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**Grade 5**

NYSSLS Aligned Programs Available Winter of 2019

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**To choose this program 1) select “OTHER…” from the program drop-down and 2) write the name of the program into the comments section.**
A, Bee, C’s of the Honey Bee

Location: School  Presentation Style: Assembly/Class Visits
Instructional Resources: Projector, animal artifacts

Only female honey bees sting, honey bees visit at least 2 million flowers to make just one pound of honey and honey bees are responsible for over a third of the food we eat. These are just a few amazing facts this program will present that will have students looking at bees in a whole new way. In addition to facts, this program will cover pollination, anatomy, the honey bee’s role in the ecosystem and how important the honey bees are to humans. The current honey bee issues will be addressed, and students will have a chance to see the equipment beekeepers use as they learn how we get honey from the hive to the jar.

Amazing Journey of Water

Location: School  Presentation Style: Assembly/Class Visits
Instructional Resources: Projector, interactive game water molecule game

Students will be introduced to watersheds and how water moves through and is stored in its various forms through the water cycle as well as the natural services water provides in an ecosystem. Building on this information, students will participate in an interactive activity where they will be viewing the water cycle from the point of view of a water molecule. They will be given different scenarios within a watershed to create their very own “Amazing Journey” as a water molecule.

Biography of a Strawberry: A Systems Fable

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector

This program presents two systems fables: the story of a typical North American strawberry and one of a locally grown strawberry. Both fables are told through a PowerPoint and follow the strawberry from the development of the seed to its planting, growing, picking and shipping to our table. Then the students are asked to compare the resources that go into making each agricultural process happen and the waste that is produced in order to have a better understanding about sustainable food systems

Biomimicry Introduction: The Science of Today and Jobs of Tomorrow

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, biomimicry products

What is the connection between a $100 bill and a beetle or a window pane and spider’s web? Students will explore the abundance of connections that Biomimicry creates between humans and our natural world in this hands-on program. This program will use actual bio-inspired products to help students better understand nature as a source of ideas and the concept of bio-inspired design. Students will participate in an exercise that asks them to be the biomimicry engineers tasked with solving a human problem.
**Birds & Raptors**

*Location: School  Presentation Style: Individual Class Visits*

*Instructional Resources: Projector, preserved bird specimens and parts, bird guides, live avian ambassador*

This program introduces students to the sights and sounds of birds, with a focus on their unique characteristics! Through our interactive presentation, students will explore bird adaptations such as feathers, beaks, and talons by examining our artifacts that include a variety of feathers, preserved bird specimens, and bird guides. Students will also observe these adaptations on a live ambassador bird of prey.

**Challenge Course/Team Building/Dignity Act Support (Special fee may apply depending on group size)**

*Location: Yorktown BOCES  Presentation Style: Small Group (12)*

*Instructional Resources: all outdoors using initiative game material and challenge course*

The challenge course is an extremely effective method of creating bonds and developing a positive, supportive and safe classroom environment. Students will be divided into groups of 11-13 and asked to work together to solve a series of physical and mental challenges. In the process of solving the challenges, they will utilize such skills as team building, effective communication, problem solving, acceptance of others, risk taking, physical and emotional support and working with people of different styles. Equally important, the participants will have fun together. Often, the student who doesn’t do well in the classroom, excels on the challenge course and some children who do well in the classroom can struggle in this setting. Consequently, students see their peers and teachers see their students in a very different light, changing the classroom environment and creating a bond to last the entire year. The first part of the program will be spent doing team building activities to prepare the group for the challenge course. The remainder of the day is spent on the challenge course. **FOR THOSE THAT CAN’T COME TO OUR CHALLENGE COURSE, WE CAN BRING THE PROGRAM TO YOU! SEE THE TEAM BUILDING ACTIVITIES PROGRAM LISTING.**

**Classroom Pond Study**

*Location: School  Presentation Style: Assembly/Class Visits*

*Instructional Resources: Projector, live animals from a pond, preserved animals and specimens, ID Charts*

Students will learn what makes a pond different from a lake and the amazing process of complete and incomplete metamorphosis. Through the use of organisms from a local pond, students will have a chance to get a close look at the creatures and learn about their role in the ecosystem, how these animals depend on one another and their habitat, their place in the food web and the conditions needed for a healthy pond.

