

**BELLEFONTE AREA SCHOOL DISTRICT**  
**GRADE 4 Second MARKING PERIOD MATHEMATICS LEARNING OBJECTIVES**

**2.1 Numbers, Number Systems and Number Relationships**

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

1. **Demonstrate an understanding of the use of numbers by:**
  - Reading and writing whole numbers and decimals.
  - Identifying places in numbers and the values of the digits in those places.
  - Finding multiples and factors of numbers.
2. **Demonstrate an understanding of ways to represent numbers:** (Not assessed during second marking period)
3. **Demonstrate an understanding of number relationships by comparing and ordering integers, rational numbers, and decimals.**

**2.2 Computation and Estimation**

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

1. **Compute accurately by:**
  - Solving problems involving the addition and subtraction of whole numbers and decimals using mental arithmetic and paper-and-pencil algorithms.
  - Demonstrating automaticity with multiplication facts.
  - Computing fact extensions using basic facts (e.g.,  $30 * 60$ .)
2. **Make reasonable estimates for whole number and decimal addition, whole number multiplication, and explain how the estimates were obtained.**
3. **Demonstrate an understanding of the meanings of operations:** (Not assessed during second marking period)

**2.3 Measurement and Estimation**

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

1. **Measure accurately by measuring length to the nearest  $\frac{1}{4}$  inch &  $\frac{1}{2}$  centimeter.**
2. **Use reference frames correctly (i.e. clocks, thermometers):** (Not assessed during second marking period)

**2.6 Statistics and Data Analysis & 2.7 Probability and Predictions**

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

1. **Select and create graphs using data:** (Not assessed during second marking period)
2. **Analyze and interpret data:** (Not assessed during second marking period)
3. **Demonstrate an understanding of probability:** (Not assessed during second marking period)

**2.8 Algebra and Functions, 2.10 Trigonometry, & 2.11 Calculus**

*By the end of the second 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 and writing rules for patterns and using them to solve problems.
2. **Use symbols to represent and analyze situations by:**
  - Using conventional notation to write expressions and number sentences using the four basic operations.
  - Determining whether number sentences are true or false.
  - Solving open number sentences.
  - Writing number expressions and number sentences to model a number story.

**2.9 Geometry**

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

1. **Demonstrate an understanding of 2- and 3- dimensional shapes:** (Not assessed during second marking period)
2. **Apply transformations and symmetry:** (Not assessed during second marking period)