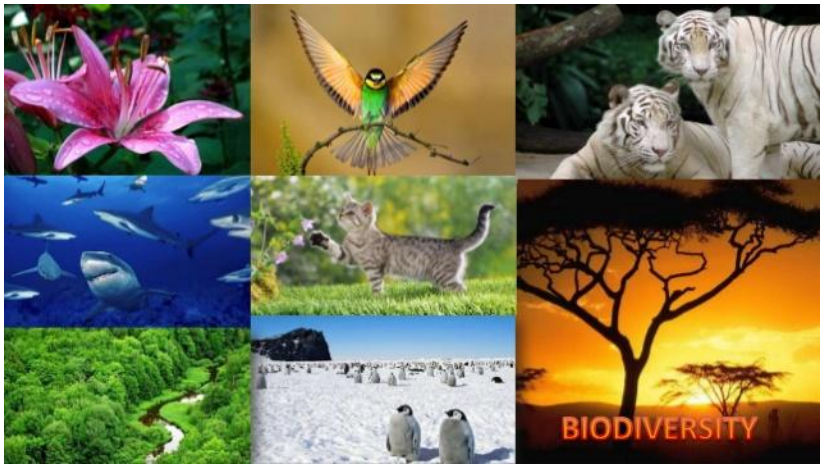
12 Week Unit

UNIT 3 INTERDEPENDENT RELATIONSHIPS IN ECOSYSTEMS



Second Grade | Rogers Public Schools

Unit 3: Interdependent Relationships in Ecosystems 12 weeks

In this unit, students will explore how animals and plants rely on each other to live and grow. They will investigate what plants and animals need in order to grow. Students will develop an understanding of how animals depend on plants for food, and how plants depend on animals to pollinate plants or disperse their seeds. They will develop a model that mimics how an animal functions in the dispersal of seeds or in the process of pollination.

Student will also explore and compare the diversity of life in different habitats. They will explore the variety of animals and plants that live in various habitats and why they can live in those habitats. Students will be able to use a cause-effect relationship to compare why animals and plants exist in different places on land and in water.

Unit 3 Performance Expectations

- **2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.**
  Assessment Boundary: Assessment is limited to testing one variable at a time.

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

- **2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.**
  Clarification Statement: Emphasis is on the diversity of living things in a variety of habitats.
  Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.

Unit 3 Essential Questions:

- What do plants need to grow?

- Why do living things exist in different places on land and in water?

In Unit 3, students will understand…

- Plants depend on water and light to grow.
- Plants depend on animals for pollination or to move their seeds around.
- There are many different kinds of living things in any area.
- Living things exist in different places on land and in water.

Unit Vocabulary:

plant	mimic	living thing
fair test	pollination	variety/diversity
variable	dispersing seeds	habitat

Additional Content Connections:

*These connections provide opportunities to score to other content standards with focused instruction.

ELA:

- ❖ Speaking and Listening
  - SL.2.1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups
  - SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Math: (during investigation and data collection)

- ❖ Measurement and Data
  - Measure and estimate lengths in standard units
    - 2.MD.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes
    - 2.MD.A.4 Measure to determine how much long one object is than another, expressing the length difference in terms of a standard length unit
  - Represent and Interpret Data
    - 2.MD.D.9 Generate data by measuring the same attribute of similar objects to the nearest whole unit; display the measurement data by making a line plot; generate data from multiple measurements of the same object; make a line plot to compare precision of measurements
    - 2.MD.D.10 Draw a picture graph and a bar graph, with a 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

Interdependent Relationships in Ecosystems

Students who demonstrate understanding can:

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

[Assessment Boundary: Assessment is limited to testing one variable at a time.]

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

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

[Clarification Statement: Emphasis is on the diversity of living things in a variety of habitats.]

[Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*.

Science and Engineering Practices

Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

- Develop a simple model based on evidence to represent a proposed object or tool. (2-LS2-2)

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1)
- Make observations (firsthand or from media) to collect data that can be used to make comparisons. (2-LS4-1)

Connections to Nature of Science

Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (2-LS4-1)

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)

LS4.D: Biodiversity and Humans

- 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)

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. (2-LS2-2)

Crosscutting Concepts

Cause and Effect

- Events have causes that generate observable patterns. (2-LS2-1)

Structure and Function

- The shape and stability of structures of natural and designed objects are related to their function(s). (2-LS2-2)