**Climate Change**

*Location: School  Presentation Style: Individual Class Visits*

*Instructional Resources: Projector, live animal ambassador, preserved animals and specimens*

Students will be introduced to the main scientific principles of global warming/climate change the causes of this transformations to our planet. By incorporating what we already know about good "green" practices and using new information, students will problem solve ways to help slow down the impacts of global climate change. Students will also learn about animals and plants which are at risk of extinction due to climate change, while also learning about some very interesting animals which actually help to slow down the production of greenhouse gases! Examples will be shown of the many places on Earth which climate change has already had an impact. This class will incorporate live animals and artifacts to support the presentation. **Can be done as an assembly.**
COMPASS SKILL BUILDING

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Compasses, Orienteering trail

Learning to use a compass is a valuable and exciting experience for students! Students will learn the parts of a compass and how to use it. They will then go outside to practice their newfound skills by navigating through a compass circle game set up by the instructor. For this game they will need a flat open area.

COMPOSTING: NATURE’S RECYCLERS AND DECOMPOSERS

Location: School  Presentation Style: Assembly/Class Visits
Instructional Resources: Projector, live animal ambassadors, hands-on activities

Recycling of paper, bottles, and cans has become part of our culture. Now it is time to take the next step in recycling: school composting. Food leftovers are the single-largest component of the waste stream by weight, in the United States. Americans throw away more than 25% of the food we prepare, about 96 billion pounds of food waste each year. We spend about 1 billion dollars a year to dispose of food waste. This program will introduce students to the value of composting, the three different types of composting, and get up close and personal with some of the creatures that turn our food scraps into rich nourishing soil. This can be an informational program to teach students about composting or an introduction to creating a compost program for your school. The program can be presented to one class that would like to start a classroom compost program, or for the whole school to set up a school-wide program. For whole schools, our staff can work with your faculty to design a program tailored to your school’s needs. This option is available for a special fee.

CONSERVATION BIOLOGY: INTRODUCTION TO THE CONCEPTS OF CONSERVATION AND ENVIRONMENTAL STEWARDSHIP

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, live animal ambassadors, Animal Artifacts

This program introduces students to the crucial role conservation plays in biodiversity and healthy ecosystems. To help students understand the role of conservation, we will examine the history of conservation biology, the Endangered Species Act and real-life examples of conservation efforts at work. Live animal ambassadors, such as our birds of prey and other animals, will be used to illustrate animal rehabilitation and environmental stewardship.

EARTH PORTABLE CLASSROOM (FEE)

Location: School  Presentation Style: Individual Classes but need an open space with a 23’ ceiling
Instructional Resources: Earth Globe

Available in late May to early June, this unique program brings a 20’ high x 22’ diameter hand-painted representation of our earth into your school. Your class will enter the globe through a zipper along the International Dateline in the Pacific Ocean. Once inside, students can participate in activities covering continents, oceans, mountains, rivers, cities, geographic terms and places in the news. They may also discuss environmental issues such as rainforests, coral reefs, ozone, pollution, and growing deserts. Program length is 40 minutes for 2nd grade. The globe can accommodate no more than 25 students. NO MORE THAN six programs can be done in one day. Program Cost: 1 program day + $150 (the rental fee for the globe)/member, $800/non-member for a full day (no more than 6 programs) (this program is eligible for state aid through the environmental CO-SER)
ENERGY TRANSFER IN PREDATOR/PREY RELATIONSHIPS
Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, animal artifacts, live animal ambassador
Energy flows in predator-prey relationships will be studied using the food pyramid and tropic levels, following a discussion about food webs. This program will explore energy transfer, bioaccumulation and bio-magnification, indirect interactions among species, and how tropic cascading can affect the health of an ecosystem. This program will include a live animal ambassador.

EROSION BY WATER
Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, hands-on water activity
Water is the most destructive force on Earth! Through a presentation and a water based hands-on water erosion activity, students will learn how shapes our planet through breaking it down, moving it around, and even building it up. Students will make the connection between water and the ever-changing face of our planet.

EXAMINING INVASIVE & NATIVE COMPETITION
Location: School  Presentation Style: Individual class presentation
Instructional Resources: PowerPoint presentation, animal and natural artifacts
The health of our planet depends on a delicate balance of species. Humans are part of this balance but unfortunately our actions sometimes tip the scale. When we move plants to different regions, either intentionally or unintentionally, we introduce the native plants to a new competition. This program will begin in the classroom with an examination of plant competition. Then we will head out to your school grounds where we will identify native and invasive species and conduct population counts. Finally, we will chart and graph the data we collected and discuss possible future ramifications, trends and remediation techniques.

FEARSOME PREDATOR: CARRYING CAPACITY OF AN ECOSYSTEM
Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, animal artifacts, live animal ambassador
Lions, and tigers, and bears, oh my! Students will delve into the world of predators to learn what it takes to be on top. After examining the adaptations of successful predators, students will explore the unique relationship between predator and prey, learn about the value of keystone species, and how humans can live alongside the most fearsome of predators. Students will be given the opportunity to examine a live animal ambassador and asked to identify its distinctive adaptations and determine what part it plays in the ecosystem.
FOOD WEBS: WHO EATS WHOM?

Location: School  
Presentation Style: Individual Class Visits

Instructional Resources: Animal artifacts, hands-on simulation, live animal ambassador

This interactive program introduces students to the daily flow of energy from the sun to producers and consumers. After learning how to classify animals based on their level in a food pyramid, students will participate in a hands-on simulation to help them understand how critical the balance of predators and prey is to the ecosystem by trying to create a sustainable food web system. During the presentation, students will meet a live animal ambassador and learn about its role in the ecosystem.

FOREST ECOLOGY

Location: School/Yorktown BOCES  
Presentation Style: Individual Classes Outside if Possible

Instructional Resources: Introduction using Live Animal Ambassadors, Animal Artifacts with interpretive hike to follow

The focus of this program is a guided hike on a local nature trail. Using interpretive stops, games, and 'hands-on' activities, the students will be introduced to the temperate forest and the relationships between the habitat and its inhabitants. This program can be adapted to any grade level and many focus areas including food webs, human impact, sustainable management, problem solving, living and non-living things, and wildlife. A forest ecology program can also include a plot study, forest measurements, and tree identification.

FOREST MEASUREMENTS/PLOTT STUDY

Location: School/Yorktown BOCES  
Presentation Style: Individual Class Visits

Instructional Resources: short Projector, Forestry equipment, Tree/plant specimens

Trees come in all shapes and sizes and are an excellent tool for a mathematical exercise! Students will measure trees to become familiar with the tree structure as they learn the importance of measuring techniques and standard units of measurement. Activities will vary based on the grade level. Tools and skills include: Biltmore stick, ruler, diameter tape, and pacing.

GEOLOGY: ROCKIN’ THE VALLEY/Earth Science: Rocks & Minerals

Location: School  
Presentation Style: Assembly/Individual Class Visits

Instructional Resources: Projector, Geological artifacts, hands-on student experiments at stations

Is a rock really just a rock? During this program we will examine the three types of rocks: sedimentary, igneous and metamorphic to understand the differences between them. Using geological history and close examination we will determine why rocks are like puzzles, how fossils form, whether water is actually stronger than rock, where we get those amazing stones to polish our feet and delve into what truly makes a rock crumble!
HOW BEAVERS BUILT THE HUDSON VALLEY

Location: School  Presentation Style: Assembly followed by individual class visits
Instructional Resources: Projector, animal ambassador, animal artifacts, and Native American Artifacts

The ingenious beaver played an important role in the economic, cultural and ecological development of the Hudson Valley that can still be seen today. This program will use furs and skulls to introduce students to the beaver and what made its pelt so valuable. We will examine chew patterns to understand the beaver’s unique ability to alter its environment. Then through a detailed and hands-on presentation, we will examine the beaver’s place in the Hudson River’s ecology; how the beaver trade influenced the relationship between the colonists and the Native Americans; the impact of the beaver trade on local tribes, why the beaver is on the official seal of New York City; the impact of their decline on the 18th century economy as well as the environment of the Valley, and how their return has had both positive and negative impacts for residents of the Hudson Valley.

HUDSON RIVER

Location: School  Presentation Style: Assembly followed by Individual Class Visits
Instructional Resources: Projector, animal ambassador, animal artifacts, hands-on water activity

The Hudson River has played a dominant role in the history of New York State. Through discussion and an engaging presentation, this program will explore the history and ecology of the Hudson River. Special emphasis is placed on the river’s ecological problems, the condition of the river today, current events, and the future of the Hudson. Through a hands-on activity using water and pollution simulations, students will actualize their role as caretakers of the Hudson River Watershed to understand the effects of pollution on the aquatic and terrestrial life in and around the Hudson.

