

## **Environment Program Descriptions (50 Programs)**

**Highlight -** Ops updated on website

# Multigrade

These themed programs are designed to align with the state standards across multiple grade bands. These are ideal programs for groups containing students in several grade levels.

**All about Birds** - Birds are perhaps the easiest wildlife to observe. Birds have many unique adaptations, which allows them to be found in many different habitats. We will use our observation skills to find birds of all shapes, sizes, and colors as we hike around Greenacres.

### **Ohio Science Standards:**

- LS Grade K: Living things have specific characteristics and traits.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.
- LS Grade 2: Living things cause changes on Earth.
- LS Grade 3: Offspring resemble their parents and each other.
- LS Grade 4: Changes in an organism's environment are sometimes beneficial to survival and sometimes harmful.
- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- LS Grade 5: All of the processes that take place within an organism require energy.
- LS Grade 7: In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors
- LS Grade 8: The characteristics of an organism are a result of inherited traits received from parent(s).

### **NGSS Standards:**

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
- 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
- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment
- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- MS-LS4-4. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment

**Vocabulary:** observation, habitat, evidence, adaptation, trait, behavior

**Video Introduction:** [CLICK HERE](#) for a bird video with a Greenacres educator

**\*Life at the Stream or Pond** - Choose an aquatic focus area: Life at the Pond or Life at the Stream. Ponds and streams are essential resources to many Ohio plants and animals, including humans. Take time to discover our local waterways at Greenacres and make observations as we look for plants and animals that call them home. (April-October)

**Ohio Science Standards:**

- LS Grade K: Living things have specific characteristics and traits.
- K.LS.2: Living things have physical traits and behaviors, which influence their survival.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.
- LS Grade 2: Living things cause changes on Earth.
- LS Grade 3: Offspring resemble their parents and each other.
- LS Grade 4: Changes in an organism's environment are sometimes beneficial to survival and sometimes harmful.
- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- LS Grade 5: All of the processes that take place within an organism require energy.

**NGSS Standards:**

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
- LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
- 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid

**Vocabulary:** observation, fossil, limestone, shale, erosion, deposition, clay, invertebrate

Ponds: observation, habitat, adaptations, life cycles

**Video Introduction:** [CLICK HERE](#) for a pond video with a Greenacres educator

**Video Introduction:** [CLICK HERE](#) for stream video with a Greenacres educator

**Inquiry in Nature** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the inquiry process.

**Ohio Science Standards:**

- SIPA Grade K-2: Employ simple equipment and tools to gather data and extend the senses.
- SIPA Grade 3-5: Observe and ask questions about the world that can be answered through scientific investigations.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.

- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- 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.
- 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
- MS - LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a Inquiry video with a Greenacres educator

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush and our working evaporator at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 29-February 23, 2024)

**Ohio Science Standards:**

- SIPA Grade K-2: Employ simple equipment and tools to gather data and extend the senses.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- LS Grade K: Living things have specific characteristics and traits.
- LS Grade K: Living things have physical traits and behaviors, which influence their survival.
- ESS Grade 1: Weather changes are long-term and short-term.
- ESS Grade 1: The sun is the principal source of energy.
- ESS Grade 1: Water on Earth is present in many forms.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.
- ESS Grade 2: Long and short term weather changes occur due to changes in energy.
- LS Grade 2: Living things cause changes on earth.
- LS Grade 3: Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and or reproducing.
- LS Grade 4: Changes in an organism's environment are sometimes beneficial and sometimes harmful.
- LS Grade 5: Organisms perform a variety of roles in an ecosystem. All of the processes that take place within organisms require energy.
- LS Grade 7: Energy flows and matter is transferred continuously from one organism to another and between organisms and their physical environments.

**NGSS Standards:**

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- 1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment

**Ohio Social Studies Standards:**

- SS Grade 4: Geography- The economic development of the United States continues to influence and be influenced by agriculture, industry and natural resources in Ohio.
- SS Grade 5: History- Early Indian civilizations (Maya, Inca, Aztec, Mississippian) existed in the Western Hemisphere prior to the arrival of Europeans. These civilizations had developed unique governments, social structures, religions, technologies, and agricultural practices.
- SS Grade 6: Economics- When selecting items to buy, individuals can weigh costs and benefits and compare the price and quality of available goods and services.

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Nature Exploration** - This program engages students in a hands-on exploration of Ohio's natural areas. We will focus on building observation skills and applying them to learning about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- SWK Grade K-2: Exploration leads to observation. Observation leads to questions.
- SWK Grade K-2: Natural events happen today as they happened in the past.
- SWK Grade K-2: Events happen in regular patterns and cycles in the natural world
- K.PS.1: Objects and materials can be sorted and described by their properties.
- K.PS.2: Some objects and materials can be made to vibrate and produce sound.
- 3.LS.2: Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.
- 4.LS.1: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.
- 5.LS.1 Organisms perform a variety of roles in an ecosystem.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.
- SWK Grade 3-5: Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation.
- SIPA Grade 6-8: Apply knowledge of science content to real-world challenges.

**NGSS Standards:**

- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the

environment

- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

**Ohio Social Studies Standards:**

- SS Grade 5: Geography- Political, environmental, social and economic factors cause people, products and ideas to move from place to place in the Western Hemisphere and results in diversity.

