# Teacher's Edition

## Grade 3 • Unit 2

# Inspire Science

## Life Cycles and Traits

McGraw Hill Education

## Performance Expectations at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Performance Expectations.

| Performance Expectations | MODULE: **Plants** | MODULE: **Animals** |
|---|---|---|
| 3-LS1-1 | ● | ● |
| 3-LS2-1 | | ● |
| 3-LS3-1 | ● | ● |
| 3-LS4-2 | ● | ● |

## Correlations by Module to the NGSS

MODULE: Plants

| 3-LS1 | From Molecules to Organisms: Structures and Processes | |
|---|---|---|
| **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.**<br>*[Clarification 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.]* | *8*, 10–11, 13–14, *17*, *40–41* |
| **SEP Science and Engineering Practices** | | |
| **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>• Develop models to describe phenomena. (3-LS1-1) | | 12, 14, *17*, *40–41* |
| **Scientific Knowledge is Based on Empirical Evidence**<br>• Science findings are based on recognizing patterns. (3-LS1-1) | | *9*, *11–12*, 14 |
| **DCI Disciplinary Core Ideas** | | |
| **LS1.B: 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. (3-LS1-1) | | 5, *8–9*, 11–14, 17, 19, *40–41* |

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| CCC Crosscutting Concepts | |
|---|---|
| **Patterns**<br>• Patterns of change can be used to make predictions. (3-LS1-1) | *8–9*, 11–12, 14, *17*, *29*, 33 |

| 3-LS3 | Heredity: Inheritance and Variation of Traits | |
|---|---|---|
| **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.**<br>*[Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.]*<br>*[Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]* | *24*, 25, *28–29*, 33 |
| **SEP Science and Engineering Practices** | | |
| **Analyzing and Interpreting Data**<br>Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.<br>• Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1) | *24*, *28–29*, 33 |
| **DCI Disciplinary Core Ideas** | | |
| **LS3.A: Inheritance of Traits**<br>• Many characteristics of organisms are inherited from their parents. (3-LS3-1) | 26–27, *28–29*, 33, 35 |
| **LS3.B: Variation of Traits**<br>• Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) | 21, 27, *28–29*, 33, 35 |
| **CCC Crosscutting Concepts** | |
| **Patterns**<br>• Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1) | *24*, *28–29*, 33, 34 |

*Inquiry activities are in Italics.*

| 3-LS4 | Biological Evolution: Unity and Diversity | |
|---|---|---|
| 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.** *[Clarification Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.]* | *28–29*, 32 |
| **SEP Science and Engineering Practices** | | |
| **Constructing Explanations and Designing Solutions**<br>Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.<br>• Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2) | *28–29* | |
| **DCI Disciplinary Core Ideas** | | |
| **LS4.B: Natural Selection**<br>• Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2) | 26, *28–29* | |
| **CCC Crosscutting Concepts** | | |
| **Cause and Effect**<br>• Cause and effect relationships are routinely identified and used to explain change. (3-LS4-2) | 27, *28–29* | |

| Other Correlations | |
|---|---|
| **CCSS Math Connections** | |
| 3.MD.B.4 | *28*, *40* |
| **ELD Connections** | |
| ELD.3.PI.9 | 15, 32, 34 |

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| **CCSS ELA/Literacy Connections** | |
|---|---|
| RI.3.7 | 10–11, 14 |
| SL.3.1-3.3 | 7, *8–9*, 23, 40, |
| **ALSO INTEGRATES:** | |
| SEP Analyzing and Interpreting Data | *8–9*, 14, *17*, 33 |
| SEP Engaging in Argument from Evidence | 14, *17*, 25, *28* |
| SEP Planning and Carrying Out Investigations | *28*, *37–42* |
| CCC Stability and Change | *17*, *40* |
| CCC Structure and Function | 10–11, 26 |
| ELD.3.PI.3.1 | 18 |
| ELD.3.PI.3.12 | 12 |
| ELA RI.3.1 | 27, 32 |
| ELA RI.3.3 | *30–31* |
| ELA W.3.2 | *29* |

## MODULE: Animals

| 3–5-ETS | From Molecules to Organisms: Structures and Processes | |
|---|---|---|
| **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.**<br>*[Clarification 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.]* | 47, *50–51*, 52–55, *57*, *59*, 61 |
| **SEP Science and Engineering Practices** | | |
| **Developing and Using Models**<br>Asking questions and defining problems in 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships.<br>• Develop models to describe phenomena (3-LS1-1) | | 47, *50–51*, 52–53, *56–57*, *59* |

