

ALABAMA ALIGNMENT FOR NIH SUPPLEMENT HUMAN GENETIC VARIATION

<b>HUMAN GENETIC VARIATION</b>		
<b>Alabama Science Standards – Biology Core: Grades 9 – 12</b>		
<b>Activity</b>	<b>Standard</b>	<b>Descriptor</b>
2	5	Identify cells, tissues, organs, organ systems, organisms, populations, communities, and ecosystems as levels of organization in the biosphere. <ul style="list-style-type: none"> <li>• Recognizing that cells differentiate to perform specific functions</li> </ul>
1, 2, 3, 5	8	Identify the structure and function of DNA, RNA, and protein. <ul style="list-style-type: none"> <li>• Explaining relationships among DNA, genes, and chromosomes</li> <li>• Listing significant contributions of biotechnology to society, including agricultural and medical practices</li> <li>• Relating normal patterns of genetic inheritance to genetic variation</li> <li>• Relating ways chance, mutagens, and genetic engineering increase diversity</li> <li>• Relating genetic disorders and disease to patterns of genetic inheritance</li> </ul>
<b>Alabama Science Standards – Genetics Elective Core: High School</b>		
2, 4	2	Describe factors such as radiation, chemicals, and chance that cause mutations in populations. <ul style="list-style-type: none"> <li>• Describing effects of genetic variability on adaptations</li> </ul>
2	7	Describe the structure and function of DNA, including replication, translation, and transcription. <ul style="list-style-type: none"> <li>• Applying the genetic code to predict amino acid sequence</li> <li>• Describing methods cells use to regulate gene expression</li> <li>• Defining the role of RNA in protein synthesis</li> </ul>
2, 3, 5	10	Explain the development and purpose of the Human Genome Project. <ul style="list-style-type: none"> <li>• Analyzing results of the Human Genome Project to predict ethical, social, and legal implications</li> <li>• Describing medical uses of gene therapy, including vaccines and tissue and antibody engineering</li> </ul>
<b>Alabama Mathematics Standards – Algebra I</b>		
<b>Activity</b>	<b>Standard</b>	<b>Descriptor</b>
2	7	Solve multistep equations and inequalities including linear, radical, absolute value, and literal equations. <ul style="list-style-type: none"> <li>• Modeling real-world problems by developing and solving equations and inequalities, including those involving direct and inverse variation</li> </ul>
2	12	Compare various methods of data reporting, including scatterplots, stem-and-leaf plots, histograms, box-and-whisker plots, and line graphs, to make inferences or predictions.
<b>Alabama English Language Arts Standards: Grades 9 &amp; 10</b>		

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Grade 9		
Activity	Standard	Descriptor
2, 3, 4, 5	3	<p>Read with comprehension a variety of ninth-grade informational and functional reading materials, including recognizing tone and propaganda.</p> <ul style="list-style-type: none"> <li>• Organizing steps of a process and other sequences</li> <li>• Identifying organizational structure</li> <li>• Recognizing fallacies in logic</li> <li>• Following complex written directions</li> </ul>
2, 3, 4, 5	7	<p>Write in narrative, expository, and persuasive modes using figurative language and imagery, including simile and metaphor, when effective and appropriate.</p> <ul style="list-style-type: none"> <li>• Using an abbreviated writing process to write an essay in timed and untimed situations</li> <li>• Using verbals to increase sentence complexity</li> <li>• Using a variety of patterns to organize information in multi-paragraph writings</li> <li>• Developing an effective voice suitable for audience and purpose</li> <li>• Using a variety of sentence patterns</li> <li>• Using active voice and passive voice when appropriate</li> </ul>
2, 3, 4, 5	13	Demonstrate paraphrasing, quoting, and summarizing of primary and secondary sources and various methods of note taking
<b>All activities</b>	<b>17</b>	Use supporting details to present a position and to respond to an argument.
Grade 10		
2, 3, 4, 5	1	<p>Apply both literal and inferential comprehension strategies, including drawing conclusions and making inferences about characters, motives, intentions, and attitudes in short stories, drama, poetry, novels, and essays and other nonfiction texts.</p> <ul style="list-style-type: none"> <li>• Using context clues to determine meaning</li> <li>• Identifying sequences to enhance understanding</li> <li>• Summarizing passages to share main ideas or events</li> </ul>
2, 3, 4, 5	3	<p>Read with literal and inferential comprehension a variety of informational and functional reading materials, including making inferences about effects when passage provides cause; inferring cause when passage provides effect; making inferences, decisions, and predictions from tables, charts, and other text features; and identifying the outcome or product of a set of directions.</p> <ul style="list-style-type: none"> <li>• Following complex or embedded directions</li> <li>• Distinguishing author's opinion from factual statements</li> <li>• Determining main idea and supporting details in informational and functional reading materials</li> <li>• Summarizing passages of informational and functional reading materials</li> <li>• Determining sequence of events</li> </ul>
<b>All activities</b>	<b>7</b>	Write in persuasive, expository, and narrative modes using an abbreviated writing process in timed and untimed

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		<p>situations.</p> <ul style="list-style-type: none"> <li>• Critiquing content, literary elements, and word choice, including addressing clear, precise, and vivid language</li> <li>• Using a variety of sentence patterns</li> <li>• Evaluating opinions, including personal opinions, for supporting details and bias</li> <li>• Using active and passive voice when appropriate</li> </ul>
<b>All activities</b>	<b>8</b>	<p>Write in a variety of genres for various audiences and occasions, both formal and informal, using an attention-getting opening and an effective conclusion.</p> <ul style="list-style-type: none"> <li>• Developing an effective voice suitable for audience and purpose</li> </ul>
<b>All activities</b>	<b>9</b>	Apply principles of Standard English by adjusting vocabulary and style for the occasion.
<b>Alabama Health Education Standards: Grades 9 – 12</b>		
<b>Activity</b>	<b>Standard</b>	<b>Descriptor</b>
5	1	Determine a variety of health services provided by school and community health professionals.
4	2	Identify positive health activities that influence and support others to work cooperatively for healthy communities.
5	4	Differentiate between positive and negative health messages portrayed in the media.
4	7	Analyze factors that affect community health.
4, 5	11	Analyze the relationship of dimensions of health and wellness such as emotional, mental (intellectual), physical, social, environmental, and spiritual.
4	12	Apply decision-making strategies to improve personal health goals.
3, 4	14	Assess the impact of positive and negative personal health behaviors on the functioning of body systems.
3, 4, 5	16	Propose potential solutions to health concerns.
4, 5	21	Explain the consequences of health behaviors that are harmful to self or others.
2	22	Determine symptoms, methods of prevention, and strategies for controlling communicable infestations, diseases, and infections.
2, 3	23	Explain methods of treating and managing chronic health problems.