Middle School Mathematics

Math 5 (1.0 Credit)

Students will learn math topics outlined in this course drawing from a variety of sources, including hands-on activities, interactive lessons, and practical math applications. Students will focus on several critical areas including but not limited to developing fluency with addition, subtraction, multiplication, and division of fractions. They will also learn to extend division to 2-digit divisors, integrate decimal fractions into the place value system, and increase an understanding of operations with decimals to hundredths. They will develop a fluency with whole numbers and decimal operations. Semester A starts with operations and expressions, moves into decimals and money, and ends with more work on fractions. Learners will gain valuable skills as they carry out activities that model real life situations like grocery shopping throughout the semester. Semester B begins with students continuing to work with fractions. The first lesson focuses on ratios and challenges students to solve word problems using fractions and ratios in practical life situations. Learners continue to strengthen their math skills by studying mixed and fraction products, and fraction application, models, and division. The third critical area that students will focus on in Grade 5 Math is volume. Students will receive lessons in measurement of length, weight, and volume. They will end the course with a focus on geometry. Varied types of instruction are used to enhance their learning, including video and real life applications, activities, and creative projects.

Math 6 (1.0 Credit)

Students begin this course with a review of basic addition, subtraction, multiplication and division of whole numbers. More complex concepts are built on these basics. Students learn how to add, subtract multiply and divide integers, decimals and fractions. The course also includes lessons on ratios and proportions. The course continues by introducing students to the order of operations and how to use them in solving application problems. Building on these concepts, students are then introduced to the basics of algebra and algebraic expressions. Students then learn how to apply these problem-solving skills to percents and solving single and multiple step equations. An exploration of Geometry, probability and statistics concludes the course.

Math 7 (1.0 Credit)

The course begins with students working with problem-solving skills, beginning algebra skills, geometry, decimals, fractions, data analysis, number theory and patterns, percents, and integer use. Projects measure the student's ability to integrate and apply the course objectives. Students will continue by working with fractions; unit conversions; proportions and rates; percents; geometry topics including lines, angles, polygons, polyhedrons, perimeter, area, surface area, volume, and transformations; squares and square roots; permutations and combinations; and probability. Real-life application of concepts is emphasized in all units.

Pre-Algebra (1.0 Credit)

Pre-Algebra will help students move from the world of simple mathematics to the exciting world of Algebra and Geometry. They will develop skills that will be necessary throughout their life. Students will stretch their thinking by learning to solve real world problems. Learning math and algebra concepts can be fun. Abstract ideas can be challenging for many students but the challenge is one they can meet. Concepts are presented with a little humor, making the learning fun. Students will enjoy learning each new concept and develop a deeper understanding of the math skills they already have. Each concept is presented using examples of the skills, concepts, and strategies students will need. Scaffolding of ideas is provided to ensure student learning.

The course continues to move students into the exciting world of the unknown, Algebra. Building on what they have learned in mathematics and Pre-Algebra, students will expand their skills. They will be introduced to increasingly abstract concepts. Pre-Algebra will provide the student with a concrete understanding of the basics for algebraic thinking. With numerous hands on activities and demonstration videos, they will have multiple opportunities to enhance their process solving skills. Students will be given different assessment opportunities to demonstrate mastery of each skill. Students will study text pages, watch videos, interact with flash presentations, and complete practice problems. The pace is controlled by the student and reviewing the material is encouraged.

Algebra I (1.0 Credit)

Algebra 1 introduces students to the world of Algebra through expressions and equations. Students will evaluate algebraic expressions, solve linear equations and graph them. This course also steers students through various real-world scenarios with the emphasis on using basic statistics to interpret the information given and found. The course continues to build on the concepts learned in the first half by providing a strong foundation in solving problems. Students will work with problems and applications that involve exponents, quadratic equations, polynomials and factoring methods, rational and radical equations, data analysis and probability. Students learn through online lesson materials, videos and interactive activities. The end of each unit tests students' understanding with a self-check quiz with feedback. Also included is a unit exam and project for students to apply what they have learned. Teacher feedback is provided throughout the semester.