Kindergarten Math Overview - Course 4150

Content Area: **Math**
Course(s): **MATH-K**
Time Period:
Length: **Full Year**
Status: **Published**

Cover Sheet

EAST BRUNSWICK PUBLIC SCHOOLS

East Brunswick New Jersey

Superintendent of Schools

Dr. Victor P. Valeski

Mathematics

Kindergarten Math - Course Number: 4150

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Course Overview

COURSE DESCRIPTION:

The overall mission of the mathematics curriculum is for students to communicate, make connections, reason and represent the world quantitatively in order to pose and solve problems. In Kindergarten, math instructional time will focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects (this includes quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away); (2) describing shapes and space (this includes identifying, naming, and describing basic two-dimensional shapes presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. In addition, students will learn to use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

As a general guide, more learning time in Kindergarten should be devoted to building number sense than to other topics.

Textbooks and other resources

Textbook: Everyday Math 4 (Grade K) by McGraw-Hill Education (2014).

- My First Math Book (ISBN 978-0-02-142805-2)

- Math at Home, Book 1 (ISBN 978-0-02-138244-6)
- Math at Home, Book 2 (ISBN 978-0-02-138328-3)
- Math at Home, Book 3 (ISBN 978-0-02-138330-6)
- Consumable Home Links (ISBN 978-0-02-137954-5)
- Sing Everyday! Music CD (ISBN 978-0-02-138361-0)
- Teacher's Resource Package, classroom resources and online resources accompanying text (connectED.mcgraw-hill.com)

Units

Course Scope and Sequence

Section	Focus Skills	Approximate Time Frame	Quart
1	Establishing Daily Routines Counting and Skip Counting Comparing Length Use One to One Correspondence Describing and Exploring Shapes Getting to Know Numbers Graphing Uses Five Frames	4 weeks	
2	Comparing Numbers Exploring Shapes Counting Sorting Introduction to Addition and Subtraction Uses Five and Ten Frames Number Stories	5 weeks	
3	Graphing Couting Recognizing and Writing Numbers Number Stories Exploring Ten Frames Sorting Comparing Length Positional Language	4 weeks	

4	Classifly and Sort Count and Compare Graphing Introduction to Fact Strategies Composing and Decomposing Shapes Composing and Decomposing Numbers Introduction to Teen Numbers Exploring Weight and Capacity	4 weeks	
5	Finding sums Generate Combinations to 10 Describe and Draw Shapes Represent and Compare Teen Numbers Introduction to Mathematical Symbols Explore Addition Number Models Combine Shapes to Create New Shapes	4 weeks	
6	Compare Height and Length Graphing Name and Descirbe 3 Dimensional Shapes Explore Subtraction Number Models Describe, Analyze, Compare Geometric Attributes Find Combinations that Add to Ten Model Number Stories with Equations	4 weeks	
7	Practice Addition and Subtraction Explore Place Value of Teen Numbers Compare 2 and 3 Dimensional Shapes Explore and Compare Weight Estimation Decompose Numbers Create, Solve, and Represent Number Stories Develop Fluency within 5 Describe Attributes	4 weeks	
8	Explore 2 and 3 Dimensional Shapes Counting on from Various Starting Numbers Develop Fluency with Addition and Subtraction Facts within 5 Represent Numbers Greater than 10 Find Number Pairs that Add to 10 Order Number from Least to Greatest	4 weeks	

9	Re-create Pattern Block Designs Develop Fluency with Addition and Subtraction Facts within 5 Explore Measurment Finding Combinations that Add to 10	5 weeks	

Standards

Math Kindergarten Overview

Counting and Cardinality

• Know number names and the count sequence.

• Count to tell the number of objects.

• Compare numbers.

Operations and Algebraic Thinking

• Understand addition as putting together and adding to and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

• Work with numbers 11-19 to gain foundations for place value.

Measurement and Data

• Describe and compare measurable attributes.

• Classify objects and count the number of objects in categories.

Geometry

• Identify and describe shapes.

• Analyze, compare, create and compose shapes.

Standards for Mathematical Practice:

MP1. Make sense of problems and persevere in solving them.

MP2. Reason abstractly and quantitatively.

MP3. Construct viable arguments and critique the reasoning of others.

MP4. Model with mathematics.

MP5. Use appropriate tools strategically.

MP6. Attend to precision.

MP7. Look for and make use of structure.

MP8. Look for and express regularity in repeated reasoning

MA.K.CC.A.1	Count to 100 by ones and by tens.
MA.K.CC.A.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
MA.K.CC.B.4a	When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
MA.K.CC.B.4b	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.
MA.K.CC.B.4c	Understand that each successive number name refers to a quantity that is one larger.
MA.K.CC.B.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.
MA.K.CC.C.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 and counting strategies.
MA.K.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.
MA.K.OA.A.1	Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
MA.K.OA.A.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

MA.K.OA.A.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 (e.g., 5 = 2 + 3 and 5 = 4 + 1).
MA.K.OA.A.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
MA.K.OA.A.5	Demonstrate fluency for addition and subtraction within 5.
MA.K.NBT.A.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or 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.
MA.K.MD.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MA.K.MD.A.2	Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
MA.K.MD.B.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
MA.K.G.A.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
MA.K.G.A.2	Correctly name shapes regardless of their orientations or overall size.
MA.K.G.A.3	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
MA.K.G.B.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/“corners”) and other attributes (e.g., having sides of equal length).
MA.K.G.B.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
MA.K.G.B.6	Compose simple shapes to form larger shapes.

Grading and Evaluation Guidelines

Grading Guidelines:

Students are regularly assessed for learning at developmentally appropriate levels throughout the school year. Items used for assessment may include: teacher observation, explanations of problems, ability to use manipulatives to model mathematical thinking, fact fluency assessments, extended constructed responses and unit tests. Common summative assessments for each unit of study are used to measure attainment of grade level goals.

In terms of proficiency level the East Brunswick grades equate to:

- **+: Special Commendation**
- **√: Steady Progress**
- **-: Needs Improvement**

Assessments of student progress are reported to parents as follows:

- Parent conferences are held twice a year
- Standards-based report cards are sent home four times a year
- Students in Kindergarten are evaluated through a portfolio. Specific mathematics skills are outlined and assessed both informally in verbal and written form and through the use of end of unit district oral and unit assessments.
- Unit Portfolio assessments, delineated for each unit, will include such measures as:
    - Written and Performance Measures of proficiency objectives (NJSLO)
    - Records of oral participation in classroom discussions related to unit objectives
    - Records of achievement of lesson objectives (i.e. activity pages, relevant homework)

Course Evaluation:

In terms of proficiency the East Brunswick grades are as follows:

- **+: Special Commendation**
- **√: Steady Progress**
- **-: Needs Improvement**

In Kindergarten Mathematics the goal is that a minimum of 95% of the students will meet at least the minimum proficiency level set for the course. The department will analyze the achievement of students on the four quarter assessments as well as Final Course Grades. For final course grades the achievement of sub-groups identified by the state will be used to determine if modifications to the curriculum and instructional methods are needed.

Course evaluation requires the answering of the following questions:

1. Are course content, instruction and assessments aligned with the required NJ Student Learning Standards?
2. Is instruction sufficient for students to achieve the Standards?
3. Do all students achieve the set proficiencies/benchmarks set for the course?

Other Details

Mathematics (AAAN)

Kindergarten Math

Course No. 4150

SCED

Mathematics (Kindergarten) courses typically begin to set a conceptual foundation in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; and measurement. These courses also require students to develop basic numerical and shape recognition skills. Specific course content depends upon state learning standards for grade 1.