

Interdependent Relationships in Ecosystems

Content Area: **Science**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

Unit Overview

In this unit of study, students develop an understanding of what plants need to grow and how plants depend on animals for seed dispersal and pollination. Students also compare the diversity of life in different habitats. The crosscutting concepts of cause and effect and structure and function are called out as organizing concepts for these disciplinary core ideas. Students demonstrate grade-appropriate proficiency in planning and carrying out investigations and developing and using models. Students are also expected to use these practices to demonstrate understanding of the core ideas. Lessons in this unit satisfy Climate Change Mandate.

Enduring Understandings

Plants depend on animals for pollination to grow.
Plants need water and light to grow.
Living things exist in many places in land and in water.

Essential Questions

What do plants depend on to grow?
What do plants depend on animals for?
Where do living things exist?

Learning Objectives

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. (Note: The emphasis is on the diversity of living things in each of a variety of different habitats; assessment does not include specific animal and plant names in specific habitats.) Observe patterns in events generated by cause-and-effect relationships.
Observe differences between climate and weather
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.
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.

Explain how plants and animals are impacted by changes in the climate.

Identify and explain the difference between climate and weather.

Identify the link between the earth's systems-land, air, living things and water- and how if one changes it impacts all systems

Climate Change - Develop possible solutions to climate change.

Standards: Content

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|----------------|---|
| SCI.K-2-ETS1-3 | Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. |
| SCI.2-LS2-1 | Plan and conduct an investigation to determine if plants need sunlight and water to grow. |
| SCI.2-LS2-2 | Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. |
| SCI.2-LS4-1 | Make observations of plants and animals to compare the diversity of life in different habitats. |

Standards: Interdisciplinary

Assessment Evidence

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| Formative | Teacher observations, Class discussions, Lab Activities, Key concepts and vocabulary quizzes, Science Starter's/Do Nows, Open Ended Responses, Modeling, Simulations, Innovators Monthly Research, Lab Activities, Vocabulary Responses, Exit Questions, Interactive Digital Assessments embedded in Exploring Science Digital Book |
| Summative | In correlation with the NGSS, students must demonstrate the following as summative assessments: 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. 2-LS4-1., Make observations of plants and animals to compare the diversity of life in different habitats. Other summative assessments will include but are not limited to: projects, summative tests, lab skills demonstrations, and vocabulary quizzes. |
| Alternative & Benchmark | Alternative - Read to the student and chart oral responses. Word banks, sentence frames, oral responses, graphic organizers, observations, portfolios of student work, orally administered assessments, and anecdotal notes. Benchmark – LinkIt Benchmark Assessment, Teacher Generated Assessments |
| Assessment Evidence Resource | |

Instructional Resources

Smartboard, Computers, Websites and digital interactives/models, Multi-media presentations, Video Streaming, Brain Pop, Middle School Science, Generation Genius Digital Curriculum, Mystery Science Digital Curriculum, Amplify Digital Curriculum, Microsoft 365, Primary and Secondary Source Documents, BrainPop Jr., Assorted lab materials., Assorted lab materials, Crayons, Scissors, Markers, Paper, Graph Paper, Rulers, Tape, Construction Paper [Second Grade Science Labs](#)

[Instructional Resource List](#)

Curricular Mandates

Below are the curricular requirements as defined in NJ Administrative Code and Statute

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| | Amistad | | Diversity, Equity, and Inclusion |
| | Holocaust | | LGBT and Disabilities (Grades 6-12) |
| X | Climate Change | | Asian American & Pacific Islander |

Social Emotional Learning (SEL) Competencies

[NJ Social and Emotional Learning Competencies & Sub-Competencies](#)

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|---|-----------------------------|---|---------------------|
| | Self-Awareness | | Relationship Skills |
| X | Responsible Decision-Making | X | Social Awareness |
| | Self-Management | | |

21st Century Skills & Themes

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|---|---------------------------------------|------------------------|------------------------------------|
| X | Global and Cultural Awareness | Technology Literacy | Planning and Budgeting |
| X | Creativity and Innovation | Financial Institutions | Risk Management and Insurance |
| X | Information and Media Literacy | Digital Citizenship | Economic and Government Influences |
| X | Critical Thinking and Problem Solving | Credit Profile | Career Awareness and Planning |
| | Civic Financial Responsibility | Financial Psychology | |