**Vocabulary:** observation, senses, living, nonliving, adaptations

**Video Introduction:** [CLICK HERE](#) for exploration video with a Greenacres educator

**Nature Journaling** -By combining nature exploration with journaling, students will gain a deeper understanding of the observations we make while experiencing nature at Greenacres. Journaling allows us to slow down, take in more of our surroundings, and notice more. This program works well as a series or as an individual field trip.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- SWK Grade K-2: Exploration leads to observation. Observation leads to questions.
- SWK Grade K-2: Natural events happen today as they happened in the past.
- SWK Grade K-2: Events happen in regular patterns and cycles in the natural world
- K.PS.1: Objects and materials can be sorted and described by their properties.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change
- SWK Grade 3-5: Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation.

**NGSS Standards:**

- K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

**Vocabulary:** observation, inference

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Survival: Fire or Food or Shelter** - Choose a survival focus area and come for one program or plan to attend the entire series. Join us as we build confidence in primitive living skills.

*Shelter:* We will take a cue from the animals who call Greenacres home as we build our shelters.

*Fire:* Learn what it takes to build a fire and then gather around it to share stories.

*Food:* From the fish in our Greenacres' pond to the forests, learn what the land could provide for you in a survival situation (this will not involve tasting).

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- SWK Grade K-2: Exploration leads to observation. Observation leads to questions.
- SWK Grade K-2: Natural events happen today as they happened in the past.
- SWK Grade K-2: Events happen in regular patterns and cycles in the natural world
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.

- SWK Grade 3-5: Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation.
- SIPA Grade 6-8: Apply knowledge of science content to real-world challenges.

**NGSS Standards:**

- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- 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.
- MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

**Vocabulary:** awareness, exploration, observation, primitive

**Video Introduction:** [CLICK HERE](#) for a shelter video with a Greenacres educator

**Wildlife Tracking** - In and around Greenacres, animals are busy even when we are not watching. Tracks, scat, and chewed nuts and twigs are examples of signs of animals that allow us to know that an animal has been to a given spot. Students will use evidence of animals we find to piece together the story of their secret activities.

**Ohio Science Standards:**

- LS Grade K: Living things have physical traits and behaviors, which influence their survival.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.
- LS Grade 2: Living things cause changes on Earth.
- LS Grade 3: Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.
- LS Grade 5: All of the processes that take place within organisms require energy.
- LS Grade 7: Matter is transferred continuously between one organism to another and between organisms and their physical environments.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 3-5: Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change

**NGSS Standards:**

- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- 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
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment
- 3.ESS.2: Earth's resources can be used for energy.

**Vocabulary:** sign, scat, track, evidence, adaptation, survival, habitat

**Video Introduction:** [CLICK HERE](#) for a tracking video with a Greenacres educator

# Kindergarten

**\*Life at the Pond** - Exploring nature is an important part of developing a relationship with our environment. Ponds are an essential resource to many Ohio plants and animals. Students will make observations, while visiting the ponds at Greenacres, and discover what creatures call this habitat home. (April-October)

**Ohio Science Standards:**

- LS Grade K: Living things are different from nonliving things.
- LS Grade K: Living things have specific characteristics and traits.
- LS Grade K: Living things have physical traits and behaviors, which influence their survival.

**NGSS Standards:**

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

**Vocabulary:** observation, living, nonliving, compare, physical traits, behavior

**Video Introduction:** [CLICK HERE](#) for a pond video with a Greenacres educator

**Living and Nonliving in Nature** - Students will explore the difference between living things and nonliving things. Learn about the characteristics that define a living, nonliving, and once living thing as we explore the various natural habitats of Greenacres.

**Ohio Science Standards:**

- LS Grade K: Living things are different from nonliving things.
- LS Grade K: Living things have specific characteristics and traits.
- LS Grade K: Living things have physical traits and behaviors, which influence their survival.

**NGSS Standards:**

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

**Vocabulary:** living, nonliving, once living, behaviors, physical traits, observe, grow, breathe

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**\*Maple Syrup** -Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 22nd – February 26, 2025)

**Ohio Science Standards:**

- SIPA Grade K-2: Employ simple equipment and tools to gather data and extend the senses.
- ESS Grade K: Weather changes are long-term and short-term.
- LS Grade K: Living things have physical traits and behaviors, which influence their survival.

**NGSS Standards:**

- K.ESS2.2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- K.LS1.1: Use observations to describe patterns of what plants and animals (including humans) need to survive.

**Ohio Social Studies Standards:**

- History Strand: Historical Thinking and Skills: Personal history can be shared through stories and pictures.
- Geography Strand: Human Systems: Humans depend on and impact the physical environment in order to supply food, clothing and shelter.

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Nature Exploration: Senses**- This program engages students in a hands-on exploration of Ohio's natural areas. We will focus on using our senses while building observation skills and applying them to learning about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- SWK Grade K-2: Exploration leads to observation. Observation leads to questions.
- PS Grade K: Objects and materials can be sorted and described by their properties.
- PS Grade K: Some objects and materials can be made to vibrate to produce sound.

**NGSS Standards:**

- K.LS1.1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has "more or"/"less of" the attribute, and describe the difference.

**Vocabulary:** senses, sight, sound, smell, touch, taste, observation

**Video Introduction:** [CLICK HERE](#) for Senses video with a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**Weather: Daily and Seasonal Change** - Weather has a big influence on the natural world.

Sunlight warms water, air and soil, which changes how living things behave. In this program, we will look for evidence of the effects of short and long-term weather as we explore its impact on plants and animals at Greenacres.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration
- ESS Grade K: Weather changes are long-term and short-term.
- LS Grade K: Living things have physical traits and behaviors, which influence their survival.

