



Great Basin Outdoor School

Winter Curriculum

Alignment with Next Generation Science Standards



Winter Safety Overview - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Adaptations	5-PS3 Energy	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	SEP1 Asking Questions and Defining Problems	CC1 Patterns CC5 Energy and Matter CC6 Structure and Function
Winter Hazards	5-ESS2 Earth's Systems 3-5-ETS1 Engineering Design	5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	SEP1 Asking Questions and Defining Problems SEP6 Constructing Explanations and Designing Solutions	CC1 Patterns CC2 Cause and Effect CC5 Energy and Matter CC6 Structure and Function CC7 Stability and Change

Winter Safety Overview - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
<p>Can Buddies</p>	<p>5-PS1 Matter and Its Interactions</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</p> <p>3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP3 Planning and carrying out investigations</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC4 Systems and System Models</p> <p>CC5 Energy and Matter</p> <p>CC6 Structure and Function</p> <p>CC7 Stability and Change</p>

Snow Science

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Water Cycle	<p>5-PS2 Motion and Stability: Forces and Interactions</p> <p>5-LS1 From Molecules to Organisms: Structures and Processes</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>5-ESS3 Earth and Human Activity</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS-2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.</p> <p>5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p> <p>3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p>	<p>SEP 2 Developing and Using Models</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p>	<p>CC 1 Patterns</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>
Snow Crystals	<p>5-PS1 Matter and Its Interactions</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-3. Make observations and measurements to identify materials based on their properties.</p>	<p>SEP 2 Developing and Using Models</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC6 Structure and Function</p>

Snow Studies I - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Snow Flakes	5-PS1 Matter and Its Interactions	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-3. Make observations and measurements to identify materials based on their properties.</p>	<p>SEP 2 Developing and Using Models</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC6 Structure and Function</p>
Earth's Tilt & Rotation	<p>5-PS3 Energy</p> <p>5-ESS1 Earth's Place in the Universe</p> <p>5-ESS2 Earth's Systems</p>	<p>5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</p> <p>5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p>	<p>CC 1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>

Snow Studies I - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Dew Point	<p>5-PS1 Matter and Its Interactions</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP3 Planning and carrying out investigations</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>
Water Cycle Bucket	<p>5-PS1 Matter and Its Interactions</p> <p>5-ESS2 Earth's Systems</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP3 Planning and carrying out investigations</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>

Snow Studies II - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Dew Point	<p>5-PS1 Matter and Its Interactions</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP3 Planning and carrying out investigations</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>
Snow Falling	<p>5-PS1 Matter and Its Interactions</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-3. Make observations and measurements to identify materials based on their properties.</p>	<p>SEP 2 Developing and Using Models</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC6 Structure and Function</p>

Snow Studies III - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
What's in Snow	<p>5-PS1 Matter and Its Interactions</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>5-ESS3 Earth and Human Activity</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC 5 Energy and Matter</p>
Snow Resists Melting	<p>5-PS3 Energy</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP3 Planning and carrying out investigations</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC2 Cause and Effect</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>

Snow Studies III - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Water in Summer	<p>5-LS1 From Molecules to Organisms: Structures & Processes</p> <p>5-LS2 Ecosystems: Interactions, energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>5-ESS3 Earth and Human Activity</p>	<p>5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>	<p>SEP1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>

Winter Ecology Overview - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Winter World	<p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS1 Earth's Place in the Universe</p> <p>5-ESS2 Earth's Systems</p>	<p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length & direction of shadows, day & night, and the seasonal appearance of some stars in the night sky.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 4 Analyzing and Interpreting Data</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p>	<p>CC 1 Patterns</p> <p>CC 2 Cause and Effect</p> <p>CC 5 Energy and Matter</p> <p>CC 7 Stability and Change</p>
Sugar Solution	<p>5-PS1 Matter and Its Interactions</p> <p>5-LS1 From Molecules to Organisms: Structures and Processes</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</p> <p>5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 3 Planning and carrying out investigations</p> <p>SEP 4 Analyzing and Interpreting Data</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP 7 Engaging in Argument from Evidence</p>	<p>CC 2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 6 Structure and Function</p> <p>CC 7 Stability and Change</p>

