Core Concepts -- Observation and Measurement

**Standard 1: Analysis, Inquiry, and Design:** Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

  **Key Idea 1:** Abstraction and symbolic representation are used to communicate mathematically. For example: use eccentricity, rate, gradient, standard error of measurement, and density in context.

  **Key Idea 3:** Critical thinking skills are used in the solution of mathematical problems.

**Standard 2:** Students will access, generate, process, and transfer information, using appropriate technologies.

**Standard 6:** Interconnectedness: Common Themes. Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

  **Key Idea 4:** Equilibrium is a state of stability due to either a lack of change (static equilibrium) or a balance between opposing forces (dynamic equilibrium).

  **Key Idea 5:** Identifying patterns of change is necessary for making predictions about future behavior and conditions. For example, graph and interpret the nature of cyclic changes such as sunspots, tides, and atmospheric carbon dioxide.

**Standard 7: Interdisciplinary Problem Solving:** Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.