

Kentucky Science Standards

Relevant academic expectations and content statements related to the Falls of the Ohio State Park and its interpretive programs are available upon request. Please let us know which grade you teach.

The *Core Content for Science Assessment* contains three parts: (1) Conceptual Understandings of Physical, Life, and Earth/Space Science; (2) Scientific Inquiry; and (3) Applications/Connections, the understanding of the nature and utility of science. Thus, all aspects of achievement in science will be assessed. Inquiry and applications/connections skills will be assessed only in the context of physical, Earth/space, and life sciences content.

Test questions will not merely determine whether students have memorized information. They will assess students' understanding and knowledge of science and their ability to reason and use problem-solving skills developed through inquiry and the application of scientific concepts to real-life situations. Elementary students are assessed on their basic understanding of concrete concepts and the simple relationships among them. As students progress from elementary through high school, the concepts studied become more abstract, and students make more connections among concepts. Assessment items reflect this increasing complexity, the expectation of students' deeper understanding of concepts, and the development of sophisticated skills.

Conceptual Understandings

Students need solid knowledge and understanding of physical, life, and Earth/space science concepts if they are to apply science to everyday life. Understanding science implies that students integrate many types of knowledge, including the concepts of science, relationships between concepts, reasons for these relationships, ways to use ideas to explain and predict natural phenomena, and ways to apply ideas. The physical, life, and Earth/space science content statements delineate the content of science in the three widely accepted divisions of science. The content statements focus on science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.

Scientific Inquiry

Students in all grade levels and domains of science should have the opportunity to use scientific inquiry and develop the ability to think and work as scientists. Scientific inquiry refers to the ways scientists study the natural world and propose explanations based on evidence. Inquiry includes making observations; posing questions; examining sources of information; using tools to gather, analyze, and interpret data; proposing answers, explanations, and predictions; and communicating results. Test questions may assess students' understanding of scientific inquiry.

Applications/Connections

The Applications/Connections part is organized into three categories. Science and technology includes a study of the abilities associated with technological design, the similarities between inquiry and technological design, and the idea that technological solutions have benefits and consequences. Science in personal and social perspectives includes a study of the concepts of population growth; natural resources; environmental quality; and natural and human-induced hazards. History and nature of science includes a study of the concepts of science as a human endeavor, the nature of scientific knowledge, and historical perspectives of science.

Test items that show connections to science and technology may include examples of how technological advances contribute to the advancement of scientific theories and concepts. Questions may assess students' understanding of how science is continuously revised and evaluated by society and the reciprocity between science and technology. Test items may reflect personal and social perspectives such as students' understanding of relationships among populations within communities or the interactions among people, society, and scientific challenges. Test items may also show connections to historical or cultural perspectives of science. Students' understanding of the human dimensions of science, the nature of scientific knowledge, and the role of science in society may be assessed.