**Sequencing Rationale**

Math is a concrete subject that must have a foundation to build upon. It is very important to sequence a math curriculum that allows each concept to connect to a previous learned concept. This course will be mapped out based on a logical order of prerequisites that are needed in order to continue through the course. For this seventh grade math course, it is important to cover all objectives and skills contained in the areas of Numbers and Number Sense; Patterns, Functions, and Algebra; Measurement; Geometry and Spatial Sense; and Data Analysis and Probability. Concepts are not necessarily going to be taught as a whole in each category, but more of a combination. Some of these concepts will overlap in the teaching of this 7th grade curriculum. All of these concepts will be taught over one school year, based on a four quarter system.

In the first segment, the Number and Number Sense objectives will be covered completely in the first quarter of the school year. This category is the most logical starting point for this course, as it teaches the foundation of the course. It is important to start with this category because students must understand how to use the order of operations and how it applies to integers. Students will need to learn that integers can be positive and negative and will understand how to add, subtract, multiply, and divide. Students will need to know how fractions, decimals, and percents are related. These concepts will help students to explore future concepts and provide a basis for the rest of the course.

In the next segment, students will be exploring concepts in the category of Pattern, Functions, and Algebra. This category is the next logical point for this course as students will need to understand the relationships that integers have with solving equations. Students also will need to understand the purpose of variables and equations. It will be difficult to teach a geometry unit, before students understand the concept of formulas and variables. Students will also have to know the parts of the coordinate system. This segment will begin towards the end of the first quarter and should be finished in the second quarter.

The third segment that will be taught is the Data Analysis and Probability Standard. Students will have a combination of prerequisites in this standard that will need to be learned before this standard in taught. It is important that students learn how to read and interpret data that is provided in graphs, as this is a concept that will help students to apply to the real world. Students will also use their previous knowledge of percents to read and create circle graphs. Students will also use properties of fractions and percents to determine the theoretical and experimental probabilities of compound events.

The fourth segment that will be taught in this course is the Geometry and Spatial Sense Standards. This category will overlap with the Measurement Category. First it is important for students to learn the characteristics and properties of triangles and quadrilaterals. These concepts will lead into the measurement concepts of area, surface area and volume. Students will also use the prerequisite of proportional relationships to find missing angles and side lengths of similar shapes. Students will also use the prerequisite of the coordinate system to perform transformations of two-dimensional shapes on a coordinate graph. This segment will begin halfway through the third quarter and finished by the beginning of the fourth quarter.

The fifth segment that will be covered, in logical order, will be the Measurement Standard. These objectives coincide with the Geometry Standard because students must be taught these concepts back to back. In this segment, students will take their previous knowledge of two and three-dimensional shapes and incorporate it into the learning of area, surface area, volume of these shapes. Students will discover how closely related the shapes and their formulas are to one another that they will not have to memorize a formula for each individual shape. Student will also use proportional relationships, once again, to solve problems involving scale models and scale factors. It is extremely important this standard is taught following the Geometry Standard so that students can understand the logical order of each concept that is learned and how it applies to each new skill. This standard will finish out the fourth quarter and the school year.

It is very evident that math courses have to follow a logical order of prerequisites that build from one objective to the next. It is very difficult to teach students a new concept if there is not a foundation to build upon. Students should be able to connect specific skills with new concepts throughout the school year. Many skills reappear throughout the whole year and therefore students constantly have to call on these prerequisites to understand the new concept being taught.