

**USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY**

**Alabama Science Standards – Biology Core: Grades 9 – 12**

<b>Lesson</b>	<b>Standard</b>	<b>Descriptor</b>
1, 2, 3	1	Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment. <ul style="list-style-type: none"> <li>• Describing the steps of the scientific method</li> <li>• Comparing controls, dependent variables, and independent variables</li> <li>• Identifying safe laboratory procedures when handling chemicals and using Bunsen burners and laboratory glassware</li> <li>• Using appropriate SI units for measuring length, volume, and mass</li> </ul>
1, 2, 3	4	Describe similarities and differences of cell organelles, using diagrams and tables. <ul style="list-style-type: none"> <li>• Identifying various technologies used to observe cells</li> </ul>
3	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>

**Alabama Mathematics Standards – Algebra I**

<b>Lesson</b>	<b>Standard</b>	<b>Descriptor</b>
1	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>
1, 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.

**Alabama English Language Arts Standards: Grades 9 & 10**

**Grade 9**

<b>Lesson</b>	<b>Standard</b>	<b>Descriptor</b>
All lessons	3	Read with comprehension a variety of ninth-grade informational and functional reading materials, including recognizing tone and propaganda. <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>
3, 4	7	Write in narrative, expository, and persuasive modes using figurative language and imagery, including simile and

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		metaphor, when effective and appropriate. <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>
<b>3, 4</b>	<b>13</b>	Demonstrate paraphrasing, quoting, and summarizing of primary and secondary sources and various methods of note taking
<b>All lessons</b>	<b>17</b>	Use supporting details to present a position and to respond to an argument.
<b>Grade 10</b>		
<b>2, 3, 4</b>	<b>1</b>	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. <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>
<b>All lessons</b>	<b>3</b>	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. <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>3, 4</b>	<b>7</b>	Write in persuasive, expository, and narrative modes using an abbreviated writing process in timed and untimed situations. <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>3, 4</b>	<b>8</b>	Write in a variety of genres for various audiences and occasions, both formal and informal, using an attention-getting opening and an effective conclusion. <ul style="list-style-type: none"> <li>• Developing an effective voice suitable for audience and purpose</li> </ul>
<b>All lessons</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>Lesson</b>	<b>Standard</b>	<b>Descriptor</b>
<b>3</b>	<b>16</b>	Propose potential solutions to health concerns.
<b>3</b>	<b>22</b>	Determine symptoms, methods of prevention, and strategies for controlling communicable infestations, diseases, and infections.
<b>3</b>	<b>23</b>	Explain methods of treating and managing chronic health problems.