Unit 1: Traits and Organisms and their Environment

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

Unit Overview

Students will acquire an understanding that organisms have different inherited traits and that the environment can also affect the traits that an organism develops. The crosscutting concepts of patterns and cause and effect are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in analyzing and interpreting data, constructing explanations, and designing solutions. Students are also expected to use these practices to demonstrate understanding of the core ideas.

Enduring Understandings

All organisms transfer matter and convert energy from one form to another.
Both matter and energy are necessary to build and maintain structures within the organism.
Organisms are grouped in taxonomy based upon similarity.
Understand the cause and effect of adaptations.
Living organisms have systems and structures that function to support life.
Living organisms experience cycles that vary over the span of their lives.

Essential Questions

How is matter transformed, and energy transferred/transformed in living systems?
How are organisms of the same kind different from each other?
How does this help them reproduce and survive?
How do fossils help explain about organisms from the past?
Why do plants grow flowers?
Why do plants give us fruit?
Why are some apples red and some green?
How could you make the biggest fruit in the world?

Learning Objectives

Be able to recognize plant and animal traits and where they are from.
Be able to recognize how the environment affects traits
Be able to explain how adaptations help organisms survive
Be able to explain how an organism’s characteristics and how being a member of a group help it survive and reproduce

Standards: Content

3-LS1-1	Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death.
3-LS2-1	Construct an argument that some animals form groups that help members survive.
3-LS3-1	Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
3-LS3-2	Use evidence to support the explanation that traits can be influenced by the environment.
3-LS4-1	Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
3-LS4-2	Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
3-LS4-3	Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Standards: Interdisciplinary

RI.CR.3.1	Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers.
RI.CI.3.2	Recount in oral and written form the key details from a multi-paragraph informational text and explain how they support the main idea.
RI.IT.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
RI.TS.3.4	Utilize and reference features of a text when writing or speaking about a text, using text features (e.g., graphics, images, captions, headings) and search tools (e.g., key words, sidebars, hyperlinks) to locate and integrate information relevant to a given topic efficiently.
RI.PP.3.5	Distinguish their own point of view from that of the author of a text.
RI.MF.3.6	Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
RI.AA.3.7	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence) to support specific points the author makes in a text.
RI.CT.3.8	Compare and contrast the elements of informational texts regarding the most important points and key details presented in two texts on the same topic.
W.IW.3.2.A	Introduce a topic clearly.
W.IW.3.2.B	Develop the topic with facts, definitions, and concrete details, text evidence, or other information and examples related to the topic.
W.IW.3.2.C	Include text features (e.g.: illustrations, diagrams, captions) when useful to support

	comprehension.
W.IW.3.2.D	Link ideas within sections of information using transition words and phrases (e.g., then, because, also, another, therefore).
W.IW.3.2.E	Provide a conclusion related to the information or explanation presented.
W.WP.3.4.A	Identify audience, purpose, and intended length of composition before writing.
W.WP.3.4.B	Consider writing as a process, including self-evaluation, revision and editing.
W.WP.3.4.C	With adult and peer feedback, and digital or print tools such as a dictionary, thesaurus, and/or spell checker, find and correct errors and improve word choice.
W.SE.3.6	Use discussion, books, or media resources to gather ideas, outline them, and prioritize the information to include while planning to write about a topic.
W.RW.3.7	Engage in independent and task-based writing for both short and extended periods of time, producing written work routinely.
SL.II.3.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
SL.ES.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SL.PI.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

Assessment Evidence

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	Projects, Tests, Quizzes, lab skills demonstrations, projects, 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, Assorted lab materials, crayons, colored pencils, markers, graph paper, charts, tape, scissors, beans, Ziploc bags, paper towels, water Third Grade Science Course

Instructional Resource List

Curricular Mandates

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

	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

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

21st Century Skills & Themes

X	Global and Cultural Awareness		Technology Literacy		Planning and Budgeting
X	Creativity and Innovation		Financial Institutions		Risk Management and Insurance
	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		