**Sequencing Rationale**

**1st Grade Science**

The best sequencing model for this first grade science curriculum would be the concept-related model based on class relations concerning the science curriculum as a whole and sophistication within the categories of the curriculum. Although the science concepts taught will be categorized by concept, there will be some overlap since many of the topics covered relate to one another. The curriculum will be divided into three basic components, based on those depicted in the Ohio Model Curriculum for Science. These topics include physical science, earth and space science, and life science.

The plan for instruction will begin with the learning outcomes in the physical science category. Students will first learn about materials and their properties. After defining properties and describing those of various objects, students will learn about changing objects. Students will first learn about changing objects through movement, followed by physical changes and then chemical changes. As students learn about movement, they will be introduced to force, push, and pull. Likewise, students will learn about solids and liquids as they observe physical and chemical changes.

The second category for learning will be earth and space science, in which students will learn about weather followed by the sun as an energy source. Within the weather component, students will define weather, observe and document weather events, and experience changes in water. Students will then learn about the importance of the sun, including its place as a light source, energy source, and the primary source of life.

The final category for learning will be life science. During this part of the curriculum, students will first discriminate between living and non-living things, secondly describe the basic needs of living things, and finally depict the relationships within food chains. There will then be an environment exploration in which students will learn about habitats, the resources they provide, and how organisms affect their environments.

By separating the curriculum into their basic science categories, the concepts within a category can build upon one another. For instance, within the physical science category, students learn how to describe properties of objects and then are able to work on changing those properties. The larger categories are also linked together in a sequence that can continually reinforce what was previously learned. As an example, after learning about the importance of sunlight in the earth and space science category, this concept is expanded upon as students learn about needs and habitats in the life science category. Within each category, the sophistication model is used to base new learning off of previously covered concepts to reach deeper and more complex levels of thinking. This organization also demonstrates the interconnectedness of science concepts.