

# Curriculum Map: Riverview First Grade Mathematics

Course: Math Grade 1

Grade(s): First Grade

## Course Description:

Grade 1 Mathematics focuses on four critical areas.

1. Developing understanding of addition, subtraction and strategies for addition and subtraction within 20.
2. Developing understanding of whole number relationships and place value, including grouping in 10s and 1s.
3. Developing understanding of linear measurement and measuring lengths as iterating length units.
4. Reasoning about attributes of, and composing and decomposing geometric shapes.

## Course Student Learning Outcomes:

### Operations and Algebraic Thinking

CC.2.2.1.A.1

Represent and solve problems involving addition and subtraction within 20.

CC.2.2.1.A.2

Understand and apply properties of operations and the relationship between addition and subtraction.

### Number and Operations in Base Ten

CC.2.1.1.B.1

Extend the counting sequence to read and write numerals to represent objects.

CC.2.1.2.B.2

Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.

CC.2.1.1.B.3

Use place value concepts and properties of operations to add and subtract within 100.

### Measurement and Data

CC.2.4.1.A.1

Order lengths and measure them both indirectly and by repeating length units

CC.2.4.1.A.2

Tell and write time to the nearest half hour using both analog and digital clocks.

CC.2.4.1.A.4

Represent and interpret data using tables/charts.

## **Geometry**

CC.2.3.1.A.1

Compose and distinguish between two- and three- dimensional shapes based on their attributes

CC.2.3.1.A.2

Use the understanding of fractions to partition shapes into halves and quarters.

### **Course Essential Questions:**

Mathematical relationships among numbers can be represented, compared, and communicated.

How is mathematics used to quantify, compare, represent, and model numbers?

How can mathematics support effective communication?

How are relationships represented mathematically?

What does it mean to estimate or analyze numerical quantities?

What makes a tool and/or strategy appropriate for a given task?

How can recognizing repetition or regularity assist in solving problems more efficiently?

Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.

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How can mathematics support effective communication?

How are relationships represented mathematically?

What does it mean to estimate or analyze numerical quantities?

What makes a tool and/or strategy appropriate for a given task?

How can recognizing repetition or regularity assist in solving problems more efficiently?

Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.

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How is mathematics used to quantify, compare, represent, and model numbers?

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How are relationships represented mathematically?

How can expressions, equations, and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?

How can recognizing repetition or regularity assist in solving problems more efficiently?

How can patterns be used to describe relationships in mathematical situations?

Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.

How can recognizing repetition or regularity assist in solving problems more efficiently?

How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?

How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?

How can geometric properties and theorems be used to describe, model, and analyze situations?

How can patterns be used to describe relationships in mathematical situations?

Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.

What does it mean to estimate or analyze numerical quantities?

When is it appropriate to estimate versus calculate?

What makes a tool and/or strategy appropriate for a given task?

Why does "what" we measure influence "how" we measure?

In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?

How precise do measurements and calculations need to be?

Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.

What does it mean to estimate or analyze numerical quantities?

What makes a tool and/or strategy appropriate for a given task?

Why does "what" we measure influence "how" we measure?

How can data be organized and represented to provide insight into the relationship between quantities?

How does the type of data influence the choice of display?

How can probability and data analysis be used to make predictions?

Data can be modeled and used to make inferences.

What does it mean to estimate or analyze numerical quantities?  
What makes a tool and/or strategy appropriate for a given task?  
Why does “what” we measure influence “how” we measure?  
How can data be organized and represented to provide insight into the relationship between quantities?  
How does the type of data influence the choice of display?  
How can probability and data analysis be used to make predictions?

**Course Big Ideas:**

1. Mathematical relationships among numbers can be represented, compared, and communicated.
2. Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.
3. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.
4. Patterns exhibit relationships that can be extended, described, and generalized.
5. Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.
6. Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.
7. Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
8. Data can be modeled and used to make inferences.

**Course Long Term Transfer Goals:**

Students will be able to independently use their learning to:

1. Make sense of and persevere in solving complex and novel mathematical problems.
2. Use effective mathematical reasoning to construct viable arguments and critique the reasoning of others.
3. Communicate precisely when making mathematical statements and express answers with a degree of precision appropriate for the context of the problem/situation.
4. Apply mathematical knowledge to analyze and model situations/relationships using multiple representations and appropriate tools in order to make decisions, solve problems, and draw conclusions.
5. Make use of structure and repeated reasoning to gain a mathematical perspective and formulate generalized problem solving strategies