

# Course Syllabus

## Mathematics, Mathematics Grade 2

Morgan County Curriculum 4.1 Elementary., Final  
Morgan County School District

### Number Properties and Operations

- 1.1 Supporting  
The learner will be able to explain how the base 10 numbers system relates to place value and APPLY multiple representations such as drawings, manipulatives, base-10 blocks, number lines, expanded form and symbols to describe whole numbers 0 to 9,999 as well as be able to APPLY these same representations to describe fractions (halves, thirds, fourths) and APPLY these numbers to real world problems.
- 1.1.2 Supporting  
The learner will be able to read, write and rename whole numbers from 0 to 9,999 and APPLY them to real world mathematical problems.
- 1.1.3 Supporting  
The learner will be able to compare and order whole numbers to whole numbers, decimals to decimals (as money only) and picture representations of fractions to fractions using  $<$ ,  $>$ ,  $=$  symbols.
- 1.2.1 Supporting  
The learner will be able to apply and describe appropriate strategies for estimating quantities of objects and computational results with addition and subtraction.
- 1.3.1 Supporting  
The learner will be able to analyze real world problems to identify appropriate representations including mathematical operations, and will apply operations to solve real-world problems such as adding and subtracting whole numbers with three digits or less, multiplying whole numbers of 10 or less, problems and problems fractions with like denominators less than or equal to four and add and subtract decimals related to money.
- 1.3.2 Supporting  
The learner will be able to skip count forward and backward by 2s, 5s, 10s, and 100s.

- 1.5.1 Supporting  
The learner will be able to identify and provide examples of odd numbers and even numbers and will apply these numbers to solve real-world problems.
- 1.5.2 Supporting  
The learner will be able to use the commutative properties of addition and multiplication, the identity properties of addition and multiplication and the zero property of multiplication in written and mental computation.

### Measurement

- 2.1.1 Supporting  
The learner will be able to apply standard units to measure length to the nearest half-inch or the nearest centimeter, to determine weight to the nearest pound, to tell time to the nearest quarter hour, to identify coins and bills by value and to read Fahrenheit temperature.
- 2.1.2 Supporting  
The learner will be able to use standard units to measure temperature in Fahrenheit and Celsius to the nearest degree.
- 2.1.3 Supporting  
The learner will be able to choose and use appropriate tools like a thermometer, scale, balance, clock, ruler, for specific measurement tasks.
- 2.1.4 Supporting  
The learner will be able to use nonstandard and standard unites of measurement to identify measurable attributes of an object like length in inches or centimeters, weight in ounces or pounds and will be able to make an estimate using appropriate units of measurement.
- 2.1.5 Supporting  
The learner will be able to use units of measurement to describe and compare attributes of objects to include length (in, cm) width, height, money (cost), temperature (F) and weight (oz, lb) and sort objects and compare attributes by shape, size and color.

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- 2.1.6 Supporting  
The learner will be able to estimate weight, length, perimeter, area, and time using appropriate units of measurement.
- 2.2.1 Supporting  
The learner will be able to describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (US Customary, metric) units of measure to include length (in, cm) time, money, temperature (F) and weight (oz. lb).
- 2.2.2 Supporting  
The learner will be able to determine elapsed time by half hours.
- 2.2.3 Supporting  
The learner will be able to convert units within the same measurement system including money (dollars, cents), time (minutes, hours, days weeks, months) weight (ounce, pound) and length (inch, foot).

### Geometry

- 3.1.1 Supporting  
The learner will be able to describe and provide examples of basic geometric elements and terms like sides, edges, faces, bases, vertices, and angles, and will apply these elements to solve real-world and mathematical problems.
- 3.1.2 Supporting  
The learner will be able to describe and provide examples of basic two-dimensional shapes like circles, triangles, squares, rectangles, trapezoids, rhombuses, hexagons, and will apply these shapes to solve real-world and mathematical problems.
- 3.1.3 Supporting  
The learner will be able to describe and provide examples of basic three-dimensional objects like spheres, cones, cylinders, pyramids, cubes and will apply the attributes to solve real-world mathematical problems.

- 3.1.5 Supporting  
The learner will be able to identify and describe congruent figures in real-world and mathematical problems.
- 3.2.1 Supporting  
The learner will be able to describe and provide examples of line symmetry in real-world and mathematical problems or will apply one line of symmetry to construct a simple geometric design.
- 3.3.1 Supporting  
The learner will be able to locate points on a grid representing a positive coordinate system.

### Data Analysis and Probability

- 4.1.1 Supporting  
The learner will be able to analyze and make inferences from data displays like drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs with two or three sectors, line plots, and two-circle Venn diagrams.
- 4.1.2 Supporting  
The learner will be able to collect data.
- 4.1.3 Supporting  
The learner will be able to organize and display data.
- 4.2.1 Supporting  
The learner will be able to determine the median and range of a set of data with no more than one mode and the range of a set of data.
- 4.3.1 Supporting  
The learner will be able to pose questions that can be answered by collecting data.
- 4.4.3 Supporting  
The learner will be able to describe and give examples of the probability of an unlikely event (near zero) and a likely event (near one).

### Algebraic Thinking

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- 5.1.1 Supporting  
The learner will be able to extend simple patterns like  
2, 4, 6, 8,...; ? \* ? \*.
- 5.1.2 Supporting  
The learner will be able to describe functions  
(input-output) through pictures and words.
- 5.1.3 Supporting  
The learner will be able to determine the value of an  
output given a function rule and an input value.
- 5.3.1 Supporting  
The learner will be able to model real-world and  
mathematical problems with simple number sentences  
(equations and inequalities) with a missing value like  $2$   
 $+ ? = 7$  and apply simple number sentences to solve  
mathematical and real-world problems.