

# 3rd Grade Unit 4 - Continuing the Cycle

Content Area: **Science**  
Course(s): **Science Grade 3**  
Time Period: **MP2**  
Length: **14 days**  
Status: **Published**

## **NJSLS - Science**

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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.
SCI.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.

## **Science and Engineering Practices**

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### **Developing and Using Models**

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

### **Constructing Explanations and Designing Solutions**

Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)

### **Scientific Knowledge is Based on Empirical Evidence**

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

## **Disciplinary Core Ideas**

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### **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)

### **LS4.B: Natural Selection**

Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)

## **Crosscutting Concepts**

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### **Patterns**

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

### **Cause and Effect**

Cause and effect relationships are routinely identified and used to explain change. (3-LS4-2)

### **Scientific Knowledge is Based on Empirical Evidence**

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

## **Rationale and Transfer Goals**

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**Do all living things have the same life cycle?**

**Are there advantages to being different?**

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**

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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**

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Do all living things have the same life cycle?

Are there advantages to being different?

## **Content - What will students know?**

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- 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?**

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- 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?**

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- Mystery Science Circle of Life Lesson 1
- Mystery Science Circle of Life Lesson 3
- Mystery Science Power of Flowers Anchor Phenomenon
- Mystery Science Power of Flowers Lesson 1
- Mystery Science Power of Flowers Lesson 2
- Whole group instruction and discussion.
- Read Alouds
- Group and Individual Projects
- Hands-on discovery when possible; creating models
- Webquests/Internet “field trips”

## **Evidence/Assessments - How will we know what students have learned?**

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- Mystery Science Circle of Life Lesson 1 Assessment
- Mystery Science Circle of Life Lesson 3 Assessment
- Mystery Science Power of Flowers Lesson 1 Assessment
- Mystery Science Power of Flowers Lesson 2 Assessment
- Mystery Science Power of Flowers Performance Task
- Teacher Observation
- Student projects/models
- Exit Tickets
- Tests/Quizzes
- [Grade 3 Science Benchmark #3](#) (taken after Unit 4)

## **Spiraling for Mastery**

<b>Content or Skill for this Unit</b>	<b>Spiral Focus from Previous Unit</b>	<b>Instructional Activity</b>
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.	<a href="#">1-LS3-1 Activities</a>

## **Key Resources**

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[Mystery Science](#)

[Let's Hear It For Ladybugs!](#)

[Simply Butterflies!](#)

## **21st Century Life and Careers**

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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.

## **Career Readiness, Life Literacies, & Key Skills**

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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.IML.3	Represent the same data in multiple visual formats in order to tell a story about the data.

## **Interdisciplinary Connections/Companion Standards**

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### **NJSLS ELA**

RI.3.7 Use information gained from illustrations (e.g., 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.3.5 Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details. (3-LS1-1)

RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS4-2)

RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS4-2)

RI.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. (3-LS4-2)

W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-

LS4-2)

SL.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. (3-LS4-2)

### **NJSLS Mathematics**

MP.2 Reason abstractly and quantitatively. (3-LS4-2)

MP.4 Model with mathematics. (3-LS1-1, 3-LS4-2)

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

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

3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. (3-LS4-2)