compare objects? 4.) How can you use a list to solve a problem?
Six to Ten	10 Days	**Standards:** K.CC.3 K.CC.4 K.CC.4.a K.CC.4.b K.CC.4.c K.CC.5 **enVisionMath Units:** 3-1 Counting 6 and 7 3-2 Reading and Writing 6 and 7 3-3 Making 8 and 9 3-4 Reading and Writing 8and 9 3-5 Counting 10 3-6 Reading and Writing 10 3-7 Problem Solving: Look for a Pattern	Students will be able to independently use their learning to count, write, represent, and identify the numbers six to ten in a meaningful context.	1.) Counting tells how many there are in a set. 2.) Numbers on a number line are always in numerical order. 3.) There is more than one way to show a number. 4.) Counting is cumulative.	1.) How do you use counting to tell how many objects are in a set? 2.) How can you be sure you are counting correctly? 3.) How can you show a whole group of objects or the same number of objects in a different way? 4.) What is the last number you say when counting a set of objects?
Comparing and Ordering Numbers 0 to 10	10 Days	**Standards:** K.CC.2 K.CC.4.c K.CC.6 K.CC.7 K.OA.1 **enVisionMath Units:** 4-1 Comparing Numbers Through 10 4-2 Comparing Numbers to 5 4-3 Comparing Numbers to 10	Students will be able to independently use their learning to judge without counting whether a set of objects has less than, more than, or the same number of objects as a reference set.	1.) In a pair of numbers, the number that shows more is greater. 2.) You can use five and ten as benchmarks to compare numbers.	1.) How do you know which number is greater than another? 2.) How do you know which picture shows greater than or less than just by looking at it?

		4-4 1 More 4-5 1 Fewer 4-6 2 More 4-7 2 Fewer 4-8 Ordering Numbers Through 10 4-9 Problem Solving: Use Objects			
Numbers to 20	8 Days	**Standards:** K.CC.2 K.CC.3 K.CC.4.b **enVisionMath Units:** 5-1 Counting, Reading, and Writing 11 and 12 5-2 Counting, Reading, and Writing 13, 14, and 15 5-3 Counting, Reading, and Writing 16 and 17 5-4 Counting, Reading, and Writing 18, 19, and 20 5-5 Problem Solving: Use Logical Reasoning	Students will be able to independently use their learning to count, write, represent, and identify the numbers eleven through twenty in a meaningful context.	1.) There is a unique symbol that goes with each number word.	1.) Why do we need to know how to read and write numbers?
Numbers to 100	10 Days	**Standards:** K.CC.1 K.CC.2 K.CC.4.b K.CC.4.c K.CC.5 **enVisionMath Units:** 6-1 Counting to 30 6-2 About How Many? 6-3 Counting to 100 6-4 Counting Groups of 10 6-5 Patterns on a Hundred Chart 6-6 Problem Solving: Look for a Pattern	Students will be able to independently use their learning to count, write, represent, identify, and group numbers to 100 in a meaningful context.	1.) There is a unique symbol that goes with each number word. 2.) Counting patterns can be seen on a hundred chart.	1.) Why do we need to know how to read and write numbers? 2.) How can you count to one hundred?
Understanding Addition	10 Days	**Standards:** K.OA.1 K.OA.2 K.OA.5 **enVisionMath Units:** 7-1 Stories About Joining 7-2 More Joining 7-3 Joining Groups 7-4 Using the Plus Sign 7-5 Finding Sums 7-6 Addition Sentences 7-7 Problem Solving: Draw a Picture	Students will be able to independently use their learning to develop the meaning of addition by joining parts to make a whole and be able to represent it mathematically.	1.) Joining parts to make a whole is one interpretation of addition. 2.) Addition sentences using a plus (+) and equal (=) sign can show parts of a whole.	1.) How do moving two groups of objects together help you to know how many objects there are in all? 2.) What symbols can you write to show that you are adding two groups and finding the sum?
Understanding Subtraction	10 Days	**Standards:** K.OA.1 K.OA.2 K.OA.5 **enVisionMath Units:** 8-1 Stories About Separating 8-2 Stories About Take Away 8-3 Stories About Comparing 8-4 Problem Solving: Act It Out 8-5 Using the Minus Sign 8-6 Finding Differences 8-7 Subtraction Sentences 8-8 Problem Solving: Act It Out	Students will be able to independently use their learning to separate a set of objects into two sets and be able to represent this with mathematical symbols.	1.) Separating parts from a whole is one interpretation of subtraction. 2.) Taking part of a group away is one interpretation of subtraction. 3.) Comparing two quantities to find how much more/less one quantity is than the other is one interpretation of subtraction. 4.) A subtraction expression uses the minus (-) and equal (=) signs.	1.) How does moving objects to the side of a group of objects help you know how many objects are left? 2.) How can you act out a number story about things taken away? 3.) How does matching one object in one group with another object in another group help you find out about two groups? 4.) What information does a subtraction sentence tell you?
Composing and Decomposing Numbers to 10	12 Days	**Standards:** K.OA.3 K.OA.4 K.MD.3 **enVisionMath Units:** 9-1 Making 4 and 5 9-2 Writing Number Sentences for 4 and 5	Students will be able to use their learning to represent a set number of objects in a number sentence.	1.) There is more than one way to represent a number. 2.) There is more than one way to represent a group of objects.	1.) Why can you show the same number of objects in different ways? 2.) How can you show a whole group of objects in a different way?

