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

2.1 Numbers, Number Systems and Number Relationships

By the end of the fourth 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.

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

3. Demonstrate an understanding of the relationships between numbers. *(not assessed during fourth marking period)*

2.2 Computation and Estimation

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

1. Compute accurately by:
- 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 x 0, x 1, x 2, x 5, and x 10 multiplication facts.
- Using strategies to compute; x 3, x 4, x 6, x 7, x 8, x 9 multiplication facts up to 10 x 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 for whole number addition and subtraction problems and explain how the estimates were obtained.

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, third grade students should be able to:

1. Demonstrate an understanding of measurement/Measure accurately by:
- Measuring length to the nearest ½ inch and ½ centimeter.
- Describing and using strategies to measure the perimeter of polygons.
- Counting unit squares to find the areas of rectangles.
- Describing relationships among inches, feet, and yards.
- 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) by:
- Telling and showing time to the nearest minute on an analog clock.
- Telling and writing time in digital notation.

2.6 Statistics and Data Analysis & 2.7 Probability and Predictions

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

1. Select and create appropriate graphs of collected or given data by:
- Collecting and organizing data to create charts, tables, bar graphs, and line plots.

2. Analyze and interpret data by:
- Using a graph to answer simple questions and draw conclusions.
- Finding maximum, minimum, mode, and median of a data set.

3. Demonstrate an understanding of probability/Apply basic concepts of probability by:
- Predicting the outcomes of simple experiments and testing the predictions using manipulatives.
- Expressing probability of an event by using " ___ out of ____" language.

2.8 Algebra and Functions, 2.10 Trigonometry, & 2.11 Calculus

By the end of the fourth marking period, third 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.
- Describing and writing rules involving +, -, and *x* 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 +, -, *x*, ÷, =, <, and >.
- Writing expressions and number sentences to model number stories.
- 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 fourth 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 right angles.
- Identifying, describing, modeling and comparing plane and solid figures (e.g. circles, polygons, spheres, cylinders, rectangular prisms, pyramids, cones, and cubes).

2. Apply transformations and symmetry in geometric situations. *(not assessed during fourth marking period)*