

BELLEFONTE AREA SCHOOL DISTRICT
GRADE 4 FOURTH MARKING PERIOD MATHEMATICS LEARNING OBJECTIVES

2.1 Numbers, Number Systems and Number Relationships

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Demonstrate an understanding of the use of numbers by:**
 - Reading, writing, and modeling fractions.
 - Finding multiples and factors of numbers.
- 2. Demonstrate an understanding of ways to represent numbers by:**
 - Using numerical expressions to find and represent equivalent names for fractions.
 - Renaming fourths, tenths, and hundredths as decimals and percents.
- 3. Demonstrate an understanding of number relationships by:**
 - Comparing and ordering integers between -100 and 1,000,000,000.

2.2 Computation and Estimation

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Compute accurately by:**
 - Demonstrating automaticity with multiplication facts through $10 * 10$ and proficiency with related division facts.
 - Using mental arithmetic and paper-and-pencil algorithms to solve problems involving the multiplication and division of whole numbers.
 - Using mental arithmetic and paper-and-pencil algorithms to solve problems involving the addition and subtraction of fractions.
- 2. Make reasonable estimates by:**
 - Approximating whole number and decimal multiplication.
- 3. Demonstrate an understanding of the meanings of operations by:**
 - Using repeated addition to model multiplication and division.

2.3 Measurement and Estimation

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Measure accurately by:**
 - Determining length to the nearest $\frac{1}{4}$ inch & $\frac{1}{2}$ centimeter.
 - Estimating and measuring the size of angles.
 - Using strategies to measure the perimeter and area of polygons.
 - Estimating the area of irregular shapes.
- 2. Use reference frames correctly (i.e. clocks, thermometers)** (Not assessed during fourth marking period).

2.6 Statistics and Data Analysis & 2.7 Probability and Predictions

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Select and create graphs using data by:**
 - Collecting and organizing data or using given data to create charts, tables, bar graphs, line plots, and line graphs.
- 2. Analyze and interpret data by:**
 - Using graphs to ask and answer questions and draw conclusions.
- 3. Demonstrate an understanding of probability by:**
 - Describing events using basic probability terms.
 - Predicting the outcome of an experiment and testing those predictions using manipulatives.
 - Expressing the probability of an event as a fraction.

2.8 Algebra and Functions, 2.10 Trigonometry, & 2.11 Calculus

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Demonstrate an understanding of patterns and functions by:**
 - Extending, describing, and creating numeric patterns.
 - Describing rules for patterns and using them to solve problems.
- 2. Use symbols to represent and analyze situations by:**
 - Solving open number sentences and explaining solutions.
 - Inserting grouping symbols to make number sentences true.

2.9 Geometry

By the end of the fourth marking period, fourth grade students should be able to:

- 1. Demonstrate an understanding of 2- and 3- dimensional shapes by:**
 - Describing and classifying plane and solid figures.
- 2. Apply transformations and symmetry by:**
 - Identifying, describing, and sketching examples of reflections, translations, and rotations.