West Virginia State Standards, Grades 5-8 Math

Leaf Pack Network® curriculum meets the following West Virginia State Standards for grades 5-8:

Fifth Grade Mathematics Content Standards and Objectives

Building on mastery of the basic facts of addition, subtraction, multiplication, and division, the fifth grade objectives place emphasis on developing proficiency in using whole numbers, fractions, and decimals to solve problems. Students will collect, display and analyze data in a variety of ways and solve probability problems. Students will solve problems involving area and perimeter, will classify polygons, plot points on a coordinate plane, and write a number sentence using a variable to solve problems. Students should be actively engaged, continuing to use concrete materials and appropriate technologies such as calculators and computers. Problem solving should be integrated throughout all the strands. The development of a variety of problem-solving strategies should be a major goal of mathematics at this grade level. West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade-level Technology Standards and Objectives.

Standard 1: Number and Operations Objectives (MA.S.1)

MA.5.1.7 Model and write equivalencies of fractions, decimals, percents, and ratios.

Standard 5: Data Analysis and Probability Objectives (MA.S.5)

MA.5.5.3 Construct, read, or interpret tables, charts, and graphs to draw reasonable inferences or verify predictions.

Sixth Grade Mathematics Content Standards and Objectives

The sixth grade objectives place continued emphasis on the study of whole numbers, decimals and fractions. However, students need opportunities to apply their skills to real life applications. Calculator sand computers may be used to solve problems. Decreased attention should be given to paper and pencil computations. Sixth graders will continue to use manipulatives whenever new material is introduced or whenever it is needed to review previously taught material. The areas of probability, statistics, geometry, and pre-algebra will be stressed. Students will use ratios to compare data sets, make geometric constructions of three-dimensional figures, explore thoroughly the algebra strand, and solve problems involving circles, volume and surface area.

West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade -level Technology Standards and Objectives.

Standard 1: Number and Operations Objectives (MA.S.1)

MA.6.1.6 Solve problems in context involving addition, subtraction, multiplication, and division of whole numbers, fractions, mixed numbers and decimals.

MA.6.1.8 Convert between fractions, mixed numbers, decimals and percents.

MA.6.1.9 Find the percent of a number.

Standard 2: Algebra Objectives (MA.S.2)

MA.6.2.9 Use variables to represent and solve real world problems appropriate for the 6th grade using multiple strategies.

Seventh Grade Mathematics Content Standards and Objectives

The seventh grade year is an introduction to high school subjects such as algebra, geometry, probability and statistics. With less emphasis on paper/pencil computation, calculators are emphasized in all facets of the mathematics daily work as well as test situations. Students should, by this time, have a mastery of general mathematics topics; however, review of all basic mathematics skills occurs in a relevant context. Problem solving is embedded in the curriculum utilizing a variety of new concepts, while cooperative learning promotes communication skills. Students are routinely permitted to use available technology. West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade -level Technology Standards and Objectives.

Standard 1: Number and Operations Objectives (MA.S.1)

MA.7.1.7 Solve application problems with whole numbers, decimals, fractions and percents.

Eighth Grade Mathematics Content Standards and Objectives

Pre-Geometry with Algebra provides an alternative course for students who do not elect to take Algebra I in the eighth grade or who have not successfully mastered the new skills from Pre-Algebra with Geometry in the seventh grade. In addition to reinforcing the concepts presented in Pre-Algebra with Geometry, this course extends problem solving to a more sophisticated level. Students will continue to apply integer operations, properties, expressions and equations so as to reinforce these concepts in varied applications. Lessons involving cooperative learning, manipulatives, or technology will strengthen students' understanding of concepts while fostering communication and reasoning skills. Calculator use is emphasized for all mathematical tasks

including assessment. West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade-level Technology Standards and Objectives.

Standard 1: Number and Operations Objectives (MA.S.1)

MA.8.1.7 Solve application problems with whole numbers, decimals, fractions, percent, and integers.

Standard 2: Algebra Objectives (MA.S.2)

MA.8.2.10 Represent and solve real world problems appropriate for 8th grade using multiple strategies.

Standard 5: Data Analysis and Probability Objectives (MA.S.5)

MA.8.5.3 Create and extrapolate information from multiple-bar graphs, box and whisker plots, and other data displays using appropriate technology.

MA.8.5.5 Draw inferences and construct convincing arguments, including misuses of statistical or numeric information, based on data analysis.

STROUD WATER RESEARCH CENTER

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