

SCIENCE STANDARD:

1 Nature of Science

“All Alaska students will understand the dynamic nature of scientific knowledge, develop the process skills used by scientists, and understand scientific attitudes and values.”

Rationale:

Science is a productive and distinctive way of knowing about the world. It is characterized by particular attitudes, values, and methods of investigation. Scientific activity helps us to understand, place value on, interpret and use acquired knowledge about our world, human existence, and interaction with the universe. Through science, students have a powerful way of asking and answering questions.

Key Elements: All students will:

- * Know that although the main body of scientific knowledge is stable, science continually subjects that body of knowledge to refinement and change.
- * Know that scientific knowledge is tentative, public, empirical, and historical.
- * Understand that scientific inquiry is a complex process that involves divergent thinking, curiosity, and the exploration of multiple paths in search of solutions to questions.
- * Use the processes of science (observing, classifying, measuring, interpreting data, inferring, communicating, controlling variables, developing models and theories, hypothesizing and predicting) with appropriate instruments as they design and carry out their investigations.
- * Know that the standard of validity and proof in science is replication (a repeated procedure that produces the same results) while understanding that other personal and societal standards exist which result in valid knowledge in other areas of human endeavor.
- * Maintain personal integrity, practice positive skepticism, be open to new ideas, be curious, use creativity, work collaboratively and employ logical reasoning as they investigate the world around them.
- * Employ ethical standards in conducting scientific investigations.
- * Understand that the practice of using proper science procedures is essential to personal and community safety.