**NGSS Standards:**

- K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface
- K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

**Vocabulary:** weather, season, fall, winter, summer, spring, temperature

**Video Introduction:** [CLICK HERE](#) for a fall video with a Greenacres educator

**Video Introduction:** [CLICK HERE](#) for a winter video with a Greenacres educator

**Video Introduction:** [CLICK HERE](#) for a spring video with a Greenacres educator

# 1<sup>st</sup> Grade

**Basic Needs of Living Things** - Plants and animals require food, water, shelter, space, and air to survive. We will explore how those basic needs are met in each habitat at Greenacres. .

**Ohio Science Standards:**

- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.

**NGSS Standards**

- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

**Vocabulary:** habitat, living, nonliving, decomposer, food, water, shelter, space, air

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 22 – February 26, 2025)

**Ohio Science Standards:**

- SIPA Grade K-2: Employ simple equipment and tools to gather data and extend the senses.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.
- LS Grade 1: Living things survive only in environments that meet their needs.

**NGSS Standards**

- 1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.
- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Nature Exploration: Observation** This program engages students in a hands-on exploration of Ohio's natural areas. We will focus on making observations and applying them to learn about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- SWK Grade K-2: Exploration leads to observation. Observation leads to questions.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.

**NGSS Standards:**

- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs

**Vocabulary:** observation, senses, explore, compare

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**Nature Recycling** - In nature, materials are recycled through a variety of processes with the help of fungus, bacteria, and invertebrates. Humans also play a vital role in recycling. Students will explore the similarities and differences between natural and human recycling while experiencing the diverse habitats at Greenacres.

**Ohio Science Standards:**

- PS Grade 1: Properties of objects and materials can change.
- LS Grade 1: Living things have basic needs, which are met by obtaining materials from the physical environment.

**NGSS Standards:**

- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

**Ohio Social Studies Standards:**

- Government Strand: Civic Participation and Skills: Individuals have responsibility to take action toward the achievement of common goals in homes, schools and communities and are accountable for those actions.
- Economics Strand: Scarcity: Wants are unlimited and resources are limited. Individuals make choices because they cannot have everything they want.
- Economics Strand: Production and Consumption: People produce and consume goods and services in the community.

**Vocabulary:** waste, reduce, reuse, recycle, landfill, decomposer, compost, cycle

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

## 2<sup>nd</sup> Grade

**\*Life at the Stream-** Streams are essential resources to many Ohio plants and animals, including humans. Take time to discover our local waterways at Greenacres and make observations as we look for plants and animals that call them home. (April-October)

**Ohio Science Standards:**

- 2.LS.1: Living things cause changes on Earth.
- 2.LS.2: All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms today.

**NGSS Standards:**

- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
- 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

**Vocabulary:** observation, fossil, limestone, shale, erosion, deposition, clay, invertebrates

**Video Introduction:** [CLICK HERE](#) for stream video with a Greenacres educator

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 29 – February 23, 2024)

**Ohio Science Standards:**

- SIPA Grade K-2: Employ simple equipment and tools to gather data and extend the senses.
- LS Grade 2: Living things cause changes on Earth.

**NGSS Standards:**

- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Nature Exploration: Awareness**- This program engages students in a hands-on exploration of Ohio's natural areas. We'll focus on discovering clues about the lives of animals while building observation skills and applying them to learning about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- 2.LS.1: Living things cause changes on Earth.

**NGSS Standards:**

- 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

**Vocabulary:** observation, senses, investigation, habitat

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**Nature Interactions**- Living things can be found in a variety of habitats all over the world. These plants and animals interact with their physical environment and can cause changes over time. Students will explore the local habitats at Greenacres and discover which animals call them home.

**Ohio Science Standards:**

- LS Grade 2: Living things cause changes on Earth.

**NGSS Standards:**

- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

**Vocabulary:** habitat, forest, field, stream, biotic, abiotic

**Introduction:** [CLICK HERE](#) for an autumn poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a winter poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a spring poster from a Greenacres educator

**\*Plants and Insects** - Many plants and insects need each other to survive. Discover the surprising interactions between these unique pairs while exploring the fields and forests at

Greenacres. This program will focus on the characteristics of plants and insects that make them partners.

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- LS Grade 2: Living things cause changes on Earth.

**NGSS Standards:**

- 2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

**Vocabulary:** habitat, bud, stem, leaf, root, thorn, bark, flower, seed, insect, pollination

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Weather: Air and Water** - Changes in weather impact the survival of local plants and animals.

Students will use tools to measure the water, wind, and temperature at Greenacres and see how these conditions affect living things in nature.

**Ohio Science Standards:**

- 2.ESS.1: The atmosphere is primarily made up of air.
- 2.ESS.2: Water is present in the atmosphere.
- 2.ESS.3: Long- and short-term weather changes occur due to changes in energy.

**NGSS Standards:**

- 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid
- 2.ESS.3: Long- and short-term weather changes occur due to changes in energy.

**Vocabulary:** weather, atmosphere, wind, temperature, water cycle, solar, clouds, evaporation, precipitation, condensation

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**\*Eco Village:** Let your students lead as they create their own village in one of our Greenacres habitats. This program is play-based, imagination-driven, and student led. Students will decide what they will contribute to the village, the laws, businesses and services all while fostering a sense of community. **3-4 hour program.**

**Ohio Science Standards:**

- SWK Grade K-2: The world is discovered through exploration.
- LS Grade 2: Living things cause changes on Earth.

