HUMAN GENETIC VARIATION		
Alaska Science PSGLE: Grades 9 & 10		
Grade 9		
Activity	**PSGLE**	**Descriptor**
All activities	[9] SA1.1	Asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.
3	[9] SA1.2	Hypothesizing, designing a controlled experiment, making qualitative and quantitative observations, interpreting data, and using this information to communicate conclusions.
All activities	[9] SA2.1	Formulating conclusions that are logical and supported by evidence.
All activities	[9] SC1.1	Recognizing that all organisms have chromosomes made of DNA and that DNA determines traits.
2, 3, 5	[9] SE1.1	Recognizing that the value of any given technology may be different for different groups of people and at different points in time (e.g., different uses of snow machines in different regions of Alaska).
3, 5	[9] SE3.1	Predicting and evaluating the possible effects of a recent scientific discovery, invention, or scientific breakthrough.
2, 3, 4	[9] SG1.1	Identifying those perspectives (i.e., cultural, political, religious, philosophical) that have impacted the advancement of science.
2, 3, 5	[9] SG2.1	Explaining the importance of innovations (i.e., microscope, immunization, computer).
Grade 10		
All activities	[10] SA1.1	Asking questions, predicting, observing, describing, measuring, classifying, making generalizations, analyzing data, developing models, inferring and communicating.
3	[10] SA1.2	Reviewing pertinent literature, hypothesizing, making qualitative and quantitative observations, controlling experimental variables, analyzing data statistically (i.e., mean, median, mode), and using this information to draw conclusions, compare results to others, suggest further experimentation, and apply their conclusions to other problems.
2, 3	[10] SA 2.1	Examining methodology and conclusions to identify bias and determining if evidence logically supports the conclusions.
All activities	[10] SC1.3	Examining issues related to genetics
2, 3, 4, 5	[10] SE1.1	Identifying that progress in science and invention is highly interrelated to what else is happening in society.
2, 3, 4	[10] SG1.1	Describing how those perspectives (i.e., cultural, political, religious, philosophical) have impacted the advancement of science.
3	[10] SG3.1	Using experimental or observational data to evaluate a hypothesis.
2, 3	[10] SG4.1	Recognizing the role of curiosity, creativity, imagination, and a broad knowledge base on scientific advancements.

	Alaska Mathematics PSGLE: Grades 9 & 10	
	Grade 9	
Activity	**PSGLE**	**Descriptor**
2, 3, 4	**[9] N-3**	Using models, explanations, number lines, real-life situations, describing or illustrating the effects of arithmetic operations on real numbers.
2, 3, 4	**[9] N-5**	Applying the rules for order of operations to real numbers and variables.
2, 3, 4	**[9] E&C-2**	Adding or subtracting rational numbers including integers with whole number exponents.
2	**[9] E&C-5**	Multiplying or dividing numbers in scientific notation.
2, 3	**[9] S&P-1**	Designing, collecting, organizing, displaying, or explaining the classification of data in real-world problems (e.g., science or humanities, peers, community, or careers) using information from tables or graphs that display two sets of data (with or without technology).
2, 3	**[9] PS-1**	Selecting, modifying, and applying a variety of problem-solving strategies (e.g., charts, graphing, inductive and deductive reasoning, Venn diagrams) and verifying the results.
2, 3, 4	**[9] PS-3**	Representing mathematical problems numerically, graphically, and/or symbolically, translating among these alternative representation; or using appropriate vocabulary, symbols, or technology to explain, justify, and defend strategies and solutions.
2, 3, 4	**[9] PS-5**	Using real-world contexts such as science, humanities, peers, community, careers, and national issues.
	Grade 10	
2, 3, 4	**[10] N-4**	Describing or illustrating the effects of arithmetic operations on real numbers.
2	**[10] E&C-2**	Applying basic operations with real numbers using powers and scientific notation.
2, 3	**[10] S&P-1**	Designing, collecting, organizing, displaying, or explaining the classification of data in real-world problems (e.g., science or humanities, peers, community, or careers) using information from tables or graphs that display two sets of data (with or without technology).
2, 3, 4	**[10] PS-1**	Applying multi-step, integrated, mathematical problems-solving techniques.
2, 3, 4	**[10] PS-3**	Representing mathematical problems numerically, graphically, and/or symbolically, translating among these alternative representation; or using appropriate vocabulary, symbols, or technology to explain, justify, and defend strategies and solutions.
2, 3, 4	**[10] PS-5**	Using real-world contexts such as global issues and careers.
	Alaska Reading PSGLE: Grades 9 & 10	
Activity	**PSGLE**	**Descriptor**
All activities	**[9] 4.1.1** **[10] 4.1.1**	Determining meanings of unfamiliar words in context using knowledge of sounds, syllables, derivational roots and affixes, including cultural derivations (e.g., the root of photography and photosynthesis; kayak).

