

SOUTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT HUMAN GENETIC VARIATION

HUMAN GENETIC VARIATION		
South Carolina Science Academic Standards – Biology		
Activity	Standard	Indicator
1, 3, 4	B-1.1	Generate hypotheses based on credible, accurate, and relevant sources of scientific information.
1, 2, 3	B-1.5	Organize and interpret the data from a controlled scientific investigation by using mathematics, graphs, models, and/or technology.
2, 3	B-1.6	Evaluate the results of a controlled scientific investigation in terms of whether they refute or verify the hypothesis.
1, 2, 5	B-4.2	Summarize the relationship among DNA, genes, and chromosomes.
1, 2	B-4.3	Explain how DNA functions as the code of life and the blueprint for proteins.
2, 5	B-4.8	Compare the consequences of mutations in body cells with those in gametes.
2	B-4.9	Exemplify ways that introduce new genetic characteristics into an organism or a population by applying the principles of modern genetics.
2	B-5.1	Summarize the process of natural selection.
1, 2, 4	B-5.4	Explain how genetic variability and environmental factors lead to biological evolution.
South Carolina Mathematics Academic Standards – Grades 9 - 12		
Number and Operations		
Activity	Standard	Expectation
2	I.A.1	Read, write, and represent very large and very small numbers in a variety of forms including exponential and radical.
2, 4	II.A.1	Recognize and justify the relationship between the magnitude of a number and the application of specific arithmetic operations.
1, 2, 3, 4	III.A.1	Given a problem situation, determine whether to use a rough estimate, an approximation, or an exact answer. Select a suitable method of computing from techniques such as the use of mental mathematics, paper and pencil computations, calculators, and computers.
1, 2, 3, 4	III.B.1	Explain why a solution is mathematically reasonable using supporting data.
Algebra		

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1, 3, 4	I.B.1	Gather and record data, or use data sets, to determine functional (systematic) relationships between quantities.
1	I.B.3	Interpret situations in terms of given graphs and create situations that fit given graphs.
1, 3, 4	III.C.1	Verify and explain the conclusion based on the data and the processes used.
Data Analysis and Probability		
1	I.A.1	Distinguish among surveys, observational studies, and controlled experiments and evaluate the quality of each.
1, 3	I.A.2	Evaluate the legitimacy of conclusions about the population based on the sample(s) studied.
3	I.B.1	Identify two or more experimental treatments (or conditions) to be compared and the sources of variation to be controlled.
3	I.B.2	Compare the responses of a group that gets treatment with those of a control group that does not.
3	I.B.3	Given a problem situation, describe the basic principles of experimental design (control, randomization, and replication).
3	I.B.4	Given a problem situation, evaluate whether conclusions drawn are based on randomization and control.
3	I.C.2	Given a problem situation, distinguish between independent/explanatory and dependent/response variables.
2, 3	III.C.2	Given a published report based on data, interpret the results.
South Carolina Language Arts Academic Standards – English I & 2		
Activity	Standard	Indicator
2, 3	E1-R1.2 E2-R1.2	Demonstrate the ability to make connections between a text read independently and his or her prior knowledge, other texts, and the world.
All activities	E1-R1.8 E2-R1.8	Demonstrate the ability to draw conclusions and make inferences.
2, 3	E1-R3.2 E2-R3.2	Demonstrate the ability to use context analysis to determine the meanings of unfamiliar and multiple-meaning words.
2, 3, 5	E1-W1.3 E2-W1.3	Demonstrate the ability to develop an extended response around a central idea, using relevant supporting details.
2, 3, 5	E1-W1.6.1 E2-W1.6.1	Demonstrate the ability to write multiple-paragraph compositions, friendly letters, and expressive and informational pieces.