**NGSS Standards:**

- 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties

**Ohio Social Studies Standards:**

- Government Strand: Civic Participation and Skills: Respect for the rights of self and others includes making responsible choices and being accountable for personal actions.
- Government Strand: Civic Participation and Skills: Groups are accountable for choices they make and actions they take.
- Government Strand: Rules and Laws: There are different rules and laws that govern behavior in different settings.
- Economics Strand: Scarcity: Resources can be used in various ways.
- Economics Strand: Markets: People use money to buy and sell goods and services.

- Economics Strand: Financial Literacy: People earn income by working.
- Economics Strand: Production and Consumption: Most people around the world work in jobs in which they produce specific goods and services.

**Vocabulary:** community, currency, resources, goods, services, scarcity, law, rule, choices, income

## 3<sup>rd</sup> Grade

**Adaptations in Nature** - Plants and animals have different adaptations that increase their chances of survival within their environment. Explore the field and forest at Greenacres to look for some unique plant and animal body parts and behaviors.

**Ohio Science Standards:**

- LS Grade 3: Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.
- LS Grade 3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments

**NGSS Standards:**

- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment
- 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
- 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.

**Vocabulary:** behavior, body parts, trait, survive, physical features, adaptation

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Key Concepts:** Adaptation

**Life Cycles in Nature** - Plants and animals have life cycles that are adapted to survive in distinct environments. From birth to adulthood and everything in between, the plants and animals of Ohio have interesting and unique life cycles. We will explore Greenacres' natural areas in search of plants and animals in different life stages.

**Ohio Science Standards:**

- LS Grade 3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments

**NGSS Standards:**

- 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.
- 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

- 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

**Vocabulary:** life cycle, egg, larvae, pupae, adult, seed, traits, investigate, observe

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Introduction:** [CLICK HERE](#) for a life cycle poster from a Greenacres educator

**Key Concepts:** Life Cycle, Life Stage, Cycles

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 29 – February 23, 2024)

**Ohio Science Standards:**

- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- LS Grade 3: Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.

**NGSS Standards:**

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

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Key Concepts:** Maple, Syrup, Winter

**Natural Resources** - Humans have always relied on nature for their everyday needs. Join us as we learn all about the nonliving natural resources at Greenacres. We will observe the unique characteristics of resources such as water, air, rock, soil and energy to discover how they are used by living things.

**Ohio Science Standards:**

- ESS Grade 3: Earth's nonliving resources have specific properties.
- ESS Grade 3: Earth's resources can be used for energy.
- ESS Grade 3: Some of Earth's resources are limited.

**NGSS Standards:**

- 3.ESS3.1. Science affects everyday life
- 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.

**Ohio Social Studies Standards:**

- Geography Strand: Places and Regions: Daily life is influenced by the agriculture, industry and natural resources in different communities.
- Geography Strand: Human Systems: Evidence of positive and negative human modification of the environment can be observed in the local community.
- Economics Strand: Scarcity: Individuals must make decisions because of the scarcity of resources. Making a decision involves a trade-off.

**Vocabulary:** living, nonliving, natural resource, observation, soil, water, air

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Nature Exploration: Wildlife Tracking**- This program engages students in a hands-on exploration of Ohio's natural areas. We'll focus on animal tracks and signs while building observation skills

and apply them to learning about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- LS Grade 3: Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.
- ESS Grade 3: Earth's resources can be used for energy.

**NGSS Standards:**

- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- 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
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment

**Vocabulary:** sign, scat, track, evidence, adaptation, survival, habitat

**Video Introduction:** [CLICK HERE](#) for a tracking video with a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

## 4<sup>th</sup> Grade

**Erosion and Weathering** - In Ohio, our rivers and streams tell a story. Changes in the landscape are caused by weathering of rock and soil, and by transportation and deposition of sediments. Students will explore the process of erosion and look for signs of weathering here at Greenacres.

**Ohio Science Standards:**

- ESS Grade 4: Earth's surface has specific characteristics and landforms that can be identified.
- ESS Grade 4: The surface of Earth changes due to weathering.
- ESS Grade 4: The surface of Earth changes due to erosion and deposition.

**NGSS Standards:**

- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.
- 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

**Vocabulary:** erosion, weathering, deposition, sediment, landform

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Fossils** - Take a look at the history of Ohio's land through its ancient ancestors. Learn about a distant past where Trilobites ruled the warm waters of the Ordovician sea. Investigate how fossils are formed and what was left behind for us to find here at Greenacres.

**Ohio Science Standards:**

- LS Grade 4: Fossils can be compared to one another and to present day organisms according to their similarities and differences.

**NGSS Standards:**

- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

- 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

**Vocabulary:** sediment, Ordovician fossils, glacial erratic, limestone, shale

**Video Introduction:** [CLICK HERE](#) for a fossil video with a Greenacres educator

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 22 – February 26, 2024)

**Ohio Science Standards:**

- SIPA Grade 3-5: Observe and ask questions about the world that can be answered through scientific investigations.
- LS Grade 4: Changes in an organism's environment are sometimes beneficial and sometimes harmful.

**NGSS Standards:**

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

**Ohio Social Studies Standards:**

- SS Grade 4: Geography- The economic development of the United States continues to influence and be influenced by agriculture, industry and natural resources in Ohio.

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Nature Exploration: Discovery** - This program engages students in a hands-on exploration of Ohio's natural areas. We will focus on building identification and classification skills and applying them to learning about our environment. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- SIPA Grade 3-5: Observe and ask questions about the world that can be answered through scientific investigations.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- 4.LS.1: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.

**NGSS Standards:**

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

**Vocabulary:** observation, discovery, classification

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**Bring a Book to Life: Hatchet** - The young adult novel, *Hatchet*, by Gary Paulsen is the story of how Brian survives on his own after a plane crash in the Canadian wilderness. Students will experience some of Brian's adventures through hands-on survival skills and knowledge. The young adult novel, *Hatchet*, by Gary Paulsen is the story of how Brian survives on his own after a plane crash in the Canadian wilderness. Students will experience some of Brian's adventures through hands-on survival skills and knowledge. Students should have completed reading this novel prior to their field trip. This program may also be completed in a series, with each field trip focusing on a different aspect of the novel.

**Ohio Language Arts Standards:**

- RL.4.2 Analyze literary text development. a. Determine a theme of a story, drama, or poem from details in the text. b. Summarize the text, incorporating a theme determined from details in the text.
- RL.4.3 Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
- RL.4.10 By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. Activate prior knowledge and draw on previous experiences in order to make text-to-self or text-to-text connections and comparisons.

**Vocabulary:** Character, Setting, Theme, Survival, Wilderness

## 5<sup>th</sup> Grade

**Ecosystems in Nature -** Getting food is vital to survival. Students will learn how animals and plants fit into nature's food web. Come explore Greenacres to find examples of producers, consumers and decomposers.

**Ohio Science Standards:**

- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- LS Grade 5: All of the processes that take place within organisms require energy.

**NGSS Standards:**

- 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

**Vocabulary:** ecosystem, niche, herbivore, omnivore, carnivore, decomposers, food web, producer, consumer

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Nature Exploration: Native Species-** This program engages students in a hands-on exploration of Ohio's natural areas. Students will explore Greenacres' native species populations and natural habitats. This is an ideal program for a first time visit to Greenacres or for students to become more comfortable in nature.

**Ohio Science Standards:**

- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- SS Grade 5: Geography- Political, environmental, social and economic factors cause people, products and ideas to move from place to place in the Western Hemisphere and results in diversity.

**NGSS Standards:**

- 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-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

**Vocabulary:** observation, native species, invasive species, population

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**\*Flowers and Pollinators** - Many flowering plants reproduce by pollination. The pollination process for many plants depends upon an insect, mammal, bird or other animal to move pollen from one flower to another flower of the same species. Join us as we explore Greenacres looking for flowering plants and the animals that pollinate them. (April-October)

**Ohio Science Standards:**

- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- LS Grade 5: All of the processes that take place within organisms require energy.

**NGSS Standards:**

- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment

**Vocabulary:** flower, pollen, nectar, pollination, native species, seed

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Inquiry in Nature** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the environment at Greenacres through the inquiry process.

**Ohio Science Standards:**

- SIPA Grade 3-5: Observe and ask questions about the world that can be answered through scientific investigations.
- SWK Grade 3-5: Science is a way of knowing about the world around us based on evidence from experimentation and observations.

**NGSS Standards:**

- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**\*Maple Syrup** - Maple sugaring is the tradition of making maple syrup from sap gathered from maple trees in late winter/early spring. Many animals (and people) are benefited by using the sap of the maple trees. Plan to visit our sugar bush at Greenacres as you experience with your senses how maple sap is turned into syrup. (January 30 – February 24, 2023)

**Ohio Science Standards:**

- SIPA Grade 3-5: Observe and ask questions about the world that can be answered through scientific investigations.
- LS Grade 5: Organisms perform a variety of roles in an ecosystem.
- LS Grade 5: All of the processes that take place within organisms require energy.

**NGSS Standards:**

- 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

**Vocabulary:** spiles, sap, gallons, sugar shack, sugar bush, evaporation, tap, sapsucker

**Video Introduction:** [CLICK HERE](#) for Maple video with a Greenacres educator

**Maps and Topography** - Maps come in all shapes and sizes and they are useful in many different ways. Students will explore how land surfaces are represented on different styles of flat and topographic maps as well as how different maps are used.

**NGSS Standards:**

- 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

**Ohio Social Studies Standards:**

- SS Grade 5: Geography - Globes and other geographic tools can be used to gather, process and report information about people, places and environments. Cartographers decide which information to include in maps.

**Vocabulary:** topography, contours, scale, legend, symbol, degrees, orientation

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

# NEW Programming for 23-24

## Middle School 6-8th Grade (9 programs)

**Energy Flow in Nature** - Energy is constantly moving in and through an ecosystem. Students will conduct a survey of stream, field, and forest habitats at Greenacres and learn about the interrelationships between the organisms that they have observed as well as the movements of matter and energy throughout the ecosystem.

**Ohio Science Standards:**

- LS Grade 7: Matter is transferred continuously between one organism to another and between organisms and their physical environments.
- LS Grade 7: Energy can be transferred through a variety of ways.
- LS Grade 7: In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors

**NGSS Standards:**

- MS-LS1-4. Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.
- MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms
- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

**Vocabulary:** food web, carnivore, omnivore, herbivore, ecosystem, population dynamics

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Hydrologic Cycle** - Water is ever-moving, with no beginning or end. Streams, oceans, clouds, plants and humans are all a part of this cycle. Students will describe the movement of water within the water cycle and look for evidence in and around Greenacres.

**Ohio Science Standards:**

- ESS Grade 7: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.

**NGSS Standards:**

- MS.LS2.1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- MS.ESS2.4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

**Vocabulary:** precipitation, condensation, evaporation, watershed, point and non-point pollution

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Inquiry in Nature** - Scientific Inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the environment at Greenacres through the inquiry process.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- MS-LS1-4. Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Maps and Topography** - Maps come in all shapes and sizes and they are useful in many different ways. Students will explore how land surfaces are represented on different styles of flat and topographic maps as well as how different maps are used.

**Ohio Science Standards:**

- 8.ESS.4 Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

**Ohio Social Studies Standards:**

- SS Grade 7 - Maps and other geographic representations can be used to trace the development of human settlement over time.
- SS Grade 8 - Modern and historical maps and other geographic tools are used to analyze how historic events are shaped by geography

**Vocabulary:** topography, contours, scale, legend, symbol, degrees, orientation

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Nature Exploration: Journaling** - Give your students the chance to slow down and focus their attention on nature. Students will write, draw and count or measure what they see around them as they visit different ecosystems at Greenacres. This program can be used to inspire creativity and knowledge of the natural world through drawing, writing poems or story telling.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.

- LS Grade 6: Living systems at all levels of organization demonstrate the complementary nature of structure and function

**Language Arts Standards:**

- W.6.3-Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

**Ohio Social Studies Standards:**

- SS Grade 6: Government- Different perspectives on a topic can be obtained from a variety of historic and contemporary sources. Sources can be examined for accuracy

**Vocabulary:** observation, exploration, investigation

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Post Program Extras:** [CLICK HERE](#) for a post field trip activity sheet from a Greenacres educator

**Rocks and Minerals** - While exploring rocks and minerals, students will uncover millions of years of history using simple geologic tests. Students will view the landscape at Greenacres and, using a dichotomous key, determine what types of rocks and minerals are found in Ohio.

**Ohio Science Standards:**

- ESS Grade 6: Minerals have specific, quantifiable properties.
- ESS Grade 6: Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
- ESS Grade 6: Igneous, metamorphic and sedimentary rocks form in different ways.
- ESS Grade 6: Rocks, minerals and soils have common and practical uses

**NGSS Standards:**

- MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales
- MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

**Vocabulary:** Igneous, sedimentary, metamorphic, minerals, dichotomous key, hardness

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Soils in Nature** - Soil is a natural resource that provides the foundation for producing our food, shelter, fuel and provides the surface on which to build our buildings and cities. Students will get a bit dirty as they compare soils in different habitats at Greenacres and examine the past environment in which they formed.

**Ohio Science Standards:**

- ESS Grade 6: Soil is unconsolidated material that contains nutrient matter and weathered rock.
- ESS Grade 6: Rocks, minerals and soils have common and practical uses

**NGSS Standards:**

- MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes

**Vocabulary:** erosion, deposition, soil, humus, inorganic, organic

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Stream Geology** - This program focuses on the power and force of running water as it shapes our dynamic Earth. Students will investigate the physical features of a stream, collect and analyze stream flow data, and discover how human activities have impacted stream ecosystems.

**Ohio Science Standards:**

- ESS Grade 8: A combination of constructive and destructive geologic processes formed Earth's surface.
- ESS Grade 8: Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

**NGSS Standards:**

- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales
- MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes
- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment

**Ohio Social Studies Standards:**

- SS Grade 8: Geography - Modern and historical maps and other geographic tools are used to analyze how historic events are shaped by geography.

**Vocabulary:** erosion, deposition, rate of flow, water cycle, Ordovician fossils

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Stream Health** - The health of a stream can be assessed in several different ways. Students will perform chemical, physical, and biological studies of a local Greenacres stream, and make conclusions about stream health and impacts of human activity on surface waters.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes
- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

**Vocabulary:** biological, physical, chemical, pH, turbidity, dissolved oxygen, macroinvertebrate

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

# High School 9-12th Grade (6 programs)

**Ecological Biodiversity** - The connections and interactions of energy and matter between Earth's spheres are shown during the study of the unique habitats at Greenacres. Students will investigate the interconnectedness within habitats and the understanding of the complex relationships between them, including both abiotic and biotic factors. Students will conduct research that includes looking at population dynamics and carrying capacity.

## Ohio Science Standards:

- B.DI.1: Biodiversity - Species diversity
- B.DI.2: Ecosystems - Equilibrium and disequilibrium
- B.DI.3: Loss of Diversity - Invasive species
- ENV.ES.1: Biosphere-Ecosystems (equilibrium, species interactions, stability), population dynamics
- ENV.ES.5: Movement of matter and energy through the hydrosphere, lithosphere, atmosphere and biosphere-Ecosystems
- ENV.ER.1: Energy resources - Renewable and nonrenewable energy sources and efficiency

## NGSS Standards:

- HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

**Vocabulary:** ecosystem, population dynamics, habitat, species interactions

**Ecological Inquiry** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the inquiry process.

## Ohio Science Standards:

- SWK I: Various science disciplines use diverse methods to obtain evidence and do not always use the same set of procedures to obtain and analyze data
- SHE: Science depends on curiosity, imagination, creativity and persistence.
- SHE: Science and engineering are influenced by technological advances and society; technological advances and society are influenced by science and engineering.

## NGSS Standards:

- HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Introduction:** [CLICK HERE](#) for a mushroom poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a bird poster from a Greenacres educator

**Geography and Mapping** - This program builds on students' understanding of geography, mapping and spatial thinking. Students will explore how land surfaces are represented on different styles of flat and topographic maps as well as how different maps have been used through time.

**Ohio Science Standards:**

- SHE: Science depends on curiosity, imagination, creativity and persistence

**Ohio Social Studies Standards:**

- World Geography: Properties and functions of geographic representations (e.g., maps, globes, graphs, diagrams, Internet-based mapping applications, geographic information systems, global positioning systems, remote sensing, and geographic visualizations) affect how they can be used to represent, analyze and interpret geographic patterns and processes.
- World Geography: Geographic representations and geospatial technologies are used to investigate, analyze and communicate the results of geographic problem solving.

