

ARKANSAS

K-12 SCIENCE STANDARDS

EDUCATION FOR A NEW GENERATION

Fundamental Science Content Kindergarten

2023

The Arkansas K-12 science standards in their entirety can be found sorted by grade level [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:

K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.



SEP



CCC



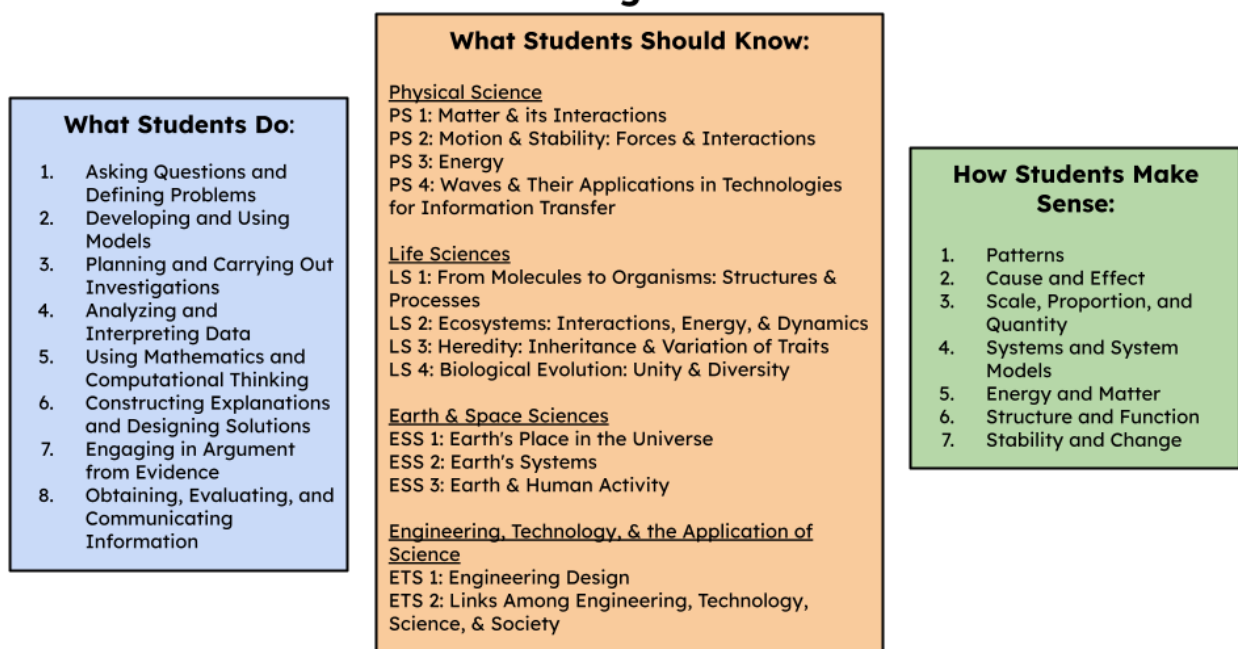
DCI

This document focuses specifically on the fundamental content in science in Kindergarten. In Arkansas science standards, the DCI portion of a given performance expectation is where this content is found. Research shows experience with three dimensional learning and assessment best prepares students for success in science 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 corresponding SEP's and CCC's for each performance expectation. The DCI's are organized into the following domains:

- Physical Science (PS)
- Life Science (LS)
- Earth & Space Science (ESS)
- Engineering Technology & Applications (ETS) of Science

Within each domain, there are core ideas and component ideas. By the end of Kindergarten, students will need 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.

3-Dimensions of Science Learning



Physical Science

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

Motion & Stability

Forces & Motion

- Pushes and pulls can have different strengths and directions. ([K-PS2-1](#), [K-PS2-2*](#))
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. ([K-PS2-1](#), [K-PS2-2*](#))

Types of Interactions

- When objects touch or collide, they push on one another and can change motion. ([K-PS2-1](#))

Energy

Conservation & Transfer of Energy

- Sunlight warms Earth's surface. ([K-PS3-1](#), [K-PS3-2*](#))

Energy & Forces

- A bigger push or pull makes things speed up or slow down more quickly. ([K-PS2-1](#))

Life Science

Molecules to Organisms

Structure & Function

- All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. ([K-LS1-1](#))

Earth & Space Science

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Earth's Systems

Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. ([K-ESS2-1](#))

Biogeology

- Plants and animals can change their environment. ([K-ESS2-2](#))

Earth and Human Activity

Natural Resources

- Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. ([K-ESS3-1](#))

Natural Hazards

- Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. ([K-ESS3-2*](#))

Human Impacts on Earth Systems

- Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. ([K-ESS2-2](#), [K-ESS3-3*](#))

Engineering, Technology, and Applications of Science

Engineering Design

Defining Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering. ([K-PS2-2*](#), [K-ETS1-1](#))
- Asking questions, making observations, and gathering information are helpful in thinking about problems. ([K-ESS3-2*](#), [K-ETS1-1](#))
- Before beginning to design a solution, it is important to clearly understand the problem. ([K-ETS1-1](#))

Developing Possible Solutions

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. ([K-ESS3-3*](#), [K-ETS1-2](#))

Optimizing the Design Solution

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. ([K-ETS1-3](#))