

Grade 8 Science Proficiency Level Descriptors

Advanced Level

The student displays a highly developed conceptual understanding by applying experimental design processes to investigations; examining scientific inquiry; explaining nature of science concepts; analyzing and evaluating differing scientific explanations and models; explaining and comparing the structure and properties of matter; describing transformations, transfers and conservation of energy; drawing conclusions about the interactions between forces, motion, energy, and matter; explaining the structure, function, behavior, development, life cycles, and diversity of living organisms, their changes over time, and their relationships within environments; describing features of Earth; and interpreting and comparing the geochemical cycles, changes, and interactions between Earth and the solar system.

Proficient Level

The student demonstrates a basic conceptual understanding by incorporating methods of experimental design into investigations; applying scientific inquiry; demonstrating nature of science concepts; analyzing differing scientific explanations and models; differentiating among the structure and properties of matter; identifying transformations, transfers and conservation of energy and describing the interactions between forces, motion, energy, and matter; recognizing the structure, function, behavior, development, life cycles, and diversity of living organisms, their change over time, and changes within environments; identifying features of Earth; and explaining geochemical cycles, changes, and interactions between Earth and the solar system.

Below Proficient Level

The student shows a fundamental understanding by recognizing experimental design processes in an investigation; identifying components of scientific inquiry; describing nature of science concepts; recognizing and describing differing scientific explanations and models; recognizing the structure and properties of matter; recognizing that energy can be transformed, transferred and conserved; recognizing the nature of forces, motion, energy, and matter; identifying the basic biology of living organisms in the environment; recognizing features of Earth; and identifying geochemical cycles, changes, and interactions between Earth and the solar system.

Far Below Proficient Level

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