Essential Standards and Course Descriptions

Grade 6 Mathematics

Hortonville Middle School | Greenville Middle School

The following document has been created with our parents in mind. The purpose is to communicate with parents related to the 'essential standards' being taught for every subject and in every grade level. Included is also a brief course description written by a collaborative team of teachers representing both middle schools. As a school district, we believe very strongly that although we have two unique middle schools, both schools must ensure a guaranteed and viable curriculum. What this means is that the same 'essential' learning being taught at HMS will also be taught at GMS to ensure that EVERY student, regardless of enrollment, will be prepared to enter Hortonville High School having learned prioritized academic and behavioral expectations.

What is an 'essential standard'? Every school district adopts academic standards for every area of study. The Hortonville Area School District is no different. Unfortunately, not all standards are created equal. This means that some standards have been predetermined by the teaching faculty as most critical or 'essential' for students to learn and demonstrate before moving on to the next grade level. These standards are assessed and reported out to parents on progress reports (formerly called report cards). We sometimes call these our 'must know' standards. This is not to say that all other standards, or 'nice to know standards', are not covered, but they may not be covered to the same level as our 'essential standards'.

Below you will find a listing of courses taught at the 6th grade level in the Hortonville Area School District. Included will also be a brief course description and the 'essential standards' assessed. If you should ever have any questions, we strongly encourage parents to contact our faculty members early and often.

Subject: 6th Grade Mathematics

Course Description: In CMP important mathematical ideas are identified. Each idea is studied in depth within a unit and then used throughout the remaining units. These mathematical ideas are embedded in the context of interesting problems. As students explore a series of connected problems, they develop understanding of the embedded ideas and with the aid of the teacher, abstract powerful mathematical ideas, and problem-solving strategies. CMP students are developing mathematical habits of mind: solving problems, reflecting on solution methods, examining why the methods work, comparing methods, generalizing methods, and relating methods to those used in previous situations.

In *Prime Time*, students will explore important properties of whole numbers. Many of these properties are related to multiplication and division. The Investigations will help students understand relationships among factors, multiples, divisors, and products. Students will also learn how the Distributive Property relates multiplication and addition.

In *Comparing Bits and Pieces*, your child will develop skills in using fractions, decimals, ratios and percents to measure and to compare quantities.

In *Let's Be Rational*, your student will develop an understanding of the four basic arithmetic operations with fractions, including mixed numbers. They will also describe strategies for using these operations when solving problems involving fractions.

In *Covering and Surrounding,* your student will explore areas and perimeters of figures. Attention is given especially to quadrilaterals and triangles. Your child will also explore surface area and volume of rectangular prisms.

In *Decimal Ops*, your student will learn how to make sense of and use the four operations (+, -, x, ÷,) on decimal numbers. Your child will also improve your understanding of and skill in working with percents.

In *Variables and Patterns*, your child will study some basic ideas of algebra and learn some ways to use those ideas to solve problems and make decisions.

In *Data About Us*, students will learn different ways to collect, organize, display, and analyze data.
source(s): https://connectedmath.msu.edu/families/helping-with-math/cmp3-grade-6/

Essential Standards Taught:

6.RP.A.2
Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.

6.RP.A.3.a
Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Ratios and Proportional Relationships
Understand ratio concepts and use ratio reasoning to solve problems.

3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

6.RP.A.3.b
Solve unit rate problems including those involving unit pricing and constant speed.

Ratios and Proportional Relationships
Understand ratio concepts and use ratio reasoning to solve problems.
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
b. Solve unit rate problems including those involving unit pricing and constant speed.

6.RP.A.3.d
Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Ratios and Proportional Relationships
Understand ratio concepts and use ratio reasoning to solve problems.
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

6.EE.A.2
Write, read and evaluate expressions in which letters stand for numbers. For example, "Subtract y from 5" as 5-y.
 Add this to CBP description:

In *Comparing Bits and Pieces*, your child will develop skills in using fractions, decimals, ratios and percents to measure and to compare quantities. There is a strong focus on ratio reasoning to include manipulating and transforming units appropriately, real-world problems involving unit pricing and constant speed, and using/creating rate tables accordingly.

6.RP.A.3.c

Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

Ratios and Proportional Relationships
Understand ratio concepts and use ratio reasoning to solve problems.
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.