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| | |
|---|---|
| **Scientific Knowledge is Based on Empirical Evidence**<br>Asking questions and defining problems in 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships.<br>• Science findings are based on recognizing patterns. (3-LS1-1) | 47, 53–55, *59*, 61 |
| **DCI Disciplinary Core Ideas** | |
| **LS1.B: 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. (3-LS1-1) | 47, *50–51*, 52–55, *56–57*, *59*, 60–61 |
| **CCC Crosscutting Concepts** | |
| **Patterns**<br>• Patterns of change can be used to make predictions. (3-LS1-1) | 47, *50–51*, 53–55, *59*, 61 |

| 3-LS2 | Ecosystems: Interactions, Energy, and Dynamics | |
|---|---|---|
| **3-LS2-1** | **Construct an argument that some animals form groups that help members survive.** | *82–84*, 85, 86, 88, *90–91*, *93* |
| **SEP Science and Engineering Practices** | | |
| **Engaging in Argument from Evidence**<br>Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).<br>• Construct an argument with evidence, data, and/or a model. (3-LS2-1) | *82–84*, 85, *93* |
| **DCI Disciplinary Core Ideas** | | |
| **LS2.D: Social Interactions and Group Behavior**<br>• Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (Note: Moved from K–2.) (3-LS2-1) | 79, 86–88, *90–91*, *93*, 95 |
| **CCC Crosscutting Concepts** | | |
| **Cause and Effect**<br>• Cause and effect relationships are routinely identified and used to explain change. (3-LS2-1) | *82–83*, *90–91*, 95 |

*Inquiry activities are in Italics.*

| 3-LS3 | Heredity: Inheritance and Variation of Traits | |
|---|---|---|
| 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.**<br>*[Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.]*<br>*[Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]* | 65, *66–67*, 69, 72–73, 74, *75* |
| **SEP Science and Engineering Practices** | | |
| **Analyzing and Interpreting Data**<br>Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.<br>• Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1) | *66–67*, *75* | |
| **DCI Disciplinary Core Ideas** | | |
| **LS3.A: Inheritance of Traits**<br>• Many characteristics of organisms are inherited from their parents. (3-LS3-1) | 63, *66–67*, 68–69, 74, 77 | |
| **LS3.B: Variation of Traits**<br>• Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) | *66–67*, 68–69, 72, 74, 77 | |
| **CCC Crosscutting Concepts** | | |
| **Patterns**<br>• Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1) | 65, *66–67*, 69, *75*, 77 | |

| 3.LS4 | 3-LS4 Biological Evolution: Unity and Diversity | |
|---|---|---|
| 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.**<br>*[Clarification Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.]* | 70–71, 72–73, *75* |

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| SEP Science and Engineering Practices | |
|---|---|
| **Constructing Explanations and Designing Solutions**<br>Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.<br>• Use evidence (e.g., observations, patterns) to construct an explanation. (3- | 63, *67*, 68–69, 70–71, 72–73, *75*, 76 |
| **DCI Disciplinary Core Ideas** | |
| **LS4.B: Natural Selection**<br>• Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2) | 65, 69, 70–71, 72–73, *75* |
| **CCC Crosscutting Concepts** | |
| **Cause and Effect**<br>• Cause and effect relationships are routinely identified and used to explain change. (3-LS4-2) | 69, 70–71, 72–73, *75* |

| Other Correlations | |
|---|---|
| **CCSS Math Connections** | |
| 3.MD.B.4 | |
| **ELD Connections** | |
| ELD.3.PI.9 | Teacher Edition *Only*: *50–51*, 54, *56–57*, 65, 71, 72, 74, 88 |
| ELD.3.PI.12 | Teacher Edition *Only*: 85 |
| **CCSS ELA/Literacy Connections** | |
| RI.3.7 | 52–55, 70–71 |
| SL.3.1-3.3 | 49, *56–57*, 65, 71, 81, *102* |
| **ALSO INTEGRATES:** | |
| SEP Analyzing and Interpreting Data | *66–67*, *93* |
| CCC Cause and Effect | *56–57*, *59*, 77 |
| CCC Stability and Change | *56–57*, *59* |
| CCC Structure and Function | 69 |

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|---|---|
| Math 3.MD.B.3 | *50* |
| Math 3.MD.B.4 | *66* |
| ELD.PI.3.1 | Teacher Edition *Only*: *60*, *92* |
| ELD.PI.3.2 | Teacher Edition *Only*: *60* |
| ELD.PI.3.11 | 76 |
| ELA W.3.1 | 71 |
| ELA W.3.2 | 95 |
| ELA W.3.7 | *59* |

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