

Core: Biology

Biology focuses on the mastery of basic biological concepts and models while building scientific inquiry skills and exploring the connections between living things and their environment. The course begins with an introduction to the nature of science and biology, including the major themes of structure and function, matter and energy flow, systems, and interconnectedness of life. Students then apply those themes to the structure and function of the cell, cellular metabolism, and biogeochemical cycles. Building on this foundation, students explore the connections and interactions between living things by studying genetics, ecosystems and natural selection, and evolution. The course ends with an applied look at human biology. Scientific inquiry skills are embedded in the direct instruction, wherein students learn to ask scientific questions, form and test hypotheses, and use logic and evidence to draw conclusions about the concepts. Lab activities reinforce critical thinking, writing, and communication skills and help develop a deeper understanding of the nature of science. The content is based on the National Science Education Standards (NSES) and is aligned to state standards.