**Vocabulary:** topography, contours, scale, legend, symbol, degrees, orientation

**Native Species Management**

Students will experience green career opportunities that involve data, research and wildlife management. During this program, students will have the opportunity to survey the local habitat to look for native and invasive species. Take time to learn more about the beneficial qualities of our Ohio native flora and fauna. End the day with an invasive species removal service project.

**Ohio Science Standards:**

- B.DI.1: Biodiversity - Species diversity
- B.DI.2: Ecosystems - Equilibrium and disequilibrium
- B.DI.3: Loss of Diversity - Invasive species
- **ENV.ES.1: Biosphere - Ecosystems (equilibrium, species interactions, stability)**
- ENV.ER.5: Wildlife and wilderness, wildlife and wilderness management, invasive species, introduced species
- ENV.GP.5: Species depletion and extinction
- ENV.GP.8: Deforestation and loss of biodiversity

**NGSS Standards:**

- HS-LS2-6: Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem
- HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity
- HS-LS4-4: Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- HS-LS4-6: Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

**Vocabulary:** Native species, invasive species, non-native species, biodiversity

**Nature Awareness**- Awareness of your surroundings can lead to a deeper connection with nature and yourself. Walk silently through the forest, hear more, see the smallest movement.

Students will use these skills as they experience Greenacres and connect to nature and themselves in a deep and authentic way.

**Ohio Science Standards:**

- SWK I: Various science disciplines use diverse methods to obtain evidence and do not always use the same set of procedures to obtain and analyze data
- SHE: Science depends on curiosity, imagination, creativity and persistence.
- SHE: Science and engineering are influenced by technological advances and society; technological advances and society are influenced by science and engineering

**Vocabulary:** awareness, sit spot, observation, hypothesis

**Introduction:** [CLICK HERE](#) for a mushroom poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a bird poster from a Greenacres educator

### **Water Quality**

How clean is our local water? Collect data on the health of our water by assessing biological, physical and chemical parameters of our nearby creek. Explore our local watershed and unique topography to discover where our water travels. Students will make conclusions about water quality and impacts of human activity on surface waters.

**Ohio Science Standards:**

- SWK: Various science disciplines use diverse methods to obtain evidence and do not always use the same set of procedures to obtain and analyze data
- SHE: Science depends on curiosity, imagination, creativity and persistence
- SHE: Science and engineering are influenced by technological advances and society; technological advances and society are influenced by science and engineering
- C.IM.1: Chemical reactions - Acids/bases
- ENV.ES.4: Hydrosphere-Surface and groundwater flow patterns and movement
- ENV.ER.3: Water and water pollution-Potable water and water quality
- ENV.GP.2: Potable water quality, use and availability

**NGSS Standards:**

- HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity
- HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

**Vocabulary:** biological, physical, chemical, pH, turbidity, dissolved oxygen, macroinvertebrate

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

# OLD Middle School

## Old 6<sup>th</sup> Grade

**Nature Exploration: Journaling-** Give your students the chance to slow down and focus their attention on nature. Students will write, draw and count or measure what they see around them as they visit different ecosystems at Greenacres. This program can be used to inspire creativity and knowledge of the natural world through drawing, writing poems or story telling

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- LS Grade 6: Living systems at all levels of organization demonstrate the complementary nature of structure and function

**Language Arts Standards:**

- W.6.3-Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

**NGSS Standards:**

- 

**Ohio Social Studies Standards:**

- SS Grade 6: Government- Different perspectives on a topic can be obtained from a variety of historic and contemporary sources. Sources can be examined for accuracy

**Vocabulary:** observation, exploration, investigation

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Inquiry in Nature** - Scientific Inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the environment at Greenacres through the inquiry process.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- 

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Soils in Nature** - Soil is a natural resource that provides the foundation for producing our food, shelter, fuel and provides the surface on which to build our buildings and cities. Students will get a bit dirty as they compare soils in different habitats at Greenacres and examine the past environment in which they formed.

**Ohio Science Standards:**

- ESS Grade 6: Soil is unconsolidated material that contains nutrient matter and weathered rock.

- ESS Grade 6: Rocks, minerals and soils have common and practical uses

**NGSS Standards:**

- MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes

**Vocabulary:** erosion, deposition, soil, humus, inorganic, organic

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Rocks and Minerals** - While exploring rocks and minerals, students will uncover millions of years of history using simple geologic tests. Students will view the landscape at Greenacres and, using a dichotomous key, determine what types of rocks and minerals are found in Ohio.

**Ohio Science Standards:**

- ESS Grade 6: Minerals have specific, quantifiable properties.
- ESS Grade 6: Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
- ESS Grade 6: Igneous, metamorphic and sedimentary rocks form in different ways.
- ESS Grade 6: Rocks, minerals and soils have common and practical uses

**NGSS Standards:**

- MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales

**Vocabulary:** Igneous, sedimentary, metamorphic, minerals, dichotomous key, hardness

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

## Old 7<sup>th</sup> Grade

**Energy Flow in Nature** - Energy is constantly moving in and through an ecosystem. Students will conduct a survey of stream, field, and forest habitats at Greenacres and learn about the interrelationships between the organisms that they have observed as well as the movements of matter and energy throughout the ecosystem.

