Wild Friends in Wild Places (K-2nd)

Next Generation Science Standards Alignment

"Within the Next Generation Science Standards (NGSS), there are three distinct and equally important dimensions to learning science. These dimensions are combined to form each standard – or performance expectation – and each dimension works with the other two to help students build a cohesive understanding of science over time."

1. **Disciplinary Core Ideas (DCI):** "DCIs are the key ideas in science that have broad importance within or across multiple science or engineering disciplines. These core ideas are grouped into the following domains."
    - Physical Science (PS), Life Science (LS), Earth and Space Science (ESS), Engineering Technology and Applications of Science (ETS)

2. **Crosscutting Concepts (CC):** "CCs help students explore connections across the four domains of science.
    - Patterns; Cause and Effect; Scale, Proportion, and Quantity; Systems and System Models; Energy and Matter; Structure and Function; Stability and Change

3. **Science and Engineering Practices (SEP):** "Science and Engineering Practices describe what scientists do to investigate the natural world and what engineers do to design and build systems."

Source: www.nextgenscience.org

Wild Friends in Wild Places School Program (WFWP)

The following pages explain the alignment of WFWP with NGSS Performance Expectations and the more general three dimensions of science. If interested in more detail, please don't hesitate to contact the Program Coordinator, Caryn Beiter, via phone or email. 207-646-1555x110, caryn@wellsnerr.org

Relevant Performance Expectations

K-LS1-1: Use observations to describe patterns of what plants and animals need to survive.

K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.

Disciplinary Core Ideas (DCI)

LS1.A: Structure and Function
All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive, grow, and produce more plants.

LS1.C: Organization for Matter and Energy Flow in Organisms
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.

LS1.D: **Information Processing**
Animals have body parts that capture and convey different kinds of information needed for growth and survival—for example, eyes for light, ears for sounds, and skin for temperature or touch. Animals respond to these inputs with behaviors that help them survive (e.g., find food, run from a predator). Plants also respond to some external inputs.

LS2.A: Interdependent Relationships in Ecosystems
Animals depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. Animals depend on plants or other animals for food. They use their senses to find food and water, and they use their body parts to gather, catch, eat, and chew the food. Plants depend on air, water, minerals (in the soil), and light to grow. Animals can move around, but plants cannot, and they often depend on animals for pollination or to move their seeds around. Different plants survive better in different settings because they have varied needs for water, minerals, and sunlight.

LS4.C: Adaptation
Living things can survive only where their needs are met. If some places are too hot or too cold or have too little water or food, plants and animals may not be able to live there.

ESS2.E: Biogeology
Plants and animals (including humans) depend on the land, water, and air to live and grow.

ESS3.A Natural Resources
Living things need water, air, and resources from the land, and they try to live in places that have the things they need.

Crosscutting Concepts (CC)

CC1: Patterns
Students recognize that patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

CC6: Structure and Function
Students observe that the shape and stability of structures of natural and designed objects are related to their function(s).

Science and Engineering Practices (SEP)

SEP1: Asking Questions and Defining Problems
A practice of science is to ask and refine questions that lead to descriptions and explanations of how the natural and designed world works and which can be empirically tested.

SEP2: Developing and Using Models
A practice of both science and engineering is to use and construct models as helpful tools for representing ideas and explanations. These tools include diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations.