



KEY SCIENCE EDUCATION CONCEPTS

A general understanding of the key concepts defined below is necessary to support current research and science best practices being included in the ongoing review and revision of the Science TEKS.

K-12 Science Framework sets expectations

The K-12 Science Framework (may also be referred to as the Framework or Science Framework) is a broad set of expectations for students that was created from 20 years of science research to define foundational knowledge and skills for K-12 science. The expectations for students articulated in the framework are intended to guide the development of new standards, which in turn guide revisions to science-related curriculum, instruction, assessment and professional development for educators.

Science and Engineering Practices (SEP) outlines a set of skills

The Science and Engineering Practices are research-based processes in which students engage to deepen their understanding of science concepts. The practices facilitate the development of scientific literacy needed to analyze and make informed decisions using all of the information we encounter in today's connected society. The following are examples of the set of skills that make up SEP:

- Asking Questions and Defining Problems
- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking
- Constructing Explanations and Designing Solutions
- Engaging in Argument from Evidence

Cross-Cutting Concepts (CCC) seeks a coherent view of science

Cross-Cutting Concepts are big ideas that transcend across science disciplines and content areas such as Patterns; Cause and Effect; and Scale, Proportion and Quantity. Inclusion of these concepts support the development of literacy and mathematical skills within science. Cross-Cutting Concepts can help students better understand science and engineering practices, and therefore deepen understanding of science concepts.