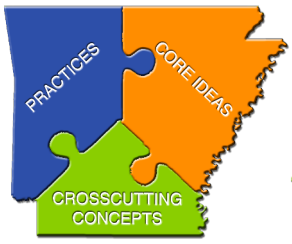


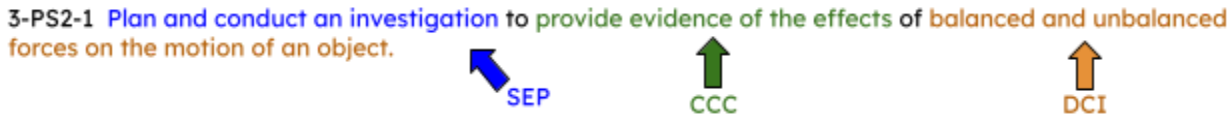
ARKANSAS
K-12 SCIENCE STANDARDS

EDUCATION FOR A NEW GENERATION

Fundamental Science Content
3rd Grade

2023

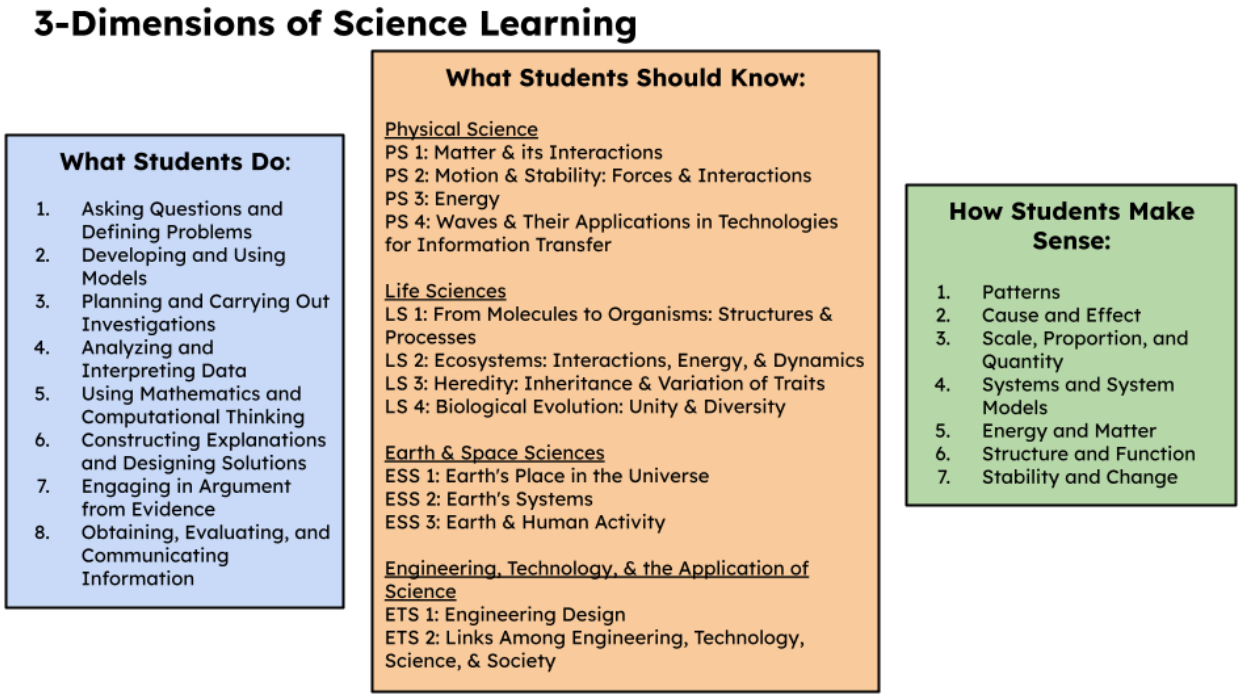
The Arkansas K-12 Science Standards are available here. The standards are three-dimensional, consisting of a Science and Engineering Practice (SEP), a Disciplinary Core Idea (DCI), and a Cross Cutting Concept (CCC). By the end of the grade level, students should be able to demonstrate the full scope of the standard. Example:



The focus of this document is specifically on the science core ideas in 3rd grade. In Arkansas K-12 Science Standards, science content is found in the DCI portion of each standard. Three-dimensional learning and assessment best prepares students for success so that students have the opportunity to demonstrate both what they know *and* can do in science. Refer to the full standards document to find the corresponding science and engineering practice and cross cutting concept for each standard. The core ideas are organized into the following domains of science:

- Physical Science
- Life Science
- Earth & Space Science
- Engineering Technology & Applications of Science

Each domain contains core ideas organized into component ideas. By the end of 3rd grade, students are expected to know the bulleted information under each component idea. Standards that address the bulleted information are included in parentheses and those with an asterisk include an engineering component.



Physical Science

*Asterisks indicate best opportunities to integrate ETS performance expectations into content.

Motion & Stability
Forces & Motion
• Interactions of an object with another object can be explained and predicted using the concept of forces, which can change the motion (speed and/or direction) of one or both objects. Forces have strength and direction and can be balanced or unbalanced. An object at rest typically has multiple forces acting on it. If the forces are balanced the object does not change motion (3-PS2-1)
• Patterns of an object's motion can be observed and measured. When past motion shows a regular pattern, future motion can be predicted from it. (3-PS2-2)
Types of Interactions
• Objects in contact exert forces on each other. (3-PS2-1)
• Electric and magnetic forces between objects do not require that the objects be in contact. The size of the force depends on the properties of the objects, including their distances apart, and for magnets, on their orientation relative to each other. (3-PS2-3, 3-PS2-4*)

Life Science

*Asterisks indicate best opportunities to integrate ETS performance expectations into content.

Molecules to Organisms
Growth & Development
• Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)
Ecosystems
Ecosystem Dynamics
• When the physical characteristics, temperature, or availability of resources change in an ecosystem, some organisms survive, some die, some migrate, some remain. (3-LS4-4*)
Social Interactions and Behaviors
• Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (3-LS2-1)
Heredity & Variation of Traits
Inheritance of Traits
• Many characteristics of organisms are inherited from their parents. (3-LS3-1)
• Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)

Variation of Traits
• Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)
• The environment also affects the traits that an organism develops. (3-LS3-2)
Biological Evolution
Common Ancestry
• Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (3-LS4-1)
• Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)
Natural Selection
• Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)
Adaptation
• For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)
Biodiversity & Humans
• Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (3-LS2-1)
• Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4*)

Earth & Space Science

*Asterisks indicate best opportunities to integrate ETS performance expectations into content.

Earth's Systems
Weather and Climate
• Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3-ESS2-1)
• Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (3-ESS2-2)
Earth and Human Activity
Natural Hazards
• A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (3-ESS3-1*)

Engineering, Technology, and Applications of Science

Engineering Design
Defining Engineering Problems
• Possible solutions to a problem are limited by criteria and constraints. Solutions can be compared on the basis of how well each one meets criteria for success and takes constraints into account. (3-ETS1-1)
Developing Possible Solutions
• Solutions to problems require research. Testing a solution involves investigating how well it solves the problem or fulfills the need. (3-ETS1-2)
• Communicating with peers about proposed solutions is a critical component of the design process, and shared ideas can lead to improved designs. (3-ETS1-2)
Optimizing the Design Solution
• Multiple solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (3-ETS1-3)