

Unit 1- The Big Picture of the Rainforest

Students who demonstrate understanding can:

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. [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.]

- Examples: Hands On Activity “The Circle of Life” (DOK 3); Chapter 2 End of Chapter Review (DOK 3-4)

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.

[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.]

[Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]

- Examples: Hands On Activity “The Circle of Life” (DOK 3); Chapter 2 End of Chapter Review (DOK 3-4)

3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. [Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.]

[Assessment Boundary: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.]

- Example: Chapter 2 End of Chapter Review (DOK 3-4)

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. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

- Examples: Hands On Activity “Healthy Habitats” (DOK 3); Hands On Activity “The Circle of Life” (DOK 3); Chapter 2 End of Chapter Review (DOK 3-4)

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]

- Examples: Hands On Activity “Healthy Habitats” (DOK 3); Chapter 1 End of Chapter Review (DOK 2)

Performance Expectation

Science and Engineering Practices
Developing and Using Models
 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. Develop models to

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)
LS2.C: Ecosystem Dynamics,

Crosscutting Concepts
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), (3-LS4-3)

<p>describe phenomena. (3-LS1-1)</p> <p>Constructing Explanations and Designing Solutions 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. Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)</p> <p>Engaging in Argument from Evidence 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). Construct an argument with evidence. (3-LS4-3) Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)</p> <p>Constructing Explanations and Designing Solutions 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. Use evidence (e.g., observations, patterns) to</p>	<p>Functioning, and Resilience When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4)</p> <p>LS3.A: Inheritance of Traits Many characteristics of organisms are inherited from their parents. (3-LS3-1) Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)</p> <p>LS3.B: Variation of Traits Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) The environment also affects the traits that an organism develops. (3-LS3-2)</p> <p>LS4.A: Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: moved from K-2) (3-LS4-1) Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)</p> <p>LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)</p>	<p>Scale, Proportion, and Quantity Observable phenomena exist from very short to very long time periods. (3-LS4-1)</p> <p>Systems and System Models A system can be described in terms of its components and their interactions. (3-LS4-4)</p>
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support an explanation. (3-LS3-2)		
Unit 2- Adapt or Die		
<p>Students who demonstrate understanding can:</p> <p>3-LS2-1. Construct an argument that some animals form groups that help members survive.</p> <ul style="list-style-type: none"> Examples: Hands On Activity “Hiding in Plain Sight” (DOK 3); Chapter 3 End of Chapter Review (DOK 3-4); Chapter 4 End of Chapter Review (DOK 3-4) <p>3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment. [Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.]</p> <ul style="list-style-type: none"> Examples: Hands On Activity “Healthy Habitats” (DOK 3); Chapter 3 End of Chapter Review (DOK 3-4); Chapter 8 End of Chapter Review <p>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.]</p> <ul style="list-style-type: none"> Examples: Hands On Activity “Healthy Habitats”; Chapter 3 End of Chapter Review (DOK 3); Chapter 4 End of Chapter Review (DOK 3) <p>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. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]</p> <ul style="list-style-type: none"> Examples: Hands On Activity “Healthy Habitats” (DOK 3); Hands On Activity “Plant Detectives” (DOK 3); Hands On Activity “Hiding in Plain Sight” (DOK 3); Chapter 3 End of Chapter Review (DOK 3-4); Chapter 4 End of Chapter Review (DOK 3-4) <p>3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]</p> <ul style="list-style-type: none"> Examples: Chapter 3 End of Chapter Review (DOK 3); Chapter 4 End of Chapter Review (DOK 3) Hands On Activity “Healthy Habitats” (DOK 3); Chapter 11 End of Chapter Review (DOK 3); Chapter 12 End of Chapter Review (DOK 4) 		
Performance Expectation		
<p>Science and Engineering Practices</p> <p>Engaging in Argument from Evidence</p> <p>Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions</p>	<p>Disciplinary Core Ideas</p> <p>LS2.D: Social Interactions and Group Behavior</p> <p>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:</p>	<p>Crosscutting Concepts</p> <p>Cause and Effect</p> <p>Cause and effect relationships are routinely identified and used to explain change. (3-LS2-1)</p> <p>Scale, Proportion, and Quantity</p> <p>Observable phenomena exist from very short to very long</p>