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All activities	E1-W2.1 E2-W2.1	Demonstrate the ability to use writing to explain and inform.
2, 4	E1-W2.2 E2-W2.2	Demonstrate the ability to use writing to learn, entertain, and describe.
1, 2, 3	E1-W3.1 E2-W3.1	Demonstrate the ability to respond to texts both orally and in writing.
1, 2, 3, 4	E1-W3.3 E2-W3.3	Demonstrate the ability to use texts to make connections and to support ideas in his or her own writing.
All activities	E1-W4.1 E2-W4.1	Demonstrate the ability to write legibly using print or cursive handwriting.
All activities	E1-C1.7 E2-C1.7	Demonstrate the ability to participate and respond appropriately in conversations, discussions, speeches, and debates.
2, 3	E1-C1.12 E2-C1.12	Demonstrate the ability to formulate appropriate oral responses by using accurate and detailed references to texts.
1, 2, 5	E1-C2.3 E2-C2.3	Demonstrate the ability to make predictions, to distinguish between fact and opinion, to compare and contrast information and ideas, and to make inferences with regard to what he or she has heard.
2, 5	E1-C3.1 E2-C3.1	Demonstrate the ability to analyze and evaluate the effectiveness of the techniques used in nonprint sources for a particular audience.
2, 5	E1-C3.4 E2-C3.4	Demonstrate the ability to make predictions, to distinguish between fact and opinion, to compare and contrast information and ideas, and to make inferences with regard to what he or she has viewed.
2, 5	E1-C3.8 E2-C3.8	Demonstrate the ability to make connections between nonprint sources and his or her prior knowledge, other sources, and the world.
2, 3	E1-RS1.1 E2-RS1.1	Demonstrate the ability to ask questions to guide his or her research inquiry.
2	E1-RS1.2 E2-RS1.2	Demonstrate the ability to ask questions to investigate all aspects of a topic, including various viewpoints regarding it.
2, 5	E1-RS3.1 E2-RS3.1	Demonstrate the ability to synthesize information from a variety of sources, including those accessed through the use of technology.

South Carolina Health Lifetime Wellness Standards – Grades 9 - 12

Activity	Standard	Indicator
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4, 5	I.1.a	Evaluate risk relationships between healthy lifestyle behaviors and disease prevention.
3, 5	I.1.b	Analyze strategies for detection and treatment of communicable and chronic diseases.
4	I.1.c	Evaluate the risks and benefits of personal health practices.
3, 5	I.2.a	Evaluate the validity of health information, products, and services from community agency, technology (Internet), and mass media sources.
5	I.2.b	Evaluate factors that influence personal selection of health products and services.
5	I.3.c	Develop a plan for using health resources for the prevention of and intervention in various diseases.
5	I.4.b	Describe how public health policies and government regulations influence health promotion and disease prevention.
2, 3, 5	I.4.c	Analyze how research, technology, and medical advances influence the prevention and control of health problems.
4, 5	I.5.c	Demonstrate effective verbal and nonverbal communication skills to enhance health.
4, 5	I.6.a	Demonstrate the ability to use various strategies when making decisions related to health needs.
4	I.6.b	Evaluate a personal health assessment to determine strategies for health enhancement and risk reduction.
3, 4, 5	I.7.b	Demonstrate the ability to adapt health messages and communication techniques to the characteristics of a particular audience.
4, 5	III.4.a	Analyze how individual and family beliefs influence feelings, health behavior, relationships, and character development.
4	III.6.d	Demonstrate the ability to apply a decision-making process to health issues and problems, both individually and collaboratively.
4	III.7.a	Demonstrate the ability to influence and support others in making positive health choices.
4	IV.1.b	Analyze the short- and long-term results of safe, risky, and harmful behaviors.
4	VI.1.a	Evaluate the long- and short-term effects of ATOD use on health, behavior, appearance, and the ability to contribute to society.
4	VI.3.a	Analyze personal risks related to ATOD use, misuse, and addiction.
4	VI.6.b	Apply decision-making strategies to ATOD issues.