

Appendix C

Meeting the Standards

APPENDIX STANDARDS

This curriculum meets and exceeds Alaska Content standards with rich and rigorous variety. The standards are noted at the beginning of each of the five sections of the curriculum (pages 15, 27-28, 42, 61, and 74). Intended as a multi-disciplinary unit, the direction for this curriculum was however, specifically focused. As stated in the Overview the emphasis is on traditional knowledge of the *Unangan/Unangas*. The curriculum is designed to pull students into the world of science by introducing them to local plants, associated with their names in *Unangam tunuu*.

The following written standards are some of the Alaska State Content standards covered in *Unangam Hitnisangin/Unangam Hitnisangis/Aleut Plants: a region-based plant curriculum for grades 4-6*.

The oral and written exercise embedded throughout the curriculum require the student to meet Standards for English/ Language Arts.

B. A student should be a competent and thoughtful reader, listener, and viewer of literature, technical materials and a variety of other information.

B - 3. relating what the student views, reads, and hears to practical purposes in the student's own life, to the world outside, and to other texts and experiences.

C. A student should be able to identify and select from multiple strategies in order to complete projects independently and cooperatively.

C - 1. make choices about a project after examining a range of possibilities;

C - 2. organize a project by

- understanding directions;
- making and keeping deadlines; and
- seeking, selecting, and using relevant resources;

C - 3. select and use appropriate decision-making processes;

C - 4. set high standards for project quality; and

C - 5. when working on a collaborative project,

- take responsibility for individual contributions to the project;
- share ideas and workloads;
- incorporate individual talents and perspectives;
- work effectively with others as an active participant and as a responsive audience; and
- evaluate the processes and work of self and others.

D. A student should be able to think logically and reflectively in order to present and explain positions based on relevant and reliable information.

D - 1. develop a position by

- reflecting on personal experiences, prior knowledge, and new information;
- formulating and refining questions;
- identifying a variety of pertinent sources of information;
- analyzing and synthesizing information;

D - 2. evaluate the validity, objectivity, reliability, and quality of information read, heard, and seen;

D - 3. give credit and cite references as appropriate; and

D - 4. explain and defend a position orally, in writing, and with visual aids as appropriate.

E - 1 A student should understand and respect the perspectives of others in order to communicate effectively. and should use information, both oral and written, and literature of many types and cultures to understand self and others;

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The many experiments and observations activities in this curriculum call on the student to: meet these standards in Mathematics:

- A. A student should understand mathematical facts, concepts, principles, and theories.
 - A-2. select and use appropriate systems, units, and tools of measurement, including estimation;
 - A-3. perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools for computations or estimation;
 - A-6. collect, organize, analyze, interpret, represent and formulate questions about data and make reasonable and useful predictions about the certainty, uncertainty, or impossibility of an event.
- B. A student should understand and be able to select and use a variety of problem-solving strategies.
 - B - 1. use computational methods and appropriate technology as problem-solving tools.
- E. A student should be able to apply mathematical concepts and processes to situations within and outside of school.
 - E - 2 Use mathematics in daily life;
 - E - 3 use mathematics in other curriculum areas.

With its emphasis on plants and the blend of traditional knowledge and western science, the curriculum emphasizes these science standards:

- A - 1. understand models describing the nature of molecules, atoms and sub-atomic particles and the relation of the models to the structure and behaviors of matter;
- A - 9. understand the transfers and transformations of matter and energy that link living things and their physical environment, or molecules to ecosystems (Flow of Matter and Energy);
- A -10. understand that living things are made up mostly of cells and that all life processes occur in cells (Cells);
- A-11. understand that similar features are passed on by genes through reproduction (Heredity);
- A- 12. distinguish the patterns of similarity and differences in the living world in order to understand the diversity of life and understand the theories that describe the importance of diversity for species and ecosystems (Diversity);
- A -14. understand
 - a. the interdependence between living things and their environments (Interdependence);
 - b. that the living environment consists of individuals, populations, and communities (Interdependence); and
 - c. that a small change in a portion of an environment may affect the entire environment (Interdependence);
- A -15. use science to understand and describe the local environment (Local Knowledge).
- B. A student should possess and understand the skills of scientific inquiry.
 - B -1. use the processes of science; these processes include observing, classifying, measuring, interpreting data, inferring, communicating, controlling variables, developing models and theories, hypothesizing, predicting, and experimenting;

