Unit 3: Plants and Animals

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Title Section

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Science, GRADE K

Unit 3: Plants and Animals

Belleville Board of Education

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Unit Overview

In this unit, children will:

- use observations to describe patterns of what plants and animals need to surivive
- analyze data by collection, recording, and sharing observations
- use a model to show the relationship between the needs of different plants or animals and the places they live
- use patterns as evidence to support claims
- construct an argument supported by evidence for how plants and animals change the environment to survive

Performance Expectations:

- K-LS1-1 Use observations to describe patterns of what plants and animals (inculding humans) need to survive.
- 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.
- K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the

environment to meet their needs.

Unit Vocabulary:

1. living things
2. nonliving things
3. shelter
4. desert
5. forest
6. pond
7. ocean
8. environment

Unit Project: Animal Changes

Lesosn 1: What Do Plants Need?

Lesson 2: What Do Animals Need?

Lesson 3: Where Do Plants and Animals Live?

Lesson 4: How Do Planys and Animals Change Their Environment

Enduring Understanding

- Living things are alive.
- Nonliving things are not alive.
- Plants need sunlight,water, air and space to live and grow.
- Most plants need soil.
- Animals need food, water, air, and shelter to live and grow.
- A shelter is a safe place to live.
- Plants and animals live in different systems.
- A desert is a dry place.

- A forest is a place where many trees grow.
- A pond is a small body of fresh water.
- An ocean is a very large body of salt water.
- Living things depend on each other.
- Some living things change the environment.
- The environment is all the things in a place.

Essential Questions

Lesson 1:

- What do plants need?

Lesson 2:

- What do animals need?

Lesson 3:

- Where do plants and animals live?

Lesson 4:

- How do plants and animals change their environment?

Unit Project:

- How can you model a way animals change their environment?
- How does a nest help a bird get something it needs?
- What evidence can be collected to show how a bird changes its environment?
- What cause and effect relationship will occur when you build the nest?

Exit Skills

By the end of Grade K Unit 3, the student should be able to:

- tell what plants need to live and grow
- tell what animals need to live and grow
- say why plants and animals live in certain places
- know how living things change the environment to meet their needs

New Jersey Student Learning Standards (NJSLS-S)

SCI.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.
SCI.K-ESS2-2	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
SCI.K-LS1-1	Use observations to describe patterns of what plants and animals (including humans) need to survive.

Interdisciplinary Connections

Math

Language Arts

MA.K.MD.A.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.
LA.W.K.7	Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
LA.SL.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.

Learning Objectives

Lesson 1:

- SWDAT formulate evidence to explain what plants need to live and grow.

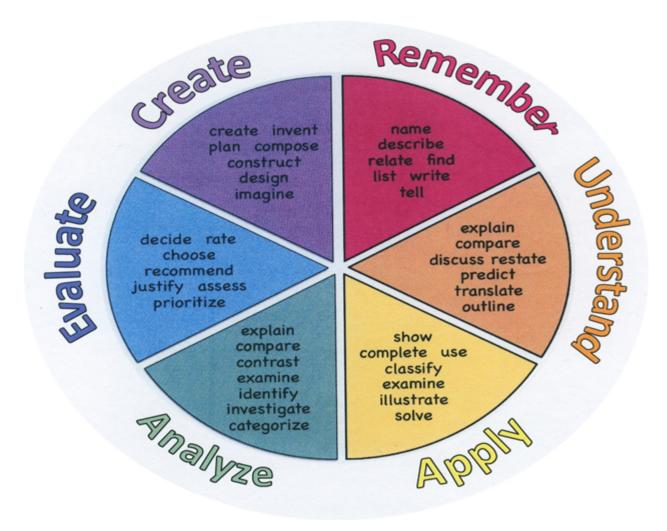Hands-On Activity 1: SWDAT determine what a plant needs to stay alive.

Lesson 2:

- SWDAT formulate evidence to explain what animals need to live and grow.

Hands-On Activity 2: SWDAT infer what pill bugs need to live and stay alive by exploring patterns and making observations.

Lesson 3:

- SWDAT distinguish between where different plants and animals live and explain that they are part of a system with parts that work together in the natural world.

