



## Mathematics

Course: Math 7  
Middle School: Liberty and  
Roosevelt Middle Schools

### Essential Course Information

- Revised Curriculum
- Full Year - 6 Credits

### Course Overview

This course is the second required course in the 6-8 grade-band. The course focuses on developing understanding of and applying proportional relationships, developing understanding of operations with rational numbers and working with expressions and linear equations, solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume, and drawing inferences about populations based on samples.

Unit	Estimated Class Time	Overview
<a href="#"><u>Unit 1- Proportional Relationships</u></a>	7 weeks	In this unit, students will extend their knowledge of unit rates and dividing fractions into ratios with rational numbers and develop understanding of proportional relationships and proportionality. Students will also be introduced to the circle and how to measure and calculate the diameter, radius, and circumference of a circle using the number pi.
<a href="#"><u>Unit 2- Numbers and Operations</u></a>	4 weeks	In this unit, students will use their knowledge of positive and negative numbers on the number line to add and subtract negative numbers. Students will extend this knowledge into the algorithm for adding and subtracting positive and negative numbers and use these skills to solve real world problems.
<a href="#"><u>Unit 3- Numbers and Operations (Multiply and Divide Rational Numbers)</u></a>	4 weeks	In this unit, students will develop an understanding that numbers in decimal form can be terminating or repeating decimals. Students will then extend their knowledge of operations with rational numbers into multiplying and dividing rational numbers.
<a href="#"><u>Unit 4- Algebraic Thinking</u></a>	5 weeks	In this unit, students will learn how to simplify expressions, write and identify equivalent expressions, write and solve one-step and multi-step equations and inequalities, and model and solve application problems using expressions, equations, and inequalities.
<a href="#"><u>Unit 5- Proportional Reasoning</u></a>	5 weeks	In this unit, students will learn how to reason proportionally to help in understanding applications of percents, such as simple interest, percent change, and percent error. Proportional reasoning skills can be used to draw conclusions about populations based on random samples. Two populations can be compared using knowledge about data distributions and measures of center.
<a href="#"><u>Unit 6- Geometry</u></a>	5 weeks	In this unit, students will learn how to solve problems involving area, surface area, and volume, describe plane sections of three-dimensional figures, find unknown angle measures, and draw plane figures. Students will build on their prior understandings of area of parallelograms and triangles, as well as volume and surface area of nets. This unit will prepare students to solve problems with volumes of cylinders, cones, and spheres, and for understanding rigid transformations and congruence.
<a href="#"><u>Unit 7- Probability</u></a>	4 weeks	In this unit, students will learn about theoretical probability, experimental probability, and compound events. Students will build on their knowledge of percents, proportional relationships, and random samples to make inferences and justify conclusions. This unit on probability prepares students to understand conditional probability and the rules of probability involving compound events.

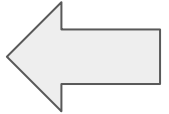
# Content Continuum

**Course before..**

Math 6: In Grade 6, instructional time focuses on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

**Current Course**

**Current Course**



**Course after..**

Math 8: In Grade 8, instructional time focuses on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

## INSTRUCTIONAL / SUPPLEMENTAL MATERIALS

1. i-Ready Classroom Mathematics
2. Online resources and supplemental to enhance understanding of course content and skills

All existing resources will be evaluated for alignment to new curriculum.

## KEY FEATURES OF REVISION

- Student access to digital resources, diagnostic assessments, online instruction
- Integration of performance based assessments, common writing tasks, and projects.
- Incorporations of activities and assessments that develop 21st century skills.

***Special Education sections of Math 7 are offered (inclusion, pull-out resources, learning and language disabilities).***

***Differentiation strategies will be included (DATE)***

Mathematics Department  
West Orange Public Schools  
Emad Abu-Hakmeh, Supervisor 6-12