<p>proposed by peers by citing relevant evidence about the natural and designed world(s). Construct an argument with evidence, data, and/or a model. (3-LS2-1)</p> <p>Analyzing and Interpreting Data</p> <p>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. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)</p> <p>Constructing Explanations and Designing Solutions</p> <p>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. Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)</p> <p>Engaging in Argument from Evidence</p> <p>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). Construct an argument with evidence. (3-LS4-3) Make a claim about the merit of a</p>	<p>Moved from K–2). (3-LS2-1)</p> <p>LS3.A: Inheritance of Traits</p> <p>Many characteristics of organisms are inherited from their parents. (3-LS3-1) Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)</p> <p>LS3.B: Variation of Traits</p> <p>Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) The environment also affects the traits that an organism develops. (3-LS3-2)</p> <p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience</p> <p>When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4)</p> <p>LS4.A: Evidence of Common Ancestry and Diversity</p> <p>Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: moved from K-2) (3-LS4-1) Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)</p> <p>LS4.B: Natural Selection</p> <p>Sometimes the differences in characteristics between</p>	<p>time periods. (3-LS4-1)</p> <p>Systems and System Models</p> <p>A system can be described in terms of its components and their interactions. (3-LS4-4)</p>
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<p>solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)</p>	<p>individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)</p> <p>LS4.C: Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)</p> <p>LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)</p>	
<p>Unit 3- Animals</p>		
<p>Students who demonstrate understanding can:</p> <p>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. [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.]</p> <ul style="list-style-type: none"> • Examples: Hands On Activity “The Circle of Life” (DOK 3); Chapter 7 End of Chapter Review (DOK 3-4); Chapter 9 End of Chapter Review <p>3-LS2-1. Construct an argument that some animals form groups that help members survive.</p> <ul style="list-style-type: none"> • Example: Chapter 9 End of Chapter Review (DOK 3) <p>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. [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.] [Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]</p> <ul style="list-style-type: none"> • Examples: Hands On Activity “The Circle of Life” (DOK 3); Chapter 5 End of Chapter Review (DOK 3); Chapter 9 End of Chapter Review (DOK 3) 		
<p>Performance Expectation</p>		
<p>Science and Engineering Practices</p> <p>Developing and Using Models 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. Develop models to describe phenomena. (3-LS1-1)</p> <p>Engaging in Argument from Evidence</p>	<p>Disciplinary Core Ideas</p> <p>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)</p> <p>LS2.D: Social Interactions and Group Behavior Being part of a group helps animals obtain food, defend</p>	<p>Crosscutting Concepts</p> <p>Patterns Patterns of change can be used to make predictions. (3-LS1-1)</p> <p>Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS2-1)</p>

<p>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). Construct an argument with evidence, data, and/or a model. (3-LS2-1)</p> <p>Analyzing and Interpreting Data</p> <p>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. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1)</p> <p>Constructing Explanations and Designing Solutions</p> <p>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. Use evidence (e.g., observations, patterns) to support an explanation. (3-LS3-2)</p>	<p>themselves, and cope with changes. Groups may serve different functions and vary dramatically in size (Note: Moved from K–2). (3-LS2-1)</p> <p>LS3.A: Inheritance of Traits</p> <p>Many characteristics of organisms are inherited from their parents. (3-LS3-1) Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3- LS3-2)</p> <p>LS3.B: Variation of Traits</p> <p>Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)</p>	
<p>Unit 4- Plants and Fungi</p>		
<p>Students who demonstrate understanding can:</p> <p>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. [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.]</p> <ul style="list-style-type: none"> • Examples: Hands On Activity “Plant Detectives” (DOK 3); Chapter 10 End of Chapter Review (DOK 4) 		

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.

[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.]

[Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]

- Examples: Hands On Activity “Healthy Habitats” (DOK 3); Chapter 10 End of Chapter Review (DOK 4)

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

[Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.]

- Examples: Hands On Activity “Healthy Habitats” (DOK 3); Hands On Activity “Plant Detectives” (DOK 3)

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.]

- Examples: Hands On Activity “Plant Detectives” (DOK 3); Chapter 10 End of Chapter Review (DOK 4)

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. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

- Examples: Hands On Activity “Healthy Habitats” (DOK 3); Hands On Activity “Plant Detectives” (DOK 3); Chapter 10 End of Chapter Review (DOK 4)

Performance Expectation

Science and Engineering Practices
Analyzing and Interpreting Data
 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. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1)
Constructing Explanations and Designing Solutions

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)
LS3.A: Inheritance of Traits
 Many characteristics of organisms are inherited from their parents. (3-LS3-1) Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve

Crosscutting Concepts
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-LS3-2)
Scale, Proportion, and Quantity
 Observable phenomena exist from very short to very long time periods. (3-LS4-1)
Systems and System Models
 A system can be described in terms of its components and their interactions. (3-LS4-4)

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<p>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. Use evidence (e.g., observations, patterns) to support an explanation. (3-LS3-2)</p>	<p>both inheritance and environment. (3- LS3-2) LS3.B: Variation of Traits Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) The environment also affects the traits that an organism develops. (3-LS3-2) LS2.C: Ecosystem Dynamics, Functioning, and Resilience When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4) 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) LS4.C: Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)</p>	
<p>Unit 5- Ecosystems in Change</p>		
<p>Students who demonstrate understanding can:</p> <p>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. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]</p> <ul style="list-style-type: none"> • Example: Hands On Activity “Healthy Habitats” (DOK 3); Chapter 11 End of Chapter Review (DOK 4) <p>3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution,</p>		

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temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]

- Hands On Activity “Mystery Vacation” (DOK 3); Chapter 12 End of Chapter Review (DOK 4)

Performance Expectation

Science and Engineering Practices

Analyzing and Interpreting Data

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. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)

Engaging in Argument from Evidence

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). Construct an argument with evidence. (3-LS4-3) Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)

Disciplinary Core Ideas

LS2.C: Ecosystem Dynamics, Functioning, and Resilience

When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4)

LS4.C: Adaptation

For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)

LS4.D: Biodiversity and Humans

Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)

Crosscutting Concepts

Systems and System Models

A system can be described in terms of its components and their interactions. (3-LS4-4)