# Math 1 Overview - Course 4151 

Content Area: Course(s): Time Period: Length: Status:

Math MATH-1 Full Year Published

## Cover Page

# EAST BRUNSWICK PUBLIC SCHOOLS 

East Brunswick New Jersey
Superintendent of Schools
Dr. Victor P. Valeski

Mathematics
Math 1 - Course Number: 4151

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Course Adoption: 4/21/1986

## Curriculum Adoption: 11/2/17

Date of Last Revision Adoption: 9/1/2017

## 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 Grade 1, instructional time will focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20 (this includes using a variety of models to model "add-to, take-from, put-together, take-apart, and compare" situations to develop contextual meaning for the operations of addition and subtraction as well as developing strategies to solve arithmetic problems with these operations); (2) developing understanding of whole number relationships and place value, including grouping in tens and ones (this includes comparing whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes, thinking of whole numbers between 10 and 100 in terms of tens and ones and building number sense through hands-on activites); (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 (with the goal being to develop the background for measurement and for initial understandings of properties such as congruence and symmetry).

## Textbooks and other resources

Textbook: Everyday Math 4 (Grade 1) by McGraw-Hill Education (2014).

- Student Math Journal, Vol. 1 (ISBN 978-0-02-143078-9)
- Student Math Journal, Vol. 2 (ISBN 978-0-02-143081-9)
- Student Home Links (ISBN 978-0-02-137958-3)
- Teacher's Resource Package, classroom resources and online resources accompanying text (connectED.mcgraw-hill.com)


## Units

## Course Scope and Sequence

| Unit | Focus Skills | Approximate Time Frame | Quart |
| :---: | :---: | :---: | :---: |
| 1 | Counting | 4 weeks |  |
| 2 | Introducing addition <br> Decomposing numbers <br> Subtraction <br> Number models | 4 weeks |  |
| 3 | Number Stories <br> Counting on a number line <br> Skip counting <br> Using frames and arrows | 4 weeks |  |
| 4 | Length and Addition Facts <br> Measuring length <br> Using a bar graph <br> Combinations of 10 <br> Adding 3 numbers <br> Doubles | 4 weeks |  |
| 5 | Place Value and Comparisons $\text { Use }=,<,>\text {, symbols }$ <br> Two digit addition and subtraction <br> Place value | 4 weeks |  |
| 6 | Addition Fact Strategies <br> Time to the hour <br> Near doubles <br> Making 10 <br> Place value | 4 weeks |  |
| 7 | Subtraction Fact Strategies and Attributes of Shapes <br> Fact families <br> Attributes of shapes | 4 weeks |  |


|  | Digital clocks |  |  |
| :---: | :---: | :---: | :---: |
| 8 | Geometry <br> Halves \& fourths <br> 2D and 3D shapes <br> Time to the half hour | 4 weeks |  |
| 9 | Choose from the following topics: <br> Two-Digit Addition and Subtraction <br> Review: Time | Time-permitting |  |
| Review: 3-Dimensional Geometry |  |  |  |

## Standards

## Grade One Overview

## Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Understand and apply properties of operations and the relationship between addition and subtraction.
- Add and subtract within 20.
- Work with addition and subtraction equations.


## Number and Operations in Base Ten

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.
- Extend the counting sequence.


## Measurement and Data

- Measure lengths indirectly and by iterating length units.
- Tell and write time.
- Represent and interpret data.


## Geometry

- Reason with shapes and their attributes.


## 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
\(\left.$$
\begin{array}{ll}\text { MA.1.G.A. } 1 & \begin{array}{l}\text { Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus } \\
\text { non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to } \\
\text { possess defining attributes. }\end{array}
$$ <br>

Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles,\end{array}\right\}\)| and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right |
| :--- |
| circular cones, and right circular cylinders) to create a composite shape, and compose new |
| shapes from the composite shape. |

many more or less are in one category than in another.

MA.1.OA.A. 2

MA.1.OA.B. 3
MA.1.OA.B. 4
MA.1.OA.C. 5
MA.1.OA.C. 6

MA.1.OA.D. 7

MA.1.OA.D. 8

MA.1.NBT.A. 1

MA.1.NBT.B. 2

MA.1.NBT.B. 3

MA.1.NBT.B.2a
MA.1.NBT.B.2b

MA.1.NBT.B.2c

MA.1.NBT.C. 4

MA.1.NBT.C. 5

MA.1.NBT.C. 6

Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Apply properties of operations as strategies to add and subtract.
Understand subtraction as an unknown-addend problem.
Relate counting to addition and subtraction (e.g., by counting on 2 to add 2 ).
Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=14$ ); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$ ); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$ ); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$ ).

Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.

Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>,=$, and $<$.

10 can be thought of as a bundle of ten ones - called a "ten."
The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

The numbers $10,20,30,40,50,60,70,80,90$ refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

## 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
- $V$ : 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 Grade 1 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
- $V$ : Steady Progress
- -: Needs Improvement

In Grade 1 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 Unit Assessments, the mid-year assessment, the end of year test, and 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)<br>Math 1<br>Course No. 4151

## SCED

## 52031 Mathematics (Grade 1)

The Mathematics Grade 1 course help build a conceptual foundation in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; and measurement.

This course also helps students to develop their numerical fluency and to make calculation predictions. Specific course content depends upon state learning standards for grade 1.