I’M ONLY ONE PERSON, WHAT CAN I DO? – Large Group Assembly

Location: School  Presentation Style: Assembly
Instructional Resources: Projector, materials related to sustainability

This assembly program is a fast-paced, interactive look at the pressing issues of consumerism, solid waste and energy use. Students will learn about the attitudes that got us into this mess and the natural laws which guide how our planet operates. Then using the issue of “trash” we will examine behaviors based on the old attitudes and how to change those behaviors so they align with the natural laws. The second part of the presentation examines how we use energy. Students will participate in an energy quiz and then look at new energy saving behaviors. Examples of new more sustainable products are used throughout the presentation.

INSECTS: INCREDIBLE CREATURES

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Projector, preserved insect specimens, live animal ambassador, insect guides

Did you know that there are more than a million different kinds of insects on our planet? Through a presentation and hands-on activities, students will learn the specific characteristics that entomologists use to identify insects and compare them to their relative, the spider. Every student will become an “amateur entomologist” as they learn about simple and complete metamorphosis, the difference between pests and helpful insects, and what role these insects play in our ecosystems. This program includes live animal ambassadors and specimens.
INTRODUCTION TO SUSTAINABILITY

Location: School  Presentation Style: Individual Class Visits

Instructional Resources: Projector and materials relating to sustainability

Sustainability is a word that has become a part of our daily lexicon. This program is designed to help students better understand what it means and how it applies to our daily lives. We will begin by learning about the mental models we as a society have been operating under for the past one hundred years and how these attitudes have formed our behaviors. Using a systems model, we will then examine a set of daily behaviors and choices we all make and track the resources used and pollutants produced using marbles. Then we will learn about the natural laws that guide our planet and go back to reexamine the behaviors and choices through these laws to determine if the resources and pollution produced has changed. After comparing the usage results, we will learn about how to create behavior change and new habits. Assembly Model Not Available - 1-2 classes/1 hour

MAP MAKING ADVENTURES

Location: School/Yorktown BOCES  Presentation Style: Individual Class Visits

Instructional Resources: Mapping boards and supplies, various map examples, optional Projector

Students will become junior cartographers in this marvelous mapping program! After learning about parts of a map and the many different types of maps, they will be broken up into small groups and challenged to map an area using the plane table mapping technique. This program includes options such as simple games, interactive presentations, and hands-on demonstrations. This program can be done either at Yorktown BOCES or on your school grounds.

MAPPING YOUR SCHOOL’S ECOLOGICAL RESOURCES

Location: School  Presentation Style: Individual Class Visits

Instructional Resources: Introduction, biological field study and animal artifacts

After a brief introduction about how scientists calculate animal and plant populations, we will go outside and do a field study of the animals and plants found on your school grounds. The outdoor activity will include mapping, how to calculate estimates and the natural services provided by the flora and fauna found.

MARINE ECOSYSTEMS

Location: School  Presentation Style: Individual Class Visits

Instructional Resources: Projector, specimens, models

75% of the earth’s surface is covered in water! This program introduces students to the different marine ecosystems and the life that inhabits our oceans. From the beach, down to the deep hydrothermal vent communities, using shells, plants and preserved specimens, models, colorful slides and real life stories, participants will learn about the animals and plants that live there, why the ocean is important to us, how humans are impacting the ocean and some of the ways humans are using what they are learning from ocean animals to solve human problems.
**MONSTER STORMS (SPECIAL FEE)**

*Location: School* | *Presentation Style: Assembly/Individual Class Visits*

*Instructional Resources: Meteorologists, animal artifacts, live animal ambassador*

In this unique and engaging program, students will attend an assembly hosted by Jim Witt and CEE educators followed by one or more weather related programs. Choose between: a) Animals as Meteorologists b) Climate Change c) Animal adaptations d) Sustainability E) Watersheds.

*Program Length: 3 hours per block of 50 students*

*If taking place at your school:*
- **Number of Rooms Needed:** At least 2 (auditorium and one classroom)
- **Technology Needed:** smart boards and Skype available on the computer in the room where Jim Witt is presenting.

