# Math 6 Syllabus

Welcome to 6th grade Math at Bryson Middle School! It is my goal to provide my students with the opportunities they need to be successful as they learn by doing! I look forward to our partnership this year!

**Mrs. Sloan's Contact Information:**

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| **Email** | adsloan@greenville.k12.sc.us |
| **Phone** | (864)355-2199 ext.2173 |
| **Website** | https://sites.google.com/greenvilleschools.us/asloan/home |

**Course Description for 6th Grade Math:**
In Math 6, SCCCR Mathematics Standards continue the work started in elementary grades and focus on four critical strands: Data, Probability, and Statistical Reasoning (DPSR); Measurement, Geometry, Spatial Reasoning (MGSR); Numerical Reasoning (NR); and Patterns, Algebra, and Functional Reasoning (PAFR). Integrated across all four strands are concepts that deepen students' understanding of problem solving, provide meaningful context, and promote critical thinking and collaboration.

For a complete understanding of the essential knowledge and skills in mathematics, read the SCCCR Mathematics Standards (p.65-72) in their entirety; the four process standards will be incorporated throughout this course.

Students will increase their understanding of the course material by participating in independent problem solving, classwork, quizzes, tests, group and individual projects.

**Textbook:**
This year our class is using the ***South Carolina Reveal Math*** to implement our math curriculum. ***South Carolina Reveal Math*** includes two elements: a consumable textbook and the online math program ALEKS. The consumable textbook offers numerous practice opportunities to support students in performing mathematical procedures with accuracy and efficiency. Your student will also practice the math skills learned in the classroom as they work independently using ALEKS software. Your student can access the ALEKS software 24/7.

**Course Scope & Sequence:**

The instructional resources used in this course consist of nine units:

- Unit 2: Statistics

  Students will: summarize, describe, and interpret data in box plots; determine and use medians and modes of data sets; identify and use range and and interquartile range to describe a data set and use measures of variation to compare two data sets; divide multi-digit whole number and decimals; choose appropriate measure of center and variation to describe and interpret data.

- Unit 3: Ratios & Rates

  Students begin formally exploring ratios, rates, and percents as comparative tools, progressing to more abstract representations. Specifically, students will understand ratios as a comparison of quantities. They apply ratio reasoning to solve problems, understand rates as a kind of ratio that compares quantities that may have different units and understand percentages as a kind of ratio with a whole always equal to 100.

- Unit 4: Understand & Use Percentages

  Unit 4 focuses on developing an understanding of the concept of percentages. The unit will connect what students learned in Unit 3 about ratios and rate reasoning to percent of a whole.

- Unit 5: Solve Area, Surface Area & Volume Problems

  Unit 5 focuses on students' geometric and spatial thinking in the real world. Students formalize their understanding by visualizing, composing and decomposing figures to develop area formulas. They visualize edges and faces of 3-D figures that are not visible from the viewpoint used to draw them. The concepts of area, surface area, and volume are introduced. Students will find the area of parallelograms, rhombuses, triangles, trapezoids, and polygons by composing or decomposing figures into other figures or using a formula, determine volumes of rectangular prisms using unit cubes or a formula, make nests for 3-D figures and identify 3-D figures based on nets, and determine surface area of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids. In addition to this, students use a protractor to measure angles, add and subtract angle measures to find new angle measures, use the definition of complementary and supplementary angles to find angle measures.

- Unit 6: Numerical & Algebraic Expressions

  In this unit, students will learn to solve problems involving fractions, whole numbers, and mixed numbers using equations and models. They will write and evaluate numerical and algebraic expressions using exponents and the order of operations. Students will explore how to identify and create equivalent expressions using properties of operations and find the greatest common factor (GCF) and least common multiple (LCM). Through this, they will build foundational skills in numeric expressions that prepare them for future work with algebraic expressions and universal mathematical properties.

- Unit 7: Integers, Rational Numbers & The Coordinate Plane

  Unit 7 focuses on extending students' understanding of rational numbers to include negative numbers. Students will be introduced to all four quadrants of the coordinate plane in this unit.

  Students will: explore locations of rational numbers and their opposites on a number line; explore absolute value; use the number line to compare and order rational numbers; plot points on the coordinate plane and describe the location of points; find

the distance between points on the coordinate plane; find side lengths of polygons on the coordinate plane using absolute value.

- Unit 8: Equations & Inequalities
  Unit 8 builds on the study of algebraic expressions that started in Unit 6. Students will understand that an equation with a variable has a solution: a number that makes the equation true. They will also understand that an inequality has a solution set.
  Students will: write and solve equations involving one variable; write and solve one-step equations using all four operations; write inequalities to represent real-world and mathematical problems; draw number lines graphs to represent inequalities and use substitution to test solutions.

- Unit 9: Relationships Between Two Variables
  Unit 9 focuses on quantitative relationships between two variables. Students build on their knowledge of cause and effect and modeling it with a two-variable relationship. Students recognize that two variable quantitative relationships exist in many facets of our lives with applications such as money, distance, time, etc. Students will identify independent and dependent variables, find the value of the dependent variable given a relationship between two quantities, use tables and graphs to find and analyze the relationship between two quantities and to write an equation to show the relationship between independent and dependent variables, write an equation to show the relationship between two quantities and then use it to solve a problem.

- Unit 10: Operations with Integers

**Materials Required:**
One marble composition notebook, folder (w/prongs & pockets), pencils, tape or glue stick, and earbuds. **To maintain excellent work habits, bring all materials to class every day.**

General Supplies (will be used in all classes): loose-leaf paper, pencils with erasers, pencil pouch, inexpensive WIRED ONLY earbuds/ headphones, pencil sharpener, scotch tape, colored pencils/crayons, highlighters, glue sticks, index cards and sticky notes.

**Classroom Expectations:**
- Be respectful to all people at all times.
- Think of others and make good choices.
- Be prepared and on time for class.
- Listen and follow directions the first time.
- Complete all work with the best quality.
- Raise your hand for assistance.

**Grading Policy:**

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| Major: Tests / Projects | 50% |
| Minor: Quizzes / Other Assignments | 50% |

Grading Scale

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| 100-90 | A |
| 89 - 80 | B |
| 79 - 70 | C |
| 69 - 60 | D |
| 59 & Below | F |

**Redo/Retake/Late Work Procedures:**

Bryson Middle Redo/Retake Policy