

Bracken County Middle School
8th Grade Mathematics
2008-09 Course Syllabus

Address: 167 Parsley Drive
Brooksville, KY 41004
Phone: (606) 735-3425
Website: <http://www.bracken.kyschool.us>

Instructor: Mary Beth Appleman
E-mail: marybeth.appleman@bracken.kyschools.us

Course Description

During the school year, five strands of mathematics are studied: *number properties and operations, measurement, geometry, data analysis and probability, and algebraic thinking*. The content is directly aligned with Kentucky's Program of Studies and Core Content for Assessment Version 4.1. Integral to the learning process is the systematic review of earlier concepts and procedures in which students use previously learned skills to develop proficiency with more advanced concepts. The course includes concept exploration, mathematical tools, manipulatives, calculators, hands on activities, and group work.

Comments

Math skills are an important element of everyday life. The most effective way of learning mathematics is through practice. During this class you will be required to take notes and practice problems through assignments. By doing this you will be able to apply what you have learned to the tests.

Course Standards

Number Properties and Operations

- Provide examples of and identify rational numbers and irrational numbers
- Convert, compare and order multiple numerical representations of rational numbers and irrational numbers
- Estimate to solve problems with rational numbers, checking for reasonable and appropriate computational results
- Add, subtract, multiply and divide rational numbers to solve problems and apply order of operations to simplify numerical expressions
- Apply ratios and proportional reasoning to solve problems
- Identify the use of properties to justify a given step in solving problems

Measurement

- Measure lengths and determine perimeter, circumference and area
- Evaluate the measures of angles by estimation, measurement with a protractor or angle ruler and determine angle measures in mathematical and/or real-world situations
- Apply formulas to determine the volume of right rectangular prisms
- Apply the Pythagorean theorem to determine the length of a hypotenuse
- Convert units within the same measurement system and use these units to solve problems

Geometry

- Identify and compare properties of two-dimensional figures and apply these properties and figures to solve problems
- Compare properties of three-dimensional figures and apply these properties and figures to solve problems
- Provide example of congruent and similar figures
- Transform figures in a coordinate plane and determine the new coordinates of the image after the transformation
- Identify and graph ordered pairs on a coordinate system, correctly identifying the origin, axes and ordered pairs

Data Analysis and Probability

- Analyze and make inferences from data displays
- Determine and construct appropriate data displays and explain why the type of display is appropriate for the data

- Determine the mean, median, mode and range of a set of data, and identify clusters, gaps and outliers within the data
- Apply counting techniques to determine the size of a sample space for a situation
- Determine theoretical and experimental probabilities and make inferences from probability data

Algebraic Thinking

- Extend, describe rules for patterns and find a missing term in a pattern from real-world and mathematical problems
- Represent, analyze, and generalize first degree relationships using tables, graphs and words, and apply the relationships to solve problems
- Explain how the change in one quantity affects the change in another quantity
- Substitute values for variables and evaluate algebraic expressions
- Model and solve problems with one- or two-step single variable, first-degree equations, or inequalities

Method of Grade Calculation

Students will be evaluated on activities including, but not limited to:

Assignments	30%	Notes & Folder	10%
Quizzes	15%	Tests	45%

Textbook

Mathematics: Applications and Concepts. 2004 Glencoe/McGraw –Hill

Required Materials

- Math notebook
- Math folder
- Pencil
- Assignment (completed)

Classroom Rules & Procedures

- Sit down in your seat
- Get out math materials
- Listen to and follow directions
- Respect others
- One person on the floor at a time
- Put your name on all papers
- Number and place in math folder all returned work
- Raise your hand and be called upon before talking

Classroom Participation/Attendance Policy

Students will be expected to be on time and prepared for class with all necessary materials. Attendance is very important because much of the work is done in class. Only students with excused absences will be allowed to make up work for credit. For each day a student is absent, s/he will receive a day to complete make-up work.

Calendar of Course Content

FIRST SEMESTER

Algebra: Integers	3 weeks
Algebra: Rational Numbers	3 weeks
Algebra: Real Numbers and the Pythagorean Theorem	4 weeks
Statistics	4 weeks
Probability	4 weeks

SECOND SEMESTER

Proportions, Algebra, and Geometry	3 weeks
Percent	3 weeks
Geometry	3 weeks
Geometry: Measuring Area and Volume	3 weeks
Algebra: More Equations and Inequalities	2 weeks
Algebra: Linear Functions	2 weeks
Algebra: Nonlinear Functions and Polynomials	2 weeks