

# Math 2 Overview - Course 4152

Content Area: **Math**  
Course(s): **MATH-2**  
Time Period:  
Length: **Full Year**  
Status: **Published**

## **Cover Page**

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### **EAST BRUNSWICK PUBLIC SCHOOLS**

**East Brunswick New Jersey**

**Superintendent of Schools**

Dr. Victor P. Valeski

### **Mathematics**

**Math 2 - Course Number: 4152**

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**Course Adoption:** 4/21/1986

**Curriculum Adoption:** 11/2/17

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## Course Overview

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### 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 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation (this includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing); (2) building fluency with addition and subtraction within 100 (this includes developing, discussing, and using efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation using and understanding place value and the properties of operations); develop place-value based strategies to add and subtract multidigit numbers within 1000. (3) using standard units of measure (this includes using rulers and other measurement tools with the understanding that linear measure involves an iteration of units); and (4) describing and analyzing shapes through their sides and angles (this includes building, drawing, and analyzing two- and three-dimensional shapes as a means of developing a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades).

## Textbooks and other resources

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**Textbook:** Everyday Math 4 (Grade 2) by McGraw-Hill Education (2014).

- Student Math Journal, Vol. 1 (ISBN 978-0-02-143082-6)

- Student Math Journal, Vol. 2 (ISBN 978-0-02-143086-4)
- Student Home Links (ISBN 978-0-02-137959-0)
- 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	Math Routines/Math Tools Number Grids/Number Lines Comparison of Numbers Odd and Even Numbers	4 weeks	
2	Helper Facts/Turn Around Facts Combinations of 10 Equivalent Names	4 weeks	
3	Fact Families "What's My Rule?" Strategies to Solve Subtraction Facts	4 weeks	
4	Telling Time Place Value Length Measurement	4 weeks	
5	Fact Power Money Open Number Lines Number Stories & Number Models Add or Subtract 10 and 100	4 weeks	
6	Data Displays Number Stories Strategies for Addition	4 weeks	
7	Addition and Subtraction Strategies Length Measurement Units and Tools Data Displays	4 weeks	
8	2- and 3-Dimensional Shapes Partitioning Rectangles Equal Groups and Arrays	4 weeks	
	Equal Shares Place Value & Subtraction		

9	Money Multiples of 2, 5 and 10	2 weeks	
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## **Standards**

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### **Grade Two Overview**

#### **Operations and Algebraic Thinking**

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication.

#### **Number and Operations in Base Ten**

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

#### **Measurement and Data**

- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.
- Work with time and money.
- 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

MA.2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
MA.2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
MA.2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
MA.2.MD.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
MA.2.MD.A.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
MA.2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.
MA.2.MD.A.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
MA.2.MD.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
MA.2.MD.B.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2,..., and represent whole-number sums and differences within 100 on a number line diagram.
MA.2.MD.C.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
MA.2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
MA.2.MD.D.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

MA.2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.
MA.2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
MA.2.OA.B.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
MA.2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MA.2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MA.2.NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.
MA.2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MA.2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.
MA.2.NBT.A.1a	100 can be thought of as a bundle of ten tens — called a “hundred.”
MA.2.NBT.A.1b	The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
MA.2.NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
MA.2.NBT.B.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.
MA.2.NBT.B.7	Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
MA.2.NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
MA.2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.

## **Grading and Evaluation Guidelines**

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### **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 Grade 2 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 Grade 2 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**

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### **Mathematics (AAAN)**

#### **Math 2**

#### **Course No. 4152**

#### **SCED**

#### 52032 Mathematics (Grade 2)

Mathematics Grade 2 continues to build a conceptual foundation in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; and measurement. This course also requires students to develop their numerical fluency, particularly in addition and subtraction, and to solve problems using those operations as well as estimation. Specific course content depends upon state learning standards for grade 2.