Winter Ecology Overview - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Adaptations	5-PS3 Energy	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	SEP 1 Asking Questions and Defining Problems	CC 1 Patterns CC 5 Energy and Matter CC 6 Structure and Function
Coyote & Rabbit	5-PS3 Energy 5-LS2 Ecosystems: Interactions, Energy, and Dynamics 5-ESS2 Earth's Systems	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	SEP 2 Developing and Using Models	CC 1 Patterns CC 5 Energy and Matter CC 6 Structure and Function

Winter Ecology I - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Intro to Ecology	5-PS3 Energy 5-LS1 From Molecules to Organisms: Structures and Processes 5-LS2 Ecosystems: Interactions, Energy, and Dynamics 5-ESS2 Earth's Systems 5-ESS3 Earth and Human Activity	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	SEP 1 Asking Questions and Defining Problems SEP 2 Developing and Using Models SEP 6 Constructing Explanations and Designing Solutions SEP 7 Engaging in Argument from Evidence SEP8 Obtaining, Evaluating, and Communicating Information	CC 1 Patterns CC 2 Cause and Effect CC 4 Systems and System Models CC 5 Energy and Matter CC 6 Structure and Function CC 7 Stability and Change
Winter Survival	5-LS2 Ecosystems: Interactions, Energy, and Dynamics 5-ESS1 Earth's Place in the Universe 5-ESS2 Earth's Systems	5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length & direction of shadows, day & night, and the seasonal appearance of some stars in the night sky. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	SEP 1 Asking Questions and Defining Problems SEP 2 Developing and Using Models SEP 4 Analyzing and Interpreting Data SEP 6 Constructing Explanations and Designing Solutions	CC 1 Patterns CC 2 Cause and Effect CC 5 Energy and Matter CC 7 Stability and Change

Winter Ecology I - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Sugar Solution	<p>5-PS1 Matter and Its Interactions</p> <p>5-LS1 From Molecules to Organisms: Structures and Processes</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</p> <p>5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 3 Planning and carrying out investigations</p> <p>SEP 4 Analyzing and Interpreting Data</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP 7 Engaging in Argument from Evidence</p>	<p>CC 2 Cause and Effect</p> <p>CC3 Scale, Proportion, and Quantity</p> <p>CC 4 Systems and System Models</p> <p>CC 5 Energy and Matter</p> <p>CC 6 Structure and Function</p> <p>CC 7 Stability and Change</p>

Winter Ecology I - 3

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Survival Game	5-PS3 Energy 5-LS2 Ecosystems: Interactions, Energy, and Dynamics 5-ESS2 Earth's Systems	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	SEP 1 Asking Questions and Defining Problems SEP 2 Developing and Using Models SEP 6 Constructing Explanations and Designing Solutions SEP 7 Engaging in Argument from Evidence SEP 8 Obtaining, Evaluating, and Communicating Information	CC 1 Patterns CC 2 Cause and Effect CC 5 Energy and Matter CC 6 Structure and Function CC 7 Stability and Change
Adaptations	5-PS3 Energy	5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	SEP 1 Asking Questions and Defining Problems SEP 7 Engaging in Argument from Evidence SEP 8 Obtaining, Evaluating, and Communicating Information	CC 1 Patterns CC 2 Cause and Effect CC 5 Energy and Matter CC 6 Structure and Function

Winter Ecology II - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Hibernation	<p>5-PS1 Matter and Its Interactions</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 3 Planning and carrying out investigations</p> <p>SEP 4 Analyzing and Interpreting Data</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP 7 Engaging in Argument from Evidence</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 2 Cause and Effect</p> <p>CC 5 Energy and Matter</p> <p>CC 6 Structure and Function</p> <p>CC 7 Stability and Change</p>
Pounce	<p>5-PS3 Energy</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p>	<p>5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 5 Energy and Matter</p> <p>CC 6 Structure and Function</p>

