SCHOOL DISTRICT OF THE CHATHAMS

Mathematics
Kindergarten
Full Year

Course Overview

In Kindergarten mathematics, instructional time will focus on two critical areas. First, students will work to represent and compare whole numbers. This will begin with sets of objects and extend gradually. Additionally, students will describe shapes and space. The majority of the course will be devoted to numbers. Students will engage in a variety of differentiated activities throughout the year, aligned with the Standards for Mathematical Practice.

New Jersey Student Learning Standards
The New Jersey Student Learning Standards (NJSLS) can be located at www.nj.gov/education/cccs/2020/.

Counting and Cardinality:
K.CC.A. Know number names and the count sequence.
K.CC.B. Count to tell the number of objects.
K.CC.C. Compare numbers.

Order and Algebraic Thinking:
K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten:
K.NBT.A. Work with numbers 11–19 to gain foundations for place value.

Measurement and Data:
K.MD.A. Describe and compare measurable attributes.
K.MD.B. Classify objects and count the number of objects in each category.

Geometry:
K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
K,G.B. Analyze, compare, create, and compose shapes.

Technology Standards
9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet
9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments

21st Century Integration | NJSLS 9
9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.
9.4.2.CI.2: Demonstrate originality and inventiveness in work
9.4.2.CT.3: Use a variety of types of thinking to solve problems

Career Ready Practices
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP6. Demonstrate creativity and innovation.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP12. Work productively in teams while using cultural global competence.

Interdisciplinary Connections
English Language Arts:
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Units of Study

Unit 1 - Numbers 0 to 5 (~13 days)
- How can you count and group up to 5 objects in different ways?
- What are ways you can show no objects or the number of objects up to 5?

Unit 2 - Compare Numbers 0 to 5 (~11 days)
- What are ways you can compare groups or numbers?
- How can you tell if a group or number is greater in number or less in number than another?

Unit 3 - Numbers 6 to 10 (~15 days)
- How can you count, read, and write numbers 6 - 10?
- What are ways you can make groups of 10?
- How can you use counting patterns to solve problems?

Unit 4 - Compare Numbers 0 to 10 (~11 days)
- What are ways you can compare groups or numbers up to 10?
- How can you tell if a group or number is greater in number or less in number than another (up to 10)?
- How can you transfer a method of solving from one problem to another?

Unit 5 - Classify and Count Data (~13 days)
- How can you classify objects into categories?
- How can you compare the number of objects in different categories?
- How can you tell if the way objects have been sorted or compared makes sense?

Unit 6 - Understand Addition (~14 days)
- What are different ways you can show numbers?
- How can you represent or model addition?
- What are ways to solve addition problems?
- How can patterns be used to add numbers?

Unit 7 - Understand Subtraction (~13 days)
- What are different ways you can show numbers?
- How can you represent or model subtraction?
- What are ways to solve subtraction problems?
- What patterns are found in subtraction equations?

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- How can tools be used to subtract numbers?

Unit 8 - More Addition and Subtraction (~14 days)
- How can you write equations to show parts of numbers to 10?
- How are addition and subtraction equations related?
- How can you model a word problem with math symbols to solve it?
- What are ways to decompose and find missing parts to make 10?

Unit 9 - Count Numbers to 20 (~12 days)
- How can you count, read, and write numbers to 20?

Unit 10 - Compose and Decompose Numbers 11 to 19 (~14 days)
- What are ways to decompose numbers up to 19?
- How can you use patterns to find and make numbers to 19?

Unit 11 - Count Numbers to 100 (~12 days)
- How can we use patterns to count to 30 and 50?
- What are ways (skip counting for example) we can count to 100?
- How can we count on to 100 by tens and ones from a starting number?

Unit 12 - Identify and Describe Shapes (~12 days)
- What are ways we can name shapes?
- How can we describe and identify shapes and solid figures?
- Where do we see shapes in the environment?

Unit 13 - Analyze, Compare, and Create Shapes (~12 days)
- What similarities and differences do we notice about 2-D and 3-D shapes?
- How can we create different 2-D and 3-D shapes?
- How can we build 3-D shapes?

Unit 14 - Describe and Compare Measurable Attributes (~12 days)
- What are different ways we can compare objects? (length, weight, etc…)
- What are ways we can describe different objects and measurements?
- Why is it important to be precise when solving problems using measurable attributes?

Learning Objectives/Discipline Standards of Practice

Learning Objectives:
- Show and count the numbers from 0-100
- Understand and write the numbers from 0-100
- Count and order numbers from 0-100
- Identify groups of objects
- Determine if two groups are equal or unequal
- Compare two numbers
- Compare the number of objects in two or more groups
- Classify objects into categories
- Utilize and name partner numbers
- Utilize number bonds to show the parts and the whole of numbers
- Use groups of five to compose and decompose numbers to 10

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- Add groups of objects and determine the sum
- Write addition sentences
- Explain addition patterns
- Describe addition patterns
- Subtract groups of objects and determine the difference
- Write subtraction sentences
- Explain subtraction patterns
- Describe subtraction patterns
- Add and subtract within 10
- Count by ones to 100
- Count by tens to 100
- Identify and describe triangles, rectangles, squares, hexagons, and circles
- Create composite two-dimensional shapes
- Build and explore two- and three- dimensional shapes
- Identify and describe cubes, spheres, cones, and cylinders
- Compare the heights of two objects
- Compare the lengths of two objects
- Compare the weights of two objects
- Compare the capacities of two objects
- Identify the measurable attributes of an object

Discipline Standards of Practice:
MP.1: Make sense of problems and persevere in solving them
MP.2: Reason abstractly and quantitatively
MP.3: Construct viable arguments
MP.4: Model with Mathematics
MP.5: Use appropriate tools strategically
MP.6: Attend to precision
MP.7: Look for and make use of structure
MP.8: Look for and express regularity in repeated reasoning

Instructional Resources and Materials
Whole class resources have been identified with an asterisk.

Resources
- *Big Ideas Math MRL CC Grade K, 2022*

Materials
- Illustrative Mathematics
- Inside Mathematics
- Exemplars
- Freckle Math
- Splashmath
- Beast Academy
- Manipulatives*
- Math Word Wall*

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Assessment Strategies
Assessment is designed to measure a student's mastery of a course standard and learning objective. Assessment can be used for both instructional purposes (formative assessment) and for evaluative purposes (summative assessment).

The following is a general list of the many forms assessment may take in learning.
- Tests
- Quizzes
- Projects
- Unit and Benchmark Assessments