

SCIENCE STANDARD:

② Context of Science

“All Alaska students will recognize that the content and conduct of science are influenced by the historical, social, cultural and environmental contexts in which they occur.”

Rationale:

Viewing science in a broader context will lead to a better understanding of the factors that contribute to or limit the dynamic nature of science. Students should appreciate the effect of past discoveries in changing prevailing understandings of the natural world and the human role within it. Additionally, social and cultural influences affect the acceptance, rejection and dissemination of new scientific ideas and determine the role of science in relation to other ways of knowing about the natural world.

Key Elements: All students will:

- * Know the historical significance of major scientific discoveries and advances and how they happened.
- * Recognize that scientific discovery is often a combination of an accidental happening and observation by a knowledgeable person with an open mind.
- * Understand that major scientific “breakthroughs” unify large amounts of knowledge to explain major phenomena, building upon the contributions of many scientists and the convergence of different lines of inquiry.
- * Recognize that the acceptance of an idea depends upon its explanatory power as well as the evidence that supports it.
- * Understand that new ideas that conflict with established values and beliefs of society or that violate common sense understandings of natural phenomena often encounter resistance to their acceptance and integration with cultural beliefs.
- * Know that access to science careers and the recognition of contributions to science have often been limited by gender, race, ethnic group, or social status.
- * Understand that support for scientific research reflects the values and priorities of society.
- * Know that communication of scientific results plays an important role in the extent of their influence on society and the cumulative nature of scientific knowledge.