

Oklahoma School Testing Program
Core Curriculum Tests
Performance-Level Descriptors
End-of-Instruction Biology I

Advanced: Students demonstrate a superior performance and understanding of the subject matter, knowledge, and skills of the science concepts expected of the measured standards and objectives included in the Biology I Oklahoma Academic Standards framework, and they have the ability to apply their understanding to challenging scenarios. Students performing at the Advanced performance level can thoroughly demonstrate the ability to recognize and use scientific processes as defined in the Biology I Oklahoma Academic Standards framework. They analyze research questions and evaluate the design of investigations for a scientific problem; solve non-routine problems that demand multi-step reasoning, integrating Biology I content knowledge and mathematical skills; and form conclusions from experimental data, justifying the reasoning for the conclusions.

Proficient: Students demonstrate a mastery of Biology I concepts expected of all measured standards and objectives included in the Biology I Oklahoma Academic Standards framework, and the ability to apply science practices, reasoning and content knowledge to biological scenarios. Proficient students are ready for the next course, or level of education, as applicable.

Proficient students can:

- make predictions/inferences regarding qualitative and quantitative changes;
- classify organisms with biochemical and taxonomic properties;
- evaluate the components of experimental design;
- use data (single and multiple sets) to: create an appropriate graph, make predictions, and infer outcomes that support conclusions;
- apply appropriate mathematical calculations;
- interpret and apply information from models;
- associate cell structures to their functions;
- interpret the cell cycle with an emphasis on mitosis;
- analyze and interpret gene recombination as related to heredity;
- analyze evidence of common ancestry related to biological diversity and natural selection;
- interpret interactions between abiotic and biotic components of the ecosystem and

- their impact on population dynamics; and
- understand the dynamic interactions of the reactants and products of photosynthesis and cellular respiration.

Limited Knowledge: Students demonstrate partial mastery of the essential knowledge and skills expected of all measured standards and objectives included in the Biology I Oklahoma Academic Standards framework. Students performing at Limited Knowledge are inconsistent in applying the general Biology I concepts and science practices, reasoning and content knowledge to biological scenarios. Students are partially able to interpret information, design simple investigations, and explain scientific processes and experimental procedures in biological investigations. Some gaps in knowledge and skills are evident and may require additional instruction in order to achieve a proficient level of understanding.

Unsatisfactory: Students do not perform at the Limited Knowledge level and will require Biology I remediation in order to achieve a proficient level of understanding.