3rd Grade Unit 4 - Continuing the Cycle

Content Area: **Science**
Course(s): **Science Grade 3**
Time Period: **MP2**
Length: **18 days**
Status: **Published**

NJSLS - Science

SCI.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.

Science and Engineering Practices

Developing and Using Models

Develop models to describe phenomena. (3-LS1-1)

Scientific Knowledge is Based on Empirical Evidence

Science findings are based on recognizing patterns. (3-LS1-1)

Disciplinary Core Ideas

LS1.B: Growth and Development of Organisms

Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)

Crosscutting Concepts

Patterns

Patterns of change can be used to make predictions. (3-LS1-1)

Scientific Knowledge is Based on Empirical Evidence

Science findings are based on recognizing patterns. (3-LS1-1)

Rationale and Transfer Goals

Do all living things have the same life cycle?

In this unit of study, students develop an understanding of the similarities and differences in organisms' life cycles. In addition, students 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. The crosscutting concepts of patterns and cause and effect are called out as organizing concepts for these disciplinary core ideas. Students demonstrate grade appropriate proficiency in developing and using models and constructing explanations and designing solutions. Students are also expected to use these practices to demonstrate an understanding of the core ideas.

Enduring Understandings

All living organisms have a life cycle.

For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.

Essential Questions

Do all living things have the same life cycle?

Content - What will students know?

- Science findings are based on recognizing patterns.
- Similarities and differences in patterns can be used to sort and classify natural phenomena.
- Patterns of change can be used to make predictions.
- Reproduction is essential to the continued existence of every kind of organism.
- Plants and animals have unique and diverse life cycles.
- Cause-and-effect relationships are routinely identified and used to explain change.
- Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing.

Skills - What will students be able to do?

- Sort and organisms (inherited traits) using similarities and differences in patterns.
- Make predictions using patterns of change.
- Develop models to describe phenomena.
- Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. (I.e., Changes organisms go through during their life form a pattern.) (Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.)
- Identify cause-and-effect relationships in order to explain change.
- Use evidence (e.g., observations, patterns) to construct an explanation.
- 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. Examples of cause and effect relationships could include: Plants that have larger thorns than other plants may be less likely to be eaten by predators or animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.
- Compare and contrast similarities and differences in organisms'' life cycles and explain how they are unique.
- Discover and describe the variations in characteristics among individuals of the same species and how they provide advantages in surviving, finding mates, and reproducing.

Activities - How will we teach the content and skills?

- Mystery Science Life Cycles Anchor Phenomenon
- Mystery Science Life Cycles Lesson 1
- Mystery Science Life Cycles Lesson 2
- Mystery Science Life Cycles Lesson 3
- Mystery Science Life Cycles Lesson 4
- Mystery Science Life Cycles Lesson 5

- Whole group instruction and discussion.

- Read Alouds

- Group and Individual Projects

- Hands-on discovery when possible; creating models

- Webquests/Internet “field trips”

Formative Assessments

- Mystery Science Life Cycles Lesson 1 Assessment
- Mystery Science Life Cycles Lesson 2 Assessment
- Mystery Science Life Cycles Lesson 3 Assessment
- Mystery Science Life Cycles Lesson 4 Assessment
- Mystery Science Life Cycles Lesson 5 Assessment

- Teacher Observation

- Student projects/models

- Exit Tickets

Summative Assessments

- Mystery Science Life Cycles Performance Assessment

- Mystery Science Life Cycles Unit Assessment

- Tests/Quizzes

- 3rd Grade Science Benchmark #2 (given after Unit 5)

Spiraling for Mastery

Content or Skill for this Unit	Spiral Focus from Previous Unit	Instructional Activity
Similarities and differences in patterns can be used to sort and classify natural phenomena.	Grade 1: Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.	1-LS3-1 Activities

Key Resources

Mystery Science

Let's Hear It For Ladybugs!

Simply Butterflies!

Career Readiness, Life Literacies, & Key Skills

PFL.9.1.5.CR.1	Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
WRK.9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
WRK.9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
WRK.9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
TECH.9.4.5.CI.1	Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6).
TECH.9.4.5.CI.2	Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7).
TECH.9.4.5.DC.4	Model safe, legal, and ethical behavior when using online or offline technology (e.g.,

	8.1.5.NI.2).
TECH.9.4.5.DC.8	Propose ways local and global communities can engage digitally to participate in and promote climate action (e.g., 6.3.5.GeoHE.1).
TECH.9.4.5.TL.2	Sort and filter data in a spreadsheet to analyze findings.
TECH.9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.
TECH.9.4.5.IML.2	Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
TECH.9.4.5.IML.3	Represent the same data in multiple visual formats in order to tell a story about the data.

Interdisciplinary Connections

NJSLS ELA

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). (3-LS1-1)

SL.UM.3.5. Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details. (3-LS1-1)

NJSLS Mathematics

MP.4 Model with mathematics. (3-LS1-1)

3.NBT Number and Operations in Base Ten (3-LS1-1)

3.NF Number and Operations—Fractions (3-LS1-1)