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- C. A student should understand the nature and history of science.
 - C - 1 Know how the words “fact,” “observation,” “concept,” “principle,” “law,” and “theory” are generally used in the scientific community;
 - C - 3. understand that society, culture, history, and environment affect the development of scientific knowledge;
 - C- 4. understand that some personal and societal beliefs accept non-scientific methods for validating knowledge;
 - C- 5. understand that sharing scientific discoveries is important to influencing individuals and society and in advancing scientific knowledge.
- D -1 A student who meets the content standard should apply scientific knowledge and skills to understand issues and everyday events.

The use of the Unangam tunuu ties in these World Languages standards:

- B. A student should expand the student’s knowledge of peoples and cultures through language study.
 - B- 1. A student who meets the content standard should: understand the relationship between language and culture;
 - B- 3. learn about and experience deep characteristics of the culture, including folkways, mores, laws, traditions, customs, and patterns of behavior;
 - B- 4. improve the student’s understanding of the student’s language and culture through experiences with other languages and cultures;
 - B- 6. recognize through language study that all cultures contribute to the global society.
- C- 4. apply language skills and cultural knowledge to enhance the student’s intellectual and social growth and to promote life-long learning.

Students will be relying on technology throughout this study:

- A. A student should be able to operate technology-based tools.
 - A - 1. use a computer to enter and retrieve information;
 - A - 3. use local and world-wide networks.

The focus on the traditional knowledge of the *Unangan/Unangas* meets and exceeds these Cultural Standards:

- A. Culturally-knowledgeable students are well grounded in the cultural heritage and traditions of their community.
 - A - 3. acquire and pass on the traditions of their community through oral and written history;
 - A - 4. practice their traditional responsibilities to the surrounding environment;
 - A - 5. reflect through their own actions the critical role that the local heritage plays in fostering a sense of who they are and how they understand the world around them;
 - A - 6. live in accordance with the cultural values and traditions of the local community and integrate them into their everyday behavior.
- B. Culturally-knowledgeable students are able to build on the knowledge and skills of the local cultural community as a foundation from which to achieve personal and academic success throughout life.
 - B - 1. acquire insights from other cultures without diminishing the integrity of their own.

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- B - 2. make effective use of the knowledge, skills, and ways of knowing from their own cultural traditions to learn about the larger world in which they live.
- C. Culturally-knowledgeable students are able to actively participate in various cultural environments. Students who meet this cultural standard are able to:
 - C -1. perform subsistence activities in ways that are appropriate to local cultural traditions.
 - C - 3. attain a healthy lifestyle through which they are able to maintain their social, emotional, physical, intellectual and spiritual well-being.
- D. Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning:
 - D - 1. acquire in-depth cultural knowledge through active participation and meaningful interaction with Elders;
 - D- 3. interact with Elders in a loving and respectful way that demonstrates an appreciation of their role as culture-bearers and educators in the community;
 - D - 4. gather oral and written history information from the local community and provide an appropriate interpretation of its cultural meaning and significance;
 - D- 5. identify and utilize appropriate sources of cultural knowledge to find solutions to everyday problems.
- E. Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them.
 - E- 1. recognize and build upon the inter-relationships that exist among the spiritual, natural, and human realms in the world around them, as reflected in their own cultural traditions and beliefs as well as those of others;
 - E- 2. understand the ecology and geography of the bioregion they inhabit.
 - E- 8. identify and appreciate who they are and their place in the world.