**NATIVE AMERICAN STUDIES**

*Location: School* | *Presentation Style: Individual Class Visits*

*Instructional Resources: Projector, animal artifacts, Native American artifacts, games and toys, live animal ambassador*

This program takes a close look at the indigenous tribes of the Hudson Valley and their fascinating culture. Students will learn about their pre-European lifestyles and philosophies, meet a live animal ambassador, and take part in hands-on activities such as examining fur pelts, playing native games and looking at their toys, exploring native artifacts, and playing a matching game between Native American and present-day items. In longer programs, Native American games and storytelling activities can be included if requested.

**NOCTURNAL WORLD OF NEW YORK**

*Location: School* | *Presentation Style: Assembly/Class Visits*

*Instructional Resources: Projector, listening to animal calls, animal artifacts, live animal ambassador*

Using pictures of nocturnal and diurnal animals, students will be asked to create a list of differences between them and explore their special adaptations. Through the use of animal sounds, artifacts, and a live ambassador animal, students will learn about why some animals are active at night and how their specialized senses enable them to survive in the dark.

**OFF-SITE POND STUDY**

*Location: Local Pond or wetland* | *Presentation Style: Individual Class Visits*

*Instructional Resources: Pond exploration materials and instruments*

This program will bring students out of the classroom and into a pond ecosystem! Schools have the option to choose a local pond area where their students will learn to use CEE provided scoop nets to catch samples of the animals and insects living there. Following the collection period, the group will observe and identify their catch, using identification keys and expert Naturalists. They will learn about metamorphosis, interdependence, food chains, some of the organism’s fascinating adaptation as well as the conditions necessary for a healthy pond.
**Oil Spills: Where Did the Oil Go?**

*Location: School  
Presentation Style: Individual Class Visits  
Instructional Resources: Projector, hands-on experiment*

Approximately 206 million gallons of oil spilled into the Gulf of Mexico over a period of 86 days in the Spring and Summer of 2010. Today there is no oil to be seen. Where did it go? What was the effect of the spill on local ecosystems and human health? This program will examine these questions as well as how nature is helping to clean up some of the oil through the molecular and microbial food web. We will also look at how human efforts to clean up the oil have affected local environments, where hidden oil is still being found today and some of the long term economic and environmental goals. **This program can be done as a 1-hour assembly for a full grade level or done as an in-class program for individual classes throughout the day.**

**Orienteering**

*Location: Yorktown BOCES  
Presentation Style: Individual Class Visit  
Instructional Resources: Compasses interactive compass and pacing activity, orienteering trails*

During this full day program at Yorktown BOCES, students will learn the parts of a compass and how to use it. Next, to reinforce their navigation skills, they will play the compass circle game and then learn how to measure distances through the use of pacing. After lunch, students will be taught to use their newly acquired skills to orienteer and will be sent out on the orienteering trails that crisscross through the woods of Yorktown BOCES. Orienteering is also a very effective way to increase student independence and confidence while also spending time outside. Depending on preference and comfort, individuals and pairs of students may be invited to develop themselves with independent orienteering challenges.

**Owl Pellet Study (Material Fee)**

*Location: School  
Presentation Style: Assembly followed by Individual Class Visits  
Instructional Resources: Projector, Live owl ambassador, animal artifacts*

Owls are very unique birds that have fascinated humans throughout history. In this program, students will learn about their hunting and survival adaptations. They will be introduced to the sights and sounds of the owls native to New York State, and meet one of our resident ambassador owls! Following a discussion about the owl’s unique digestive system, students will have the opportunity to dissect an owl pellet to determine what that owl had for dinner to help them understand the owl’s role in the ecosystem! **Your district will be billed a material fee of $2.50 per student.**

**Pollinator Partnerships**

*Location: School  
Presentation Style: Individual Class Visits  
Instructional Resources: Projector, animal artifacts, game supplies*

In this program, students will be introduced to the important interactions between plants and pollinators. Through our interactive presentation, students will investigate butterflies, hummingbirds, bees, and bats to learn how they are specially adapted to pollinate certain flowers and how flowers are dependent on pollinators. After exploring the various pollinator adaptations, we can either head outside to explore your school garden or woods to look for signs of pollination or play an exciting pollination tag game on your school’s field.
**Recycling: What Happens to My Recyclables?**

*Location: School*  
*Presentation Style: Assembly or Individual Class Visits*  
*Instructional Resources: Projector, materials related to sustainability*

Recycling is something that is familiar to almost everyone, but what happens to the item once it leaves the bin? This program will give your students a better understanding of the route a recycled item takes to become something new, examples of products being made with recycled content, and the additional advantages they offer in terms of sustainability. This program will also examine some examples of solid waste found in our home and workplace that can be kept out of the waste stream altogether.

