

Unit 2: Ecosystems: Interactions, Energy, and Dynamics

Content Area: **Science**
Course(s):
Time Period: **Generic Time Period**
Length: **4 weeks**
Status: **Published**

Disciplinary Core Ideas

LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on water and light to grow. (2- LS2-1)
- Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)

ETS1.B: 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.(secondary to 2-LS2-2)

Standards:

Science —

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

ELA/Literacy —

W.2.7 Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-LS2-1),(2-LS4-1)

W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1),(2-LS4-1)

SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-LS2-2)

Mathematics —

MP.2 Reason abstractly and quantitatively. (2-LS2-1),(2-LS4-1)

MP.4 Model with mathematics. (2-LS2-1),(2-LS2-2),(2-LS4-1)

MP.5 Use appropriate tools strategically. (2-LS2-1)

2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (2-LS2-2),(2-LS4-1)

Essential Questions

Why do we see different living things in different habitats?

Guiding Questions:

How does the diversity of plants and animals compare among different habitats?

What do plants need to live and grow?

Why do some plants rely on animals for reproduction?

Learning Objectives

Relationships in Habitats

Objectives:

SWBAT Make observations of plants and animals to compare the diversity of life in different habitats.

SWBAT Plan and conduct an investigation to determine if plants need sunlight and water to grow.

SWBAT Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

SWBAT Ask questions, make observations, and gather information about a situation people want to change to define a

simple problem that can be solved through the development of a new or improved object or tool.

Concepts that will be taught:

1. People look for patterns and order when making observations about the world.
2. There are many different kinds of living things in any area, and they exist in different places on land and in water.
3. Events have causes that generate observable patterns.
4. Plants depend on water and light to grow.
5. The shape and stability of structures of natural and designed objects are related to their function.
6. Plants depend on animals for pollination or to move their seeds around.
7. 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.

Students who understand will be able to...

Students who understand 1-2:

- Look for patterns and order when making observations about the world.
- Make observations (firsthand or from media) to collect data that can be used to make comparisons.
- Make observations of plants and animals to compare the diversity of life in different habitats.

Students who understand 3-4:

- Observe patterns in events generated by cause-and-effect relationships.
- Plan and conduct an investigation collaboratively to produce data to serve as a basis for evidence to answer a question.
- Plan and conduct an investigation to determine whether plants need sunlight and water to grow.

Students who understand 5-7:

- Describe how the shape and stability of structures are related to their function.
- Develop a simple model based on evidence to represent a proposed object or tool.
- Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Activities

Plant grass seeds and measure/observe daily

Cheese puff pollination activity to demonstrate the process

Draw diagram of plants and their parts

Mystery Science

-Plant Adventures Unit

-Mystery 1: How did a tree travel halfway around the world?

-Mystery 2: Do plants eat dirt?

-Mystery 3: Why do trees grow so tall?

-Mystery 4: Should you water a cactus?

-Mystery 5: Where do plants grow best?

Materials & Resources

Science Textbooks - McGraw Hill 2002

* Chapter 1 Lessons 1-4

Mysteryscience.com

Nonfiction books about bees and pollination

Nonfiction books about plants/plant life
Standard units of measurement

Soil

Grass Seeds

BrainPopJr

Supplemental Plant Unit materials from teachers pay teachers

Cups

Water

Assessments

Class Discussion

Plant investigation

Teacher Observation

Student illustrations

Observation of students' sketches for accuracy

End of unit test

Student research writing pieces

Mystery Science Assessments

Accommodations and Modifications

-Use of scribe

-Partnered with classmate

-Use of scribe

- Adaptive computer to type assignments
- Adjustable tables and lab equipment within reach
- Flexible seating
- Additional time and/or small-group for testing
- Additional time and/or small-group for assignments
- Captioned videos
- Visual and tactile instructional demonstrations
- Computer with voice output, spelling and grammar checker
- Preferential seating
- Tactile drawings and graphs, and three-dimensional models
- Directions repeated/clarified. Check for understanding.