

Grade 10 Science Proficiency Level Descriptors

Advanced Level

The student displays a highly developed conceptual understanding by designing and critiquing scientific investigations for accuracy, precision, and bias; utilizing an understanding of various historical perspectives and scientific advancements to construct scientific models; applying ecological principles and information gained from a variety of sources in developing solutions to future societal issues; modeling interactions between matter and energy; analyzing force vectors to predict the motion of objects; comparing and contrasting the structure and function of organisms; predicting why things may change over time; and modeling and drawing conclusions about Earth, its geochemical cycles, and the theories that describe them.

Proficient Level

The student demonstrates a basic conceptual understanding by designing and conducting controlled investigations; accurately interpreting and analyzing data; describing historical perspectives and scientific advancements; comparing information from a variety of sources; providing possible solutions to problems; identifying and using atomic structure and properties to describe interactions between matter and energy; describing laws of forces and motions; explaining the organization, structure, and function of organisms and how and why they may change over time; describing and explaining the interrelationships between living organisms and nonliving things; and describing and demonstrating Earth's geochemical cycles and the theories that explain Earth's systems.

Below Proficient Level

The student shows a fundamental understanding by incorporating methods of experimental design into investigations; interpreting data; recognizing that scientific inquiry can be used to understand various historical perspectives and scientific advancements; recognizing that understanding information gained from a variety of sources can be used to solve problems; identifying atomic structure and properties; identifying the organization, structure, and function of organisms; describing how and why organisms may change over time; recognizing the interrelationships between living organisms and nonliving things; and recognizing Earth as a dynamic planet with geochemical cycles.

Far Below Proficient Level

There is a significant need for additional instructional opportunities to achieve the proficient level.