**Secret Life of the American Hamburger & Other Foods We Love**

*Location: School*  
*Presentation Style: Assembly or Individual Class Visits*  
*Instructional Resources: Projector*

The average American eats more than 68 pounds of beef a year. That's well over a pound a week. The problem is that there is a lot more to every hamburger than just the meat. This is not a vegetarian vs. meat eater program, it is a systems analysis that enables students to examine the full cycle of common foods eaten by Americans from the field/pasture to the plate. Students will create systems maps which will inventory and calculate the resources used by several common food items along with healthy, locally produced alternatives. Using the analysis of each system, students will be asked to create an argument, using evidence, on the sustainability of each. *This program can be done as a 1-hour assembly for a full grade level or done as in-class program for individual classes throughout the day.*

**Seed Study**

*Location: School*  
*Presentation Style: Individual Class Visits*  
*Instructional Resources: Projector, seed sorting activity, seed game*

Through seed sorting and critical thinking, students will learn the differences between a seed and a non-seed in this fun, interactive program! The lesson will also include the parts of a seed and all of the different ways seeds travel. After investigating many different types of seeds, students will play a game where they discover how hard it is for seeds to sprout, and why they are so valuable to the natural world.

**Skull Study**

*Location: School*  
*Presentation Style: Individual Class Visits*  
*Instructional Resources: Projector, animal skulls, animal artifacts, recording sheets*

What conclusions can your students draw about an animal by observing its skull? This program begins with a presentation focused on the adaptations we can learn about from a skull. Working in small groups, students will examine the skull assigned to them and make observations of eye location, teeth configuration, nasal passageways, and size. They then share their data with the class and their hypothesis of what animal it came from.
SOIL - THE BASIS OF LIFE
Location: School       Presentation Style: Individual Class Visits
Instructional Resources: Projector, hands on soil making experiment, live specimens, animal ambassadors, natural artifacts

From the food we eat, to the clothes we wear, to the air we breathe, humanity depends upon the soil beneath our feet. Although it is only a thin layer of our planet, it nurtures life, supports cities, forests and oceans and feeds all terrestrial life on Earth. Soil could arguably be called Earth’s most critical resource. Part biology, part chemistry and part CSI, students will learn the “dirt” on soil as we examine its remarkable properties, its crucial role in the carbon cycle, how it is made and its ecological importance.

TEAM BUILDING
Location: School       Presentation Style: Individual Class Visits
Instructional Resources: Team Building initiatives and portable challenges

Can’t come to our challenge course? This alternative team building experience takes place at your school! We will bring our portable challenges and include initiatives that focus on team building, effective communication, problem solving, acceptance of others, risk taking, physical and emotional support, and working with people of different styles.  This program can be used to support Dignity Act Initiatives.

THE EXTRAORDINARY JOURNEY OF ORDINARY STUFF
Location: School       Presentation Style: Individual class visits
Instructional Resources: Projector, life cycle analysis boards

What do sneakers, a cell phone and a pencil have in common? This program will examine everyday items such as these as well as sneakers and t-shirts using a cradle to grave assessment and an interactive mapping activity to help students better understand the extraordinary amount of natural resources and energy used to manufacture and transport these items around the globe. Students will leave with a new prospective as they discover how these everyday items are far more complex than imagined, along with the realization that "away" is not a reality on our crowded planet.

TROPICAL RAINFORESTS
Location: school       Presentation Style: Assembly followed by Individual Class Visit
Instructional Resources: Projector, animal artifacts, rainforest artifacts, live animal ambassador

Tropical rainforests are home to more than half of the plant and animal species on Earth and are the oldest and most diverse ecosystems on our planet today! Yet deforestation of these amazing ecosystems is occurring at a rate of over 20 million acres of forests each year. Students will learn about the locations of rainforests around the world, the layers of a rainforest, and the unique plants and animals that inhabit them. Interactive stations with colorful and rare artifacts will give students a hands-on opportunity to discover more of the animals, products, and cultures found in these rainforests. This program will include a live animal ambassador during the stations.
Turtles, Frogs, Toads, Snakes, What’s the Difference?
Location: School    Presentation Style: Individual Class Visits
Instructional Resources: Visual presentation, animal artifacts, preserved animal specimens, photographs, live animal ambassador
Turtles, frogs, toads, snakes... what’s the difference? This program examines the characteristics and adaptations of amphibians and reptiles, and the differences among species within each class. Students will then rotate through hands-on stations including amphibian and reptile artifacts and preserved specimens. Students will also meet a living reptile, to dispel some common misconceptions about them.

