Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

Big Idea(s)	**Concept(s)**	**Competencies**	**Essential Questions**
Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions. Mathematical relationships among numbers can be represented, compared, and communicated. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.	**Students will know:** ● Histograms ● 4 Quadrants ● Fraction operations ● Ratios ● Greatest Common Factor and Least Common Multiple ● Statistical questions	**Students will be able to:** ● Read and create histograms ● Plot and identify points in all 4 Quadrants ● Evaluate fractions using all 4 operations ● Evaluate ratios for equivalencies and real world problems ● Find and use GCF and LCM to solve other problems ● Distinguish between statistical and nonstatistical questions ● Create a statistical question .	How can data be organized and represented to provide insight into the relationship between quantities? How is mathematics used to quantify, compare, represent and model numbers? How is mathematics used to quantify, compare, represent, and model numbers?

Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

Topic	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Data Statistical questions Dot plots Histograms Analyzing Data	2 weeks	CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.	M06.D-S.1.1.1 Display numerical data in plots on a number line, including line plots, histograms, and box-and-whisker plots. M06.D-S.1.1.2 Determine quantitative measures of center (e.g. median, mean, mode) and variability (e.g. range, interquartile range, mean absolute deviation) M06.D-S.1.1.3 Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered. M06.D-S.1.1.4 Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

Topic	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Types of Numbers Rational Integers	1 week	CC.2.1.6.E.4 Apply and extend previous understanding of numbers to the system of rational numbers.	M06.A-N.3.1.1 Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g. temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge). M06.A-N.3.1.2. Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g. -(-3) = 3; 0 is its own opposite) M06.A-N.3.1.3 Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane. M06.A-N.3.2.1 Write, interpret, and explain statements of order for rational numbers in real-world contexts. Ex: Write -3 degrees C > -7 degrees C to express the fact that -3 degrees C is warmer than -7 degrees C.

Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

Topic	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Graphing 4 Quadrants	1 week	CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.	M06.A-N.3.1.3 .Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.
Unit/Chapter/Selection of Study	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Greatest Common Factor Least Common Multiple	1 week	CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples.	M06.A-N.2.2.1 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. M06.A-N.2.2.2 Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. Ex: Express 36 + 8 as 4(9+2)

Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

Unit/Chapter/Selection of Study	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Fraction Operations Multiply fractions Divide Fractions Mixed Numbers Improper Fractions Reciprocals Simplified Fractions	2 weeks	CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions	M06.A-N.1.1.1 Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions
Unit/Chapter/Selection of Study	**Approx. # of weeks - % of time**	**PA Academic Standards**	**Assessment Anchors & Eligible Content**
Ratios Equivalence Tape Diagrams Tables Graphing	2 weeks	CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems.	M06.A-R.1.1.1 Use ratio language and notation (such as 3 to 4, 3:4, ¾) to describe a ratio relationship between two quantities. M06.A-R.1.1.2 Find the unit rate a/b associated with a ratio a:b (with b not equal to 0) and use rate language in the context of a ratio relationship. M06.A-R.1.1.3 Construct tables of equivalent ratios relating quantities with whole-number

Berlin Brothersvalley School District
Berlin Brothersvalley Middle School
6th Grade Math Curriculum Framework
First Nine Weeks

			measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios. M06.A-R.1.1.4 Solve unit rate problems including those involving unit pricing and constant speed.

Standards Legend: Essential Important Supplementary