Winter Ecology II - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Predator	<p>5-PS3 Energy</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 2 Developing and Using Models</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP 7 Engaging in Argument from Evidence</p> <p>SEP 8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC 2 Cause and Effect</p> <p>CC 6 Structure and Function</p>
Plants and Winter	<p>5-PS3 Energy</p> <p>5-LS1 From Molecules to Organisms: Structures and Processes</p> <p>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</p> <p>5-ESS2 Earth's Systems</p> <p>3-5-ETS1 Engineering Design</p>	<p>5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p> <p>5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p>	<p>SEP 1 Asking Questions and Defining Problems</p> <p>SEP 6 Constructing Explanations and Designing Solutions</p> <p>SEP 7 Engaging in Argument from Evidence</p> <p>SEP 8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC 1 Patterns</p> <p>CC 2 Cause and Effect</p> <p>CC 5 Energy and Matter</p> <p>CC 6 Structure and Function</p>

Winter Ecology II - 3

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Adaptation Game	5-ESS2 Earth's Systems 5-ESS3 Earth and Human Activity 3-5-ETS1 Engineering Design	5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	SEP 1 Asking Questions and Defining Problems SEP 2 Developing and Using Models SEP 6 Constructing Explanations and Designing Solutions SEP 7 Engaging in Argument from Evidence SEP8 Obtaining, Evaluating, and Communicating Information	CC 1 Patterns CC 2 Cause and Effect CC 4 Systems and System Models CC 6 Structure and Function CC 7 Stability and Change

Winter Evening Overview - 1

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Reasons for the Seasons	5-ESS1 Earth's Place in the Universe 5-ESS2 Earth's Systems	5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	SEP1 Asking Questioning and Defining Problems SEP2 Developing and Using Models SEP6 Constructing Explanations and Designing Solutions SEP8 Obtaining, Evaluating, and Communicating Information	CC1 Patterns CC2 Cause and Effect CC5 Energy and Matter CC6 Structure and Function CC7 Stability and Change
Jumping on Jupiter	5-PS2 Motion and Stability: Forces and Interactions	5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.	SEP1 Asking Questioning and Defining Problems SEP2 Developing and Using Models SEP 4 Analyzing and Interpreting Data SEP5 Using mathematics and computational thinking SEP6 Constructing Explanations and Designing Solutions SEP 7 Engaging in Argument from Evidence SEP8 Obtaining, Evaluating, and Communicating Information	CC1 Patterns CC2 Cause and Effect CC3 Scale, Proportion, and Quantity

Winter Evening Overview - 2

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Snowflake Bentley	3-5-ETS1 Engineering Design	3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	SEP1 Asking Questioning and Defining Problems SEP6 Constructing Explanations and Designing Solutions SEP8 Obtaining, Evaluating, and Communicating Information	CC 6 Structure and Function
Orion the Hunter	5-ESS1 Earth's Place in the Universe	5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	SEP2 Developing and Using Models	CC1 Patterns CC2 Cause and Effect CC3 Scale, Proportion, and Quantity
Turtle Flew South	5-PS2 Motion and Stability: Forces and interactions 5-PS3 Energy 5-ESS1 Earth's Place in the Universe 5-ESS2 Earth's Systems	5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down. 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	SEP1 Asking Questioning and Defining Problems SEP2 Developing and Using Models SEP8 Obtaining, Evaluating, and Communicating Information	CC1 Patterns CC2 Cause and Effect CC5 Energy and Matter CC6 Structure and Function CC7 Stability and Change

Astronomy

Activity	Disciplinary Core Ideas	Performance Expectations	Science & Engineering Practices	Crosscutting Concepts
Play-Doh Planets	5-ESS1 Earth's Place in the Universe	<p>5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</p> <p>5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p>	<p>SEP2 Developing and Using Models</p> <p>SEP4 Analyzing and interpreting data</p> <p>SEP5 Using Mathematics and Computational Thinking</p> <p>SEP8 Obtaining, Evaluating, and Communicating Information</p>	<p>CC3 Scale, Proportion, and Quantity</p> <p>CC4 Systems and System Models</p> <p>CC6 Structure and Function</p>
Moon Phases	5-ESS1 Earth's Place in the Universe	<p>5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</p> <p>5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p>	<p>SEP2 Developing and Using Models</p> <p>SEP6 Constructing Explanations and Designing Solutions</p> <p>SEP7 Engaging in Argument from Evidence</p>	<p>CC1 Patterns</p> <p>CC2 Cause and Effect</p> <p>CC4 Systems and System Models</p> <p>CC7 Stability and Change</p>