Hands-On Activity 3: SWDAT conclude whether a system in the natural world has the things a plant needs to live and grow.

Lesson 4:

- SWDAT support evidence that explains how plants and animals can change where they live to meet their needs.

Hands-On Activity 4: SWDAT construct a model of a park for plants and animals that has what they need to live and grow.

You Solve It:

- SWDAT devlop and use a model ecosystem.
- SWDAT identify the needs of plants and animals.
- SWDAT observe how plants and animals change their environment.

Unit Project:

- SWDAT plan and build a model bird's nest.
- SWDAT analyze how building the bird's nest has changed the environment.
- SWDAT construct an argument to support a claim.

Action Verbs: Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy.

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate
Recite	Interrelate	Show	Survey	Grade	Organize
Select	Interpret	Sketch	Arrange	Justify	Plan
State	Infer	Solve	Breakdown	Measure	Produce
Count	Match	Use	Combine	Rank	Role Play
Draw	Paraphrase	Add	Detect	Rate	Drive
Outline	Represent	Calculate	Diagram	Support	Devise
Point	Restate	Change	Discriminate	Test	Generate
Quote	Rewrite	Classify	Illustrate		Integrate
Recall	Select	Complete	Outline		Prescribe
Recognize	Show	Compute	Point out		Propose
Repeat	Summarize	Discover	Separate		Reconstruct
Reproduce	Tell	Divide			Revise
	Translate	Examine			Rewrite
	Associate	Graph			Transform
	Compute	Interpolate			
	Convert	Manipulate			
	Discuss	Modify			
	Estimate	Operate			
	Extrapolate	Subtract			
	Generalize				
	Predict				

Suggested Activities & Best Practices

Vocabulary Game - Guess the Word!

Hands-On Activites - Plant Needs; Pill Bug Home; Where Plants Live; Plan a Park

You Solve It Virtual Lab - Grow a Garden!

Unit Project - Animal Changes

Performance Task - Do Plants Need Air?

Take it Further - People in Scienc and Engineering: Dr. Norma Alcantar

Assessments

- Pre-Assessment
- Formative: interactive workbook, apply what you know, lesson check/self check
- Summative: assessment guide, lesson quizes, unit test
- Online Assessment

Evidence of Student Learning - Checking for Understanding (CFU)

- Admit Tickets
- Anticipation Guide
- Common benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration

- Journals
- KWL Chart
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit tests

Primary Resources & Materials

HMH Science Dimensions- Teacher Edition, Student workbook, online resources (including professional development videos)

HMH Online Handbook

Equipment Kits

Safety Kit

HMH Science Dimensions leveled readers

Ancillary Resources

online resources

Science Weekly

Scholastic News

National Geographic Kids

Technology Infusion

HMH Science Dimensions digital component

Computer based assessments

Alignment to 21st Century Skills & Technology

Mastery and infusion of **21st Century Skills & Technology** and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

21st Century Skills/Interdisciplinary Themes

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

Leveled Readers (On Level, Extra Support, Enrichment)

Reinforce Vocabulary- Help students connect vocabulary to real world examples.

RTI/Extra Support- Provide additional opportunites for hands-on discovery.

Extension Activity for enrichment

ELL- Provide hands-on examples of important concepts (ELL support resources include a glossary in English and Level Readers in Spanish and English)

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Intervention Strategies

- allowing students to correct errors (looking for understanding)

- teaching key aspects of a topic. Eliminate nonessential information

- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning

- allowing students to select from given choices

- allowing the use of note cards or open-book during testing

- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.

- decreasing the amount of workpresented or required

- having peers take notes or providing a copy of the teacher's notes

- marking students' correct and acceptable work, not the mistakes

- modifying tests to reflect selected objectives

- providing study guides

- reducing or omitting lengthy outside reading assignments

- reducing the number of answer choices on a multiple choice test

- tutoring by peers

- using authentic assessments with real-life problem-solving

- using true/false, matching, or fill in the blank tests in lieu of essay tests

- using videos, illustrations, pictures, and drawings to explain or clarify

Special Education Learning

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multiple test sessions
- multi-sensory presentation
- preferential seating
- preview of content, concepts, and vocabulary
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;

- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

Sample Lesson