## Grade 3

**3.1.3.A Life Science:** From Molecules to Organisms: Structures and Processes

**Students who demonstrate understanding can** *develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.*

**Clarifying Statement:** Changes organisms go through during their life form a pattern.

**Assessment Boundary:** Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.

| Science and Engineering Practices (SEP) | Disciplinary Core Ideas (DCI) | Crosscutting Concepts (CCC) |
|---|---|---|
| **Developing and Using Models**<br>Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.<br>• Use and/or develop models to describe phenomena.<br><br>***Connections to Nature of Science***<br>**Scientific Knowledge is Based on Empirical Evidence**<br>• Science findings are based on recognizing patterns. | **Growth and Development of Organisms**<br>• Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. | **Patterns**<br>• Patterns of change can be used to make predictions. |

**Pennsylvania Context:** Examples of Pennsylvania context include recognized species such as hemlock, mountain laurel, and white-tailed deer.

**PA Career Ready Skills:** Demonstrate respect for the uniqueness of others.

### Connections to Other Standards Content and Practices

| Standard Source | Possible Connections to Other Standard(s) or Practice(s) |
|---|---|
| **Agriculture (AFNR)** | CS.02.02.01.a: Identify and summarize the components within AFNR systems (e.g., Animal Systems: health, nutrition, genetics, etc.; Natural Resources Systems: soil, water, etc.). |
| **Science, Environmental Literacy and Sustainability (NAAEE)** | K-4 Strand 2.1.B. Earth's living systems: Learners identify basic similarities and differences among a wide variety of living organisms. They explain ways that living organisms, including humans, affect the environment in which they live, and how their environment affects them.<br>K-4 Strand 1.F. Working with models and simulations: Learners use models to represent environmental relationships, patterns, and processes. |

| Standard Source | Possible Connections to Other Standard(s) or Practice(s) |
|---|---|
| **PA Core Standards: ELA** | CC.1.4.3.V: Conduct short research projects that build knowledge about a topic.<br>CC.1.5.3.A: Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others' ideas and expressing their own clearly. |
| **PA Core Standards and Practices: Math** | MP.4: Model with mathematics.<br>CC.2.1.3.B.1: Apply place value understanding and properties of operations to perform multidigit arithmetic.<br>CC.2.1.3.C.1: Explore and develop an understanding of fractions as numbers. |
| **PA Standards: Social Studies** | 6.1.3.B: Identify needs and wants of people. Identify examples of natural, human, and capital resources. |
| **Educational Technology (ISTE)** | 1.6. Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. |
| **Technology and Engineering (ITEEA)** | STEL-7L: Apply universal principles and elements of design. |