1 Science Unit 3: Plant Traits and Survival (Plant Superpowers)

Content Area: **Science**
Course(s):
Time Period: **Marking Period 4**
Length: **9 Weeks**
Status: **Published**

Unit Overview

In this unit, students explore how parts of plants and animals are essential for survival. Students also make observations of parents and their offspring, determining how they are similar and how their behaviors help offspring survive.

Standards

Scientific & Engineering Practices

- Students make close observations of baby bird images in order to examine their traits. They use this information to construct an explanation that the young birds have some similar traits to their parent birds, but there are many traits that also differ between them.
- Students model how different bird beaks are well suited for eating different kinds of foods. Students conduct an investigation to figure out how much food (straw pieces) they can pick up using each beak. Analyzing these results, students construct arguments using their evidence about which beak would help the birds survive in different environments.
- Students obtain information about different animal mothers engaging in behavior to help their offspring survive. They evaluate and communicate the information by discussing why each animal mother does each behavior for her offspring.

Crosscutting Concepts

- After students look closely at several different examples of baby animals and their parents, they observe the pattern that offspring do not look exactly the same, but do have many traits in common with their parents.
- Students consider the relationship between the shape of a bird's beak (structure), and the food it eats (function).They begin to observe the pattern that all animals have structures that help them accomplish unique functions.
- Students consider the patterns in behavior of parents and offspring that help offspring survive.

K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool.
1-LS1	From Molecules to Organisms: Structure and Processes

1-LS1-2	Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
1-LS3-1	Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Materials

Core Materials:

- Mystery Science
    - How can you help a lost baby animal find its parents?
    - Why do birds have beaks?
    - Why do baby ducks follow their mother?
- Teacher Created Labs

Supplemental Materials:

- BrainPop resources
- NewsELA
- GRC Lessons
- TBSAID
- Nearpod Activities

Technology

Technology Literacy

• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).

• 9.4.2.TL.2: Create a document using a word processing application.

• 9.4.2.TL.3: Enter information into a spreadsheet and sort the information.

• 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content.

• 9.4.2.TL.5: Describe the difference between real and virtual experiences.

• 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Technology - Data & Analysis

8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.

• 8.1.2.DA.3: Identify and describe patterns in data visualizations.

• 8.1.2.DA.4: Make predictions based on data using charts or graphs.

Technology - Effects on the Natural World

• 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology.

• 8.2.2.ETW.2: Identify the natural resources needed to create a product.

• 8.2.2.ETW.3: Describe or model the system used for recycling technology.

• 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global

Evidence of Learning/Assessment

Formative Assessment

- Teacher Observation
- Quizzes
- Exit Tickets
- Labs

Summative Assessment

- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

Follow IEP Plan which may contain some of the following examples…

- In class/pull out support with special ed teacher
- Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Study Guides
- Limit number of questions
- Scribe
- Newsela leveled reading passages

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ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- In class/pull out support with special ed teacher
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At-risk of Failure

- Extra time during intervention
- In class/pull out support with special ed teacher
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Gifted & Talented

- Independent projects
- STEM Projects
- Leveled Reading with Newsela

Interdisciplinary Connections

Connections to NJSLS - English Language Arts

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (2-PS1-4)
• RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2-PS1-4)
• RI.2.8 Describe how reasons support specific points the author makes in a text. (2-PS1-2), (2-PS1-4) New Jersey Department of Education December 2020 Page 37 of 200
Grade 2
•W.2.1Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. (2-PS1-4)
•W.2.7Participate 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-PS1-1), (2-PS1-2), (2-PS1-3)
•W.2.8Recall information from experiences or gather information from provided sources to answer a question. (2-PS1-1), (2-PS1-2), (2-PS1-3)

Connections to NJSLS - Mathematics

• MP.2 Reason abstractly and quantitatively. (2-PS1-2)
• MP.4 Model with mathematics. (2-PS1-1), (2-PS1-2)
• MP.5 Use appropriate tools strategically. (2-PS1-2)
•2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to fourcategories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (2-PS1-1), (2-PS1-2)

Career Readiness, Life Literacies, and Key Skills

Critical Thinking and Problem Solving:

• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).

• 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).

• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Career Ready Practices

- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.