

**End-of-Course Biology
Final Recommended Raw Cut Scores
and Percent* in Category in Parentheses**

EOC Biology (of 100 possible raw points)

Below	Basic	Proficient	Advanced	Proficient or Better
(33.1%)	32 (37.2%)	52 (22.8%)	71 (6.8%)	(29.6%)

***Combined Population**

Arkansas EOC Biology

END OF COURSE BIOLOGY

PERFORMANCE LEVEL DESCRIPTORS

PROFICIENCY LEVEL	DEFINITION
Advanced	<p>Biology students performing at the advanced level display a comprehensive understanding of biological concepts, including the role of chemistry and cells in life processes, genetics, evolution, the diversity of life, and the ecological and behavioral relationships among organisms. These students are able to design and conduct scientific investigations which answer biological questions about real-world situations. In addition, these students are able to apply complex reasoning skills to make logical predictions and draw well-formulated conclusions.</p> <p><i>Biology students performing at this level</i></p> <ul style="list-style-type: none"> • Evaluate the relationships between the structure and function of organic and inorganic molecules and explain their role in complex life processes • Model cell relationships that will allow predictions of cell activity based on varying conditions • Analyze genetic principles to predict results based on modes of inheritance • Evaluate the mechanisms involved in the process of evolution • Predict and justify the categorization of organisms according to their levels of organization, structure, function, and taxonomic characteristics • Evaluate and model the role of cycles in the transfer of energy and nutrients in living and non-living systems and predict the outcome of cycle fluctuation • Analyze interactions within ecosystems/biomes, debate the effect of human impact on them, and propose viable solutions • Design a scientific investigation to solve complex, real world situations. Integrate, interpolate, and extrapolate information imbedded in data to draw well-formulated conclusions.

END OF COURSE BIOLOGY PERFORMANCE LEVEL DESCRIPTORS

PROFICIENCY LEVEL	DEFINITION
Proficient	<p>Biology students performing at the proficient level demonstrate a solid understanding of biological concepts, including the role of chemistry and cells in life processes, genetics, evolution, the diversity of life, and the ecological and behavioral relationships among organisms. In addition, these students are able to design and conduct scientific investigations, analyze data, and apply scientific principles to solve real-world, biological problems.</p> <p><i>Biology students performing at this level</i></p> <ul style="list-style-type: none"> • Evaluate the role of organic and inorganic molecules that are essential in life processes • Demonstrate an understanding of the relationship between the structure and function of cells • Explain and apply genetic principles to modes of inheritance • Demonstrate an understanding of the mechanisms involved in the process of evolution • Categorize and compare organisms according to their levels of organization, structure, function, and taxonomic characteristics • Analyze the role of cycles in the transfer of energy and nutrients in living and non-living systems • Analyze interactions within ecosystems/biomes and evaluate the effect of human impact on them • Implement scientific methods as they relate to current biological trends by evaluating charts and graphs, and utilizing appropriate technology

END OF COURSE BIOLOGY PERFORMANCE LEVEL DESCRIPTORS

PROFICIENCY LEVEL	DEFINITION
Basic	<p>Biology students performing at the basic level display knowledge of biological concepts, including some understanding of the role of chemistry and cells in life processes, genetics, evolution, the diversity of life, and the ecological and behavioral relationships among organisms. These students partially demonstrate the ability to apply this knowledge. They are able to conduct basic level scientific investigations, but demonstrate a need for additional assistance to reach the proficient level.</p> <p><i>Biology students performing at this level</i></p> <ul style="list-style-type: none"> • Identify and describe the functions of organic and inorganic molecules that are essential in life processes • Describe the structure and function of cells • Recognize genetic principles and modes of inheritance • Identify the mechanisms involved in the process of evolution • Demonstrate a knowledge of the levels of organization, structure, function, and taxonomic characteristics of organisms • Describe the role of cycles in the transfer of energy and nutrients in living and non-living systems • Recognize the characteristics of ecosystems/biomes and describe the results of human impact on them • Conduct a simple experiment using the scientific method and interpret charts and graphs utilizing appropriate technology
Below Basic	Below basic students fail to show sufficient mastery of biology skills to attain the basic level.