		9-3 Making 6 and 7 9-4 Writing Number Sentences for 6 and 7 9-5 Making 8 and 9 9-6 Writing Number Sentences for 8 and 9 9-7 Making 10 9-8 Writing Number Sentences for 10 9-9 Problem Solving: Make a Graph			
Composing Numbers 11 to 19	12 Days	**Standards:** K.OA.3 K.OA.4 K.MD.3 **enVisionMath Units:** 10-1 Making 11, 12, and 13 10-2 Making 14, 15, and 16 10-3 Making 17, 18, and 19 10-4 Problem Solving: Look for a Pattern	Students will be able to independently use to represent the numbers 11 to 19 by using number sentences.	1.) Numbers from 11-19 can be represented as the sum of 10 and some more.	1.) How can the number 10 help us to making the number 11? 19?
Decomposing Numbers 11 to 19	8 Days	**Standards:** K.OA.3 K.OA.4 K.MD.3 **enVisionMath Units:** 11-1 Parts of 11, 12, and 13 11-2 Parts of 14, 15, and 16 11-3 Parts of 17, 18, and 19 11-4 Problem Solving: Look for a Pattern	Students will be able to independently use to represent the numbers 11 to 19 by using number sentences.	1.) Numbers from 11-19 can be represented as the sum of 10 and some more.	1.) How can the number 10 help us to making the number 11? 19?
Measurement	14 Days	**Standards:** K.MD.1 K.MD. 2 **enVisionMath Units:** 12-1 Describing Objects by More Than One Attribute 12-2 Comparing by Length 12-3 More Comparing Objects by Length 12-4 Problem Solving: Try, Check, and Revisit 12-5 Comparing by Height 12-6 More Comparing Objects by Height 12-7 Comparing Capacities 12-8 Comparing by Weight	Students will be able to independently use their learning to measure and compare real world objects based on their length, height, capacity and weight.	1.) Measurement is a process of comparing a unit to the object being measured. 2.) The length of any object can be used as a measurement unit for length. 3.) Capacity is a measure of the amount a container can hold. 4.) The weight of an object is a measure of how heavy an object is. 5.) Some problems can be solved by making a reasoned first try for what the answer might be and then, through additional reasoning, arrive at the correct answer.	1.) How can you decide which object is larger and which object are smaller? 2.) How can you compare and order the length of three objects? 3.) How can you tell if a container holds the same or more or less than another? 4.) How can you compare the weights of two objects? 5.) How do you make a good guess to try to solve a problem?
Sorting, Classifying, Counting, and Categorizing Data	9 Days	**Standards:** K.MD.3 K.G.1 **enVisionMath Units:** 13-1 Same and Different 13-2 Sorting by One Attribute 13-3 Sorting the Same Set in Different Ways 13-4 Sorting by More than One Attribute 13-5 Problem Solving: use Logical Reasoning 13-6 Real Graphs 13-7 Picture Graphs	Students will be able to independently use their learning to organize objects according to attributes (size, shape, and color) and apply these skills to categorize items in their life.	1.) Attributes can be used to compare objects. 2.) Attributes (such as color, shape, or size can be used to sort the same set of objects in different ways. 3.) A set of objects can be sorted according to a combination of attributes. 4.) Some problems can be solved by reasoning about the conditions in the problem.	1.) What does looking at the color, shape, and size of objects help you to know about them? 2.) What are some ways you can sort objects? 3.) How does looking at the colors and shapes of objects in a set help you sort them in different ways? 4.) How can you use what you know about sorting to solve a problem?
Identifying and Describing Shapes	9 Days	**Standards:** K.G.2 K.G.3 **enVisionMath Units:** 14-1 Rectangles 14-2 Square 14-3 Circles 14-4 Triangles 14-5 Hexagons 14-6 Solid Figures	Students will be able to identify that two- and three-dimensional objects make up the world around us.	1.) Shapes have different characteristics that can be used to identify them. 2.) Solid figures are made up of shapes,	1.) How can you identify a shape? 2.) Why makes a solid figure?

		14-7 Flat Surfaces of Solid Figures 14-8 Problem Solving: Using Objects			
Position and Location of Shapes	8 Days	**Standards:** K.G.1 **enVisionMath Units:** 15-1 Inside and Outside 15-2 Above, Below, and On 15-3 In Front of and Behind 15-4 Left and Right 15-5 Problem Solving: Act It Out	Students will be able to independently use their learning to interpret, understand and appreciate our geometric world by developing an understanding of spatial awareness.	1.) The position of objects can be determined in relation to surrounding objects and described using words. 2.) Some problems can be solved using objects to act out the actions in the problem.	1.) How can you describe where something is using words? 2.) How can acting out a problem help you solve it?
Identifying and Describing Shapes	7 Days	Standards: K.G.2 K.G.3 K.G.4 K.G.5 K.G.6 enVisionMath Units: 16-1 Same Size, Same Shape 16-2 Making Shapes from Other Shapes 16-3 Comparing Solid Figures 16-4 Building with Solid Figures 16-5 Problem Solving: Use Logical Reasoning	Students will be able to identify and create two- and three- dimensional objects make up the world around us.	1.) Shapes can be combined to make other shapes. 2.) Shapes in a plane can be the same size and shape.	1.) How can you use smaller shapes to make a larger shape? 2.) How do you know when shapes are exactly the same?