All activities	[9] 4.1.4 [10] 4.1.4	Determining the meaning of words in context including [connotation/denotation L], use of precise or technical vocabulary, content-specific vocabulary (symbiosis, suffrage, apartheid), or multiple meanings.
All activities	[9] 4.2.1 [10] 4.2.1	Restating and summarizing main ideas or events, in correct sequence, after reading a text (e.g., paraphrasing, constructing a topic outline, charting or mapping main ideas or events) or identifies accurate restatements and summaries of main ideas or events or generalizations of a text.
All activities	[9] 4.2.2 [10] 4.2.2	Connecting information by making inferences and/or drawing conclusions within a text (e.g., why is the information in the chart included), across texts or other summarized information.
All activities	[9] 4.3.1 [10] 4.3.7	Identifying or explaining the main ideas in various types of texts (i.e., recognizing or developing appropriate titles, generalizations, assertions).
All activities	[9] 4.3.2 [10] 4.3.2	Locating information in narrative and informative text to answer questions related to main ideas or key details.
All activities	[9] 4.3.4 [10] 4.3.4	Explaining connections among main ideas/concepts (text to self, text to text, text to world).
All activities	[9] 4.4.1 [10] 4.4.1	Reading, understanding, and applying multi-step directions to perform complex procedures and tasks (e.g., filling out a catalog order [9]; filling out a sample income tax return or permanent fund dividend application [10]).
All activities	[9] 4.8.3 [10] 4.8.3	Analyzing and evaluating thematic connections between texts related to personal experiences, the experience of others, prior knowledge, and the broader world of ideas.
Alaska Writing PSGLE: Grades 9 & 10		
Activity	**PSGLE**	**Descriptor**
3	[9] 4.1.1 [10] 4.1.1	Incorporating the thesis statement, which identifies the focus or controlling idea for the entire composition, into an introductory paragraph (the introductory paragraph may include a lead or hook, such as an anecdote, startling statistic or quotation).
3	[9] 4.1.2 [10] 4.1.2	Writing in paragraphs that include relevant details and evidence that support the main idea of the paragraph and thesis statement, grouping ideas logically within the paragraph, placing paragraph breaks logically.
All activities	[9] 4.2.2 [10] 4.2.2	Writing in a variety of nonfiction forms (e.g., letter, report, biography, autobiography, and/or essay) to inform, describe or persuade.
All activities	[9] 4.2.4 [10] 4.2.4	Using research-based information and/or analysis in research projects or extended reports.
All activities	[9] 4.3.1 [10] 4.3.1	Varying beginnings, lengths, and patterns of sentences to improve flow and to enhance meaning and style of writing.
All activities	[9] 4.3.2 [10] 4.3.2	Applying rules of spelling (e.g., homophones, irregular plurals, and contractions).
All activities	[9] 4.3.3 [10] 4.3.3	Applying rules of punctuation (i.e., comma, quotation marks, apostrophes, semicolons, colons, hyphens, and parentheses).
All activities	[9] 4.3.4	Applying rules of capitalization (e.g., titles and proper nouns).

	[10] 4.3.4	
All activities	**[9] 4.3.5** **[10] 4.3.5**	Applying rules of usage (i.e., verb tense, subject/verb agreement, possessives, pronouns, adjectives, adverbs, and sentence structure).

National Health Education Standards: Grades 9 – 12 Cited from National Health Education Standards, Pre K-12, American Cancer Society, 2nd Edition, 2007		
Activity	**Standard**	**Performance Indicator**
4, 5	1.12.1	Predict how healthy behaviors can impact health status.
2, 3, 4, 5	1.12.4	Analyze how genetics and family history can impact personal health.
4, 5	1.12.5	Propose ways to reduce or prevent injuries and health problems.
4, 5	1.12.7	Compare and contrast the benefits and barriers to practicing a variety of healthy behaviors.
4	1.12.8	Analyze personal susceptibility to injury, illness, or death if engaging in unhealthy behaviors.
4	1.12.9	Analyze the potential severity of injury or illness if engaging in unhealthy behaviors.
4, 5	2.12.1	Analyze how family influences the health of individuals.
4	2.12.3	Analyze how peers influence healthy and unhealthy behaviors.
4, 5	2.12.8	Analyze the influence of personal values and beliefs on individual health practices and behaviors.
4	2.12.9	Analyze how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
5	2.12.10	Analyze how public health policies and government regulations can influence health promotion and disease.
5	3.12.1	Evaluate the validity of health information, products, and services.
5	3.12.4	Determine when professional health services may be required.
4, 5	5.12.1	Examine barriers that can hinder healthy decision-making.
4, 5	5.12.2	Determine the value of applying a thoughtful decision-making process in health related situations.
5	5.12.3	Justify when individual or collaborative decision-making is appropriate.
5	5.12.5	Predict the potential short and long-term impact of each alternative on self and others.
4, 5	5.12.6	Defend the healthy choice when making decisions.
4, 5	5.12.7	Evaluate the effectiveness of health-related decisions.
4, 5	7.12.1	Analyze the role of individual responsibility for enhancing health.
4	7.12.2	Demonstrate a variety of healthy practices and behaviors that will maintain or improve the health of self and others.
4	7.12.3	Demonstrate a variety of behaviors to avoid or reduce health risks to self and others.
4, 5	8.12.2	Demonstrate how to influence and support others to make positive health choices.
4, 5	8.12.4	Adapt health messages and communication techniques to a specific target audience.