Grade 2 Science - Unit 3 - How Plants & Animals Work Together

Unit Focus

This unit immerses second-grade students in an inquiry-based exploration of how plants grow, how animals support plant reproduction, and how different habitats support a variety of living things. Students will develop foundational science practices by planning investigations, building models, making observations, and communicating findings.

The unit begins with imaginative storytelling and hands-on planting experiments to help students understand that plants need sunlight and water to grow. Using real-world scenarios and anchoring phenomena like time-lapse germination, students test variables in plant growth, record data in journals, and analyze outcomes in collaborative groups. Next, students explore animal and plant interactions, focusing on how animals disperse seeds and pollinate plants. Through videos, experiments, and a design challenge, students investigate seed dispersal strategies and create their own "Smarty Plant" adapted for a specific pollinator. The final focus of the unit is on habitat diversity. Students compare different environments to understand how the variety of plants and animals differs from place to place, using Mystery Science lessons to examine real-world examples.

The unit culminates in student-led presentations where children share findings from their plant experiments. The learning experience promotes scientific thinking, collaboration, and creativity while deepening students' understanding of life science concepts and interdependence in ecosystems.

Stage 1: Desired Results - Key Understandings

Standard(s)

Next Generation Science Standards

Cross Cutting Concepts: 2

- Events have causes that generate observable patterns. (2-LS2-1) (2.IRE.CC.1.1)
- The shape and stability of structures of natural and designed objects are related to their function(s). (2-LS2-2) (2.IRE.CC.2.1)

Disciplinary Core Ideas: 2

- Plants depend on water and light to grow. (2-LS2-1) (2.LS2.A.1)
- Plants depend on animals for pollination or to move their seeds around. (2-LS2-2) (2.LS2.A.2)
- There are many different kinds of living things in any area, and they exist in different places on land and in water. (2- LS4-1) (2.LS4.D.1)
- 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. (secondary to 2- LS2-2) (2.ETS1.B.1)

Performance Expectations: 2

- Plan and conduct an investigation to determine if plants need sunlight and water to grow. (2-LS2-1)
- Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. (2-LS2-2)
- Make observations of plants and animals to compare the diversity of life in different habitats. (2-LS4-1)

Transfer

Students will be able to independently use their learning to...

T1 Analyze qualitative and quantitative data to interpret patterns, draw conclusions, and/or make predictions.
T2 Use the scientific process to generate evidence that addresses the original questions.
T3 Create models to explore complex systems, show mastery of key science concepts, and/or develop solutions through creation of a product open to testing and redesign.

Meaning

Understanding(s)	Essential Question(s)
Students will understand that... **U1** Plants have basic needs that must be met in order for them to survive and grow. **U2** Plants and animals depend on each other in order to live and grow. **U3** Living things are adapted to survive in the environments where they live.	*Students will keep considering...* **Q1** What do plants need to grow? **Q2** How do animals help plants grow? **Q3** How are plants and animals in one habitat different from those in another habitat?

Acquisition of Knowledge and Skill

Knowledge	Skill(s)
Students will know... **K1** Plants need sunlight and water to make their own food and grow.	*Students will be skilled at...* **S1** Plan and conduct investigations to test what plants need to grow.

Stage 1: Desired Results - Key Understandings		
Science and Engineering Practices: 2 • Develop a simple model based on evidence to represent a proposed object or tool. (2- LS2-2) (2.IRE.SEP.1.1) • Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1) (2,IRE.SEP.2.1) • Make observations (firsthand or from media) to collect data that can be used to make comparisons. (2-LS4-1) (2,IRE.SEP.2.2) • Scientists look for patterns and order when making observations about the world. (2- LS4-1) (2.IRE.SEP.3.1) **Madison Public Schools Profile of a Graduate** • Analyzing: Examining information/data/ evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. (POG.1.2) • Product Creation: Effectively use a medium to communicate important information. (POG.3.2)	**K2** Animals can help plants grow by carrying pollen between flowers or moving seeds to new places. **K3** Desert habitats have plants like cacti and animals like lizards, while forest habitats have trees and animals like deer and birds. **K4** Vocabulary: Plants, Sunlight, Nutrients, Growth, Variable, Control, Experiment, Hypothesis, Seed Dispersal, Pollination, Pollinator, Adaptation, Habitat, Diversity, Compare, Animals.	**S2** Build models to show how animals help plants spread seeds or pollinate flowers. **S3** Observe and compare different habitats to identify various plants and animals.