Unit 3: Environments for Living Things

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Title Section

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Science: Grade 2

Unit 3: Environments for Living Things

Belleville Board of Education

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Unit Overview

In this unit, students will

- investigate what plants and animals need to live and grow.

- develop models to show how plants depend on animals.

- explore environments to identify observable patterns.

- observe plants and animals to compare diversity of life in water habitats.

- observe plants and animals to compare diversity in land habitats.

Performance Expectations include:

- **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.

Lesson 1 Overview:

- Construct an argument with evidence that plants are living things that need certain things to grow and to stay healthy.

Lesson 2 Overview:

- Develop a simple model to show how plants depend on animals within their environment.

Lesson 3 Overview:

- Make observations of plants and animals to compare the diversity of life in water habitats.

Lesson 4 Overview:

- Make observations of plants and animals to compare the diversity of life in land habitats.

Enduring Understanding

Lesson 1 Overview:

- **Enduring Understanding**: the basic needs of plants and what they need to be healthy and grow

- **Essential Question**: What do plants need?

Lesson 2 Overview:

- **Enduring Understanding**: plants depend on animals to help move seeds and pollen

- **Essential Question**: How do plants depend on animals?

Lesson 3 Overview:

- **Enduring Understanding**: specific plants and animals are found in the habitats within ponds, river, and tide pools

- **Essential Question**: What plants and animals live in water habitats?

Lesson 4 Overview:

- **Enduring Understanding**: specific plants and animals are found in the habitats within a rain forest, forest, and savanna

- **Essential Question**: What plants and animals live in land habitats?

Essential Questions

Unit 3 Essential Questions:

- What do plants need to grow?

- What causes plants to change?

- How do plants depend on animals?

- How do animals help plants?

- How do animals spread pollen?

- What plants and animals live in water habitats?

- What lives in a pond? in a river delta? in a tide pool?

- What plants and animals live in land habitats?

- What lives in a rain forest? in a forest? in a savanna?

Exit Skills

By the end of Grade 2, Science Unit 3, the student should be able to:

- identify the basic needs of a plant

- explain how plants depend on animals

- identify the plants and animals that live in water habitats

- identify the plants and animals that live in land habitats

New Jersey Student Learning Standards (NJSLS-S)

Attached are standards used in Unit 3:

SCI.2.2-LS2-1	Plan and conduct an investigation to determine if plants need sunlight and water to grow.
SCI.2.2-LS2-2	Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

| SCI.2.2-LS4-1 | Make observations of plants and animals to compare the diversity of life in different habitats. |

Interdisciplinary Connections

Attached are the Interdisciplinary Connections for Unit 3:

| MA.2.OA.C.4 | Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. |
MA.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.
LA.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).
LA.W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
LA.SL.2.5	Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.

Learning Objectives

Unit 3 Learning Objectives:

- SWDAT: Constuct an argument with evidence that plants are living things that need certain things to grow and to stay healthy.

- SWDAT: Develop a simple model to show how plants depend on animals within their environment.

- SWDAT: Observe plants and animals to compare the diversity of life in water habitats.

- SWDAT: Observe plants and animals to compare the diversity of life in land habitats.

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				
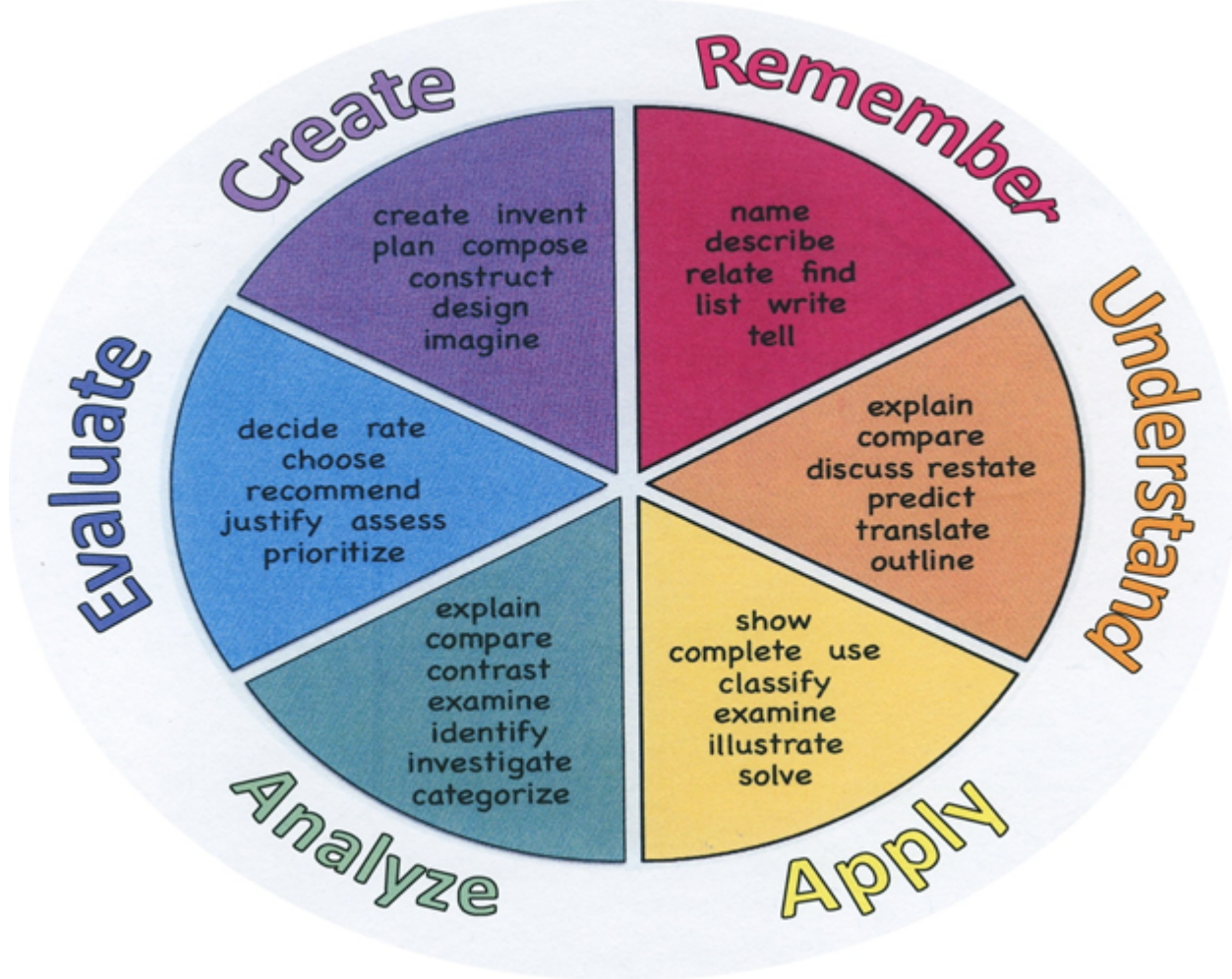
Suggested Activities & Best Practices

- Vocabulary Game- Guess the word

- Unit Project- explore plant habitats

- Student Collaborations to build on prior knowledge

- Hands-on Activity- make a model habitat

Evidence of Student Learning - Checking for Understanding (CFU)

Use appropriate tools to check for student learning and understanding based on teacher's preference. Attached are various examples:

- 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

Unit 3 Materials include:

- Student Interactive Work Text
- Teacher Edition Text
- Online Student Edition

Ancillary Resources

Additional Resources:

- online resources to provide further information to students

- vocabulary cards

- word wall

- posters and charts

Technology Infusion

Technology available:

- SMART Technology

- Online Websites

- Computer Access

- Online activities and assessments

Win 8.1 Apps/Tools Pedagogy Wheel

Podcasts
Photostory 3
Kid Story Builder
Music Maker Jam
Paint A Story
Office 365
MS PowerPoint
Stack 'Em Up
NqSquared Numbers
Physamajig
Xylophone 8

Wikipedia
Skydrive
Lync
SkyMap
Skype
Office 365
Puzzle Touch
Easy QR
Memorylage
Life Moments
Word Cloud Maker

Where's Waldo?
MS Excel   Office 365
Flipboard   Nova Mindmapping

Ted Talks
Record Voice Pen

Activities

Podcasts   Texts
Digital Stories   Apps
Notebooks   Movies
Surveys   Music
Presentations
Websites
Animations
Paintings

Blog Journal
Diagraming
Bing Search   Documenting
Mind mapping
Commenting
Word processing
Social Networking
Recounting

Action Verbs

Transform   Recognise
Imagine   Teach   Describe   Identify
Design   Construct   Infer   Retrieve
Rearrange   Match   Locate
Invent   List

Create   Understand

Rate   Use   Demo
Opinion   Teach   Record
Critique   Share   Draw
Collaborate   Simulate
Assess   Debate   Create
Justify   Construct
Peer assessment
Self Assessment

Evaluate   Apply

Analyse

Survey   Deduce
Infer   Differentiate
Sequence
Contrast   Examine
Outline   Compare

Blogging
Commenting
Voting
Surveys
Quizzes
Prioritise
Debating
Collaging

Manipulate
Drawing
Diagraming
Animating
Journals
Photography
Movie Making
Music Making
Story Telling
Scrapbooks

Graphing   Voting
Mindmapping   Reading comprehension
Peer Assessment   Judging   Spreadsheets
Surveying   Summarising   Listening
Mapping   Comparing

TED TALKS

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

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

Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: