

BELLEFONTE AREA SCHOOL DISTRICT
GRADE 1 MATHEMATICS LEARNING OBJECTIVES – Marking Period 4

2.1 Numbers, Number Systems and Number Relationships

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

1. Demonstrate an understanding of the meanings, uses, and representations of numbers by:

- Counting on by 10s from any number less than 100.
- Counting collections of objects accurately and reliably.
- Reading, writing, and modeling whole numbers up to 1000 with manipulatives.
- Identifying and modeling odd and even numbers using manipulatives.

2. Demonstrate an understanding of various ways to represent numbers by:

- Using manipulatives, drawings, tally marks, and numerical expressions involving addition and subtraction of 1- and 2-digit numbers to give equivalent names for numbers up to 100.

3. Demonstrate an understanding of number relationships by:

- Comparing and ordering whole numbers past 100.

2.2 Computation and Estimation

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

1. Compute accurately by:

- Demonstrating proficiency with $+/- 0$, $+/- 1$, doubles, and sum-equals-ten addition and subtraction facts (i.e. $6 + 4 = 10$ and $10 - 7 = 3$).
- Using manipulatives, number grids, tally marks, mental arithmetic, and calculators to solve problems involving the addition and subtraction of 1-digit whole numbers with 1- or 2-digit whole numbers.
- Calculating and comparing values of combinations of coins.

2. Make reasonable estimates (not assessed during fourth marking period)

3. Demonstrate an understanding of the meanings of operations (not assessed during fourth marking period)

2.3 Measurement and Estimation

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

1. Demonstrate an understanding of measurement/Measure accurately by:

- Measuring length with standard measuring tools.
- Knowing and comparing the value of pennies, nickels, and dimes; making exchanges between coins.

2. Demonstrate an understanding of reference frames/Use reference frames (i.e. clocks, thermometer) by:

- Reading temperatures on a Fahrenheit Thermometer to the nearest degree.
- Telling and showing time to the nearest half and quarter hour on an analog clock.

2.6 Statistics and Data Analysis & 2.7 Probability and Predictions

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

1. Select and create appropriate graphs of collected or given data (not assessed during the fourth marking period)

2. Analyze and interpret data (not assessed during the fourth marking period)

3. Demonstrate an understanding of probability/Apply basic concepts of probability by:

- Describing events using basic probability terms (e.g. certain, likely, unlikely, impossible).

2.8 Algebra and Functions, 2.10 Trigonometry, & 2.11 Calculus

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

1. Demonstrate an understanding of patterns and functions by:

- Extending, describing and creating numeric, visual, and concrete patterns.
- Solving problems involving "What's My Rule?" tables, and Frames-and-Arrows diagrams.

2. Use symbols to represent and analyze situations by:

- Reading, writing, and explaining number sentences using the symbols $+$, $-$, $=$, $>$, and $<$.
- Applying the Commutative Property for Addition to basic addition fact problems (i.e. $4 + 6 = 10$ and $6 + 4 = 10$).

2.9 Geometry

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

1. Demonstrate an understanding of the characteristics and properties of two- and three-dimensional shapes by:

- Identifying and describing plane and solid figures including; circles, triangles, squares, rectangles, spheres, cylinders, pyramids, cones, and cubes.

2. Apply transformations and symmetry in geometric situations by:

- Identifying shapes having line symmetry.
- Completing line-symmetric shapes or designs.