

BELLEFONTE AREA SCHOOL DISTRICT
GRADE 3 MATHEMATICS LEARNING OBJECTIVES – Third Marking Period

2.1 Numbers, Number Systems and Number Relationships

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

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

- Reading, writing, and identifying whole numbers up to 1,000,000.
- Reading, writing, and modeling decimals through hundredths using manipulatives.
- Reading, writing, and modeling fractions.
- Solving problems involving fractional parts of a region or a collection.
- Finding multiples of 2, 5, and 10.

2. Demonstrate an understanding of various ways to represent numbers *(not assessed during third marking period)*

3. Demonstrate an understanding of the relationships between numbers by:

- Comparing and ordering whole numbers up to 1,000,000.
- Comparing and ordering fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{8}$).

2.2 Computation and Estimation

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

1. Compute accurately by:

- Demonstrating automaticity with all addition and multiplication facts through $10 + 10$.
- Using basic facts to compute fact extensions such as $80 + 70$ or $7,000 + 6,000$.
- Using manipulatives, mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the addition and subtraction of whole numbers and decimals in a money context.
- Demonstrating automaticity with $\times 0$, $\times 1$, $\times 2$, $\times 5$, and $\times 10$ multiplication facts.
- Using strategies to compute remaining facts up to 10×10 .
- Using arrays, mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving multiplication of 2- and 3- digit whole numbers by 1-digit whole numbers.

2. Make reasonable estimates by:

- Making reasonable estimates for whole number addition and subtraction problems.

3. Demonstrate an understanding of the meanings of operations by:

- Using repeated addition, arrays, and skip counting to model multiplication.
- Using equal sharing and equal grouping to model division.

2.3 Measurement and Estimation

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

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

- Drawing and describing angles as records of rotations.
- Describing and using strategies to measure the perimeter of polygons.
- Counting unit squares to find the areas of rectangles.
- Describing relationships between minutes in an hour, hours in a day, days in a week.

2. Demonstrate an understanding of reference frames (i.e. clocks, calendar, thermometer) *(not assessed during third marking period)*

2.6 Statistics and Data Analysis & 2.7 Probability and Predictions

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

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

2. Analyze and interpret data *(not assessed during third marking period)*

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

- Describing events using basic probability terms (e.g. certain, impossible).
- Predicting the outcomes of simple experiments and testing the predictions using manipulatives.

2.8 Algebra and Functions, 2.10 Trigonometry, & 2.11 Calculus

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

1. Demonstrate an understanding of patterns and functions by:

- Describing rules for patterns and using them to solve problems.
- Describing and writing rules involving $+$, $-$, and \times and using those rules to solve problems.

2. Use symbols to represent and analyze situations by:

- Reading, writing and explaining number sentences using the symbols $+$, $-$, \times , \div , $=$, $<$, and $>$.
- Understanding that grouping symbols can be used to affect the order in which operations are carried out.

2.9 Geometry

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

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

- Identifying and drawing points, intersecting and parallel lines.
- Using appropriate geometric terms (e.g. face, edge, vertex, and base).

2. Apply transformations and symmetry in geometric situations by:

- Creating and completing 2-D symmetrical shapes or designs.
- Locating multiple lines of symmetry in a 2-D shape.