**Ohio Science Standards:**

- LS Grade 7: Matter is transferred continuously between one organism to another and between organisms and their physical environments.
- LS Grade 7: Energy can be transferred through a variety of ways.
- LS Grade 7: In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors

**NGSS Standards:**

- MS-LS1-4. Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

- MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms
- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

**Vocabulary:** food web, carnivore, omnivore, herbivore, ecosystem, population dynamics

**Introduction:** [CLICK HERE](#) for a poster from a Greenacres educator

**Inquiry in Nature** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the inquiry process.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.
- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Hydrologic Cycle-** Water is ever-moving, with no beginning or end. Streams, oceans, clouds, plants and humans are all a part of this cycle. Students will describe the movement of water within the water cycle and look for evidence in and around Greenacres.

**Ohio Science Standards:**

- ESS Grade 7: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.

**NGSS Standards:**

- MS.LS2.1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- MS.ESS2.4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

**Vocabulary:** precipitation, condensation, evaporation, watershed, point and non-point pollution

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

## Old 8<sup>th</sup> Grade

**Water Quality** - The health of a stream can be assessed in several different ways. Students will perform chemical, physical, and biological studies of a local Greenacres stream, and make conclusions about water quality and impacts of human activity on surface waters.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes
- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

**Vocabulary:** biological, physical, chemical, pH, turbidity, dissolved oxygen, macroinvertebrate

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Inquiry in Nature** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the inquiry process.

**Ohio Science Standards:**

- SWK Grade 6-8: Science is a way of knowing about the world around us based on evidence from experimentation and observations.
- SWK Grade 6-8: Science is a continual process and the body of scientific knowledge continues to grow and change.

**NGSS Standards:**

- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Stream Geology** - This program focuses on the power and force of running water as it shapes our dynamic Earth. Students will investigate the physical features of a stream, collect and analyze stream flow data, and discover how human activities have impacted stream ecosystems.

**Ohio Science Standards:**

- ESS Grade 8: A combination of constructive and destructive geologic processes formed Earth's surface.
- ESS Grade 8: Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

**NGSS Standards:**

- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales

- MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment

**Ohio Social Studies Standards:**

- SS Grade 8: Geography - Modern and historical maps and other geographic tools are used to analyze how historic events are shaped by geography.

**Vocabulary:** erosion, deposition, rate of flow, water cycle, Ordovician fossils

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

## Old High School 9-12th Grade

**Ecological Inquiry** - Scientific inquiry is a way of doing science that includes making observations, forming hypotheses, designing studies, collecting data, and drawing conclusions. Students will design and conduct a simple investigation to learn about the inquiry process.

**Ohio Science Standards:**

- SWK High School: Various science disciplines use diverse methods to obtain evidence and do not always use the same set of procedures to obtain and analyze data
- SHE High School: Science depends on curiosity, imagination, creativity and persistence.
- SHE High School: Science and engineering are influenced by technological advances and society; technological advances and society are influenced by science and engineering.

**NGSS Standards:**

- HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
- HS-LS2-5. Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.
- HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

**Vocabulary:** observation, investigation, comparative question, data, analysis

**Introduction:** [CLICK HERE](#) for a mushroom poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a bird poster from a Greenacres educator

**Water Quality** - The health of a stream can be assessed in several different ways. Students will perform chemical, physical, and biological studies of a local Greenacres stream, and make conclusions about water quality and impacts of human activity on surface waters.

**Ohio Science Standards:**

- SWK High School: Various science disciplines use diverse methods to obtain evidence and do not always use the same set of procedures to obtain and analyze data
- SHE High School: Science depends on curiosity, imagination, creativity and persistence.
- SHE High School: Science and engineering are influenced by technological advances and society; technological advances and society are influenced by science and engineering.
- ENV.ES.4: Hydrosphere-Surface and groundwater flow patterns and movement
- ENV.ER.3: Water and water pollution-Potable water and water quality
- ENV.GP.2: Potable water quality, use and availability

**NGSS Standards:**

- HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
- HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
- HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

**Vocabulary:** biological, physical, chemical, pH, turbidity, dissolved oxygen, macroinvertebrate

**Video Introduction:** [CLICK HERE](#) for a video with a Greenacres educator

**Forest and Field Ecosystems** - The connections and interactions of energy and matter between Earth's spheres are shown during the study of the habitats at Greenacres. Students will investigate the interconnectedness within habitats and the understanding of the complex relationships between them, including both abiotic and biotic factors.

**Ohio Science Standards:**

- ENV.ES.1: Biosphere-Ecosystems (equilibrium, species interactions, stability)
- ENV.ES.1: Biosphere-Population dynamics
- ENV.ES.5: Movement of matter and energy through the hydrosphere, lithosphere, atmosphere and biosphere-Ecosystems

**NGSS Standards:**

- HS-LS2-5. Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.
- HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

**Vocabulary:** ecosystem, population dynamics, habitat, species interactions

**Nature Awareness-** Awareness of your surroundings can lead to a deeper connection with nature and yourself. Walk silently through the forest, hear more, see the smallest movement. Students will use these skills as they experience Greenacres and connect to nature and themselves in a deep and authentic way. If desired, this class can be used to inspire creativity in your students.

**Ohio Science Standards:**

- ENV.ES.1: Biosphere-Ecosystems (equilibrium, species interactions, stability)
- ENV.ES.1: Biosphere-Population dynamics

- ENV.ES.5: Movement of matter and energy through the hydrosphere, lithosphere, atmosphere and biosphere-Ecosystems

**Vocabulary:** sit spot, observation, hypothesis, ecosystem, population, habitat

**Introduction:** [CLICK HERE](#) for a mushroom poster from a Greenacres educator

**Introduction:** [CLICK HERE](#) for a bird poster from a Greenacres educator