Understanding the Commons
Location: School    Presentation Style: Individual Class Visits
Instructional Resources: Projector, hands on student activity, animal artifacts
Healthy Commons such as air, biodiversity, climate regulation, our collective future, water, libraries, public health, heritage sites and top soil are what we all depend on, and for which we are all responsible. Through a series of activities, this program will introduce students to the concept of the commons, their value and importance in our lives and for our future. Together the group will establish a list of responsibilities, behaviors and actions to care for our Commons.

Understanding the Consequences of Ecosystem Manipulation
Location: School    Presentation Style: Individual Class Visits
Instructional Resources: Projector, outdoor access for school grounds walk
The health of our planet depends on a delicate balance of species. Humans are part of this balance but unfortunately our actions sometimes tip the scale. When we move plants to different regions, either intentionally or unintentionally, we introduce the native plants to a new competition. This program will begin in the classroom with an examination of examples of plant competition. Then we will head out to your school grounds where we will identify native and invasive species and do population counts. Finally, we will chart and graph the data we collected and discuss possible future ramifications, trends and remediation techniques.

Weather
Location: School    Presentation Style: Assembly/Individual Class Visits    Instructional Resources: Projector, meteorological tools, data collection pages
Rain, sleet, snow, humidity, muggy, what does it all mean!? This program will introduce the concepts and tools necessary to understand the weather. Students will learn about weather forecasting through the use of simple meteorology tools, how the water cycle affects our daily weather, and what different cloud types tell us about the coming weather. They will leave the program with an understanding of the importance of weather prediction and how to collect weather data. After a presentation indoors, we will head outside to use meteorology tools to collect data and analyze the data collected to make a short-term forecast.
**What’s Your Footprint?**  
*Location: School*  
*Presentation Style: Individual Class Visits*  
*Instructional Resources: Projector, interactive student activity, materials related to sustainability*

This program uses the Ecological Footprint to help students assess how their lifestyle impacts our planet. The Ecological Footprint is a measure of the amount of nature it takes to sustain a given population over the course of a year. Through the use of a PowerPoint presentation and a simulation, students will examine two very different lifestyles that creates two very different ecological footprints. First a typical American, and then an American with different habits, to demonstrate the impact of behavioral change, one that includes mitigated behavior. Using what they learned, students will be asked to identify mitigating behaviors that are personally attainable. *Assembly Model Not Available - 1-2 classes/1 hour*

**Where Does Your Food Come From? (Formally Supermarket Botany)**  
*Location: School*  
*Presentation Style: Individual Class Visits*  
*Instructional Resources: Projector, food samples and games*

What seeds do we find in the produce section of the supermarket? Exploring food typically found in the produce section, we will determine what parts are edible and if a new plant can be grown from a seed from one of those plants. Through games and activities, students will learn all about how food arrives at the supermarket and will never look at the produce aisle the same way again!

**Where Does My Garbage Go?**  
*Location: School*  
*Presentation Style: Individual Class Visits*  
*Instructional Resources: Projector, materials related to sustainability*

Lunch is over and your students are anxious to get outside for recess. They clear off their tables, and toss their uneaten food, paper napkins and cups, and plastic utensils into the nearest trash can. But where does it go from there? The average American generates approximately 6 pounds each of trash per day! There’s everything from paper, uneaten food, construction leftovers, cut grass, plastic, glass, metal, old batteries, computers, phones, and tons of other stuff. Come take a journey with your garbage to learn where it goes and along the way encounter a waste-to-energy incinerator, landfills, a recycling plant and composting.

**Wildlife**  
*Location: School*  
*Presentation Style: Assembly/Class Visits*  
*Instructional Resources: Projector, pelts, skulls, shells, claws, artifacts, models and live animals*

This wildlife program is designed to give students an understanding of the classification system of animals, animal habitats, animal adaptations and consumers’ crucial role within an ecosystem. Among the topics that will be discussed are camouflage, natural services such as how fox and possums keep ticks away, and threatened and endