Hope Township School Mathematics
Measurable Expectations

Mission Statement

Hope Township School, in cooperation with our community, values the importance of a supportive, challenging education for all students delivered through an effective, contemporary curriculum that meets or exceeds the Common Core State Standards and the New Jersey Core Curriculum Content Standards. By fostering communication and respect in a positive educational environment, all children can realize their potential.

7th Grade

Grade Level Goals:

◊ Work with rates and unit rates in quantities measured in different units

◊ Determine if two rates are proportional

◊ Represent proportional relationship as equations and determine constant of proportionality (m)

◊ Graph proportional relationship as linear equation

◊ Use proportions to solve multi-step proportion/percent problems:

  ◊ Simple interest, Mark ups/discounts, Commissions, Percent of change, Percent error, Use percent proportion to find missing part or total

◊ Work with additive inverse, multiplicative inverse, and absolute value

◊ Convert fractions to decimals and determine if repeating or terminating

◊ Solve real-world and mathematical problems involving the four operations with rational numbers

◊ Create and solve 2-step variable equations and inequalities

◊ Solve problems involving scale drawings

◊ Find missing side in similar figures

◊ Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole, fraction, decimal)

◊ Draw(freehand, with ruler and protractor, and with technology) geometric shapes with given conditions.

◊ Given angle measures and side measures determine triangle formed if possible

◊ Find 2-D cross-section of 3-D figures

◊ Find area and circumference of a circle

◊ Examine relationship between circumference and area and radius and diameter of circle

◊ Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms

◊ Find missing angle if figure using definition of supplementary, complementary, adjacent, and vertical angles

◊ Find perimeter and area of 2-D figures composed of shapes including circles

◊ Find volume and Surface area of prisms and pyramids

◊ Understand that statistics can be used to gain information about a population by examining a sample of the population. This information is only valid if the sample is representative.

◊ Use measures of central and measures of variability from random samples to draw informal comparative inferences about two populations.

◊ Use data from a random sample to draw inferences about a population

◊ Understand probability of an event is between 0 and 1

◊ Determine both theoretical and experimental probabilities

◊ Find probability of compound events

◊ Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams

◊ Design and use simulations to generate frequencies of compound events

Mental Math

◊ Add whole number and fraction or mixed number

◊ Subtract mixed number from whole number

◊ Subtract decimal from whole number

◊ Multiply and Divide decimals by power of 10

◊ Find fractional part of whole numbers that are a multiple of the denominator of fraction and numerator not equal to 1. Ex: 2/3 of 33 = 22

◊ Find multiples of 10%,75%,multiples of 100%, 5%, of compatible whole numbers

◊ Convert common percents (multiples of 10%,75%,multiples of 100%, 5%, multiples of 33.33%) to fraction and decimal equivalents

◊ Find missing value in a proportion with compatible numbers Ex: x/4 = 12/16

Computation skills
(with Pen and paper)

◊ Fluently add, subtract, multiply, and divide fractions

◊ Add and subtract mixed numbers

◊ Find percent of a number

◊ Add, subtract, multiply, and divide integers

Common Core Standards 7th Grade Overview:

- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations
- Geometry
- Statistics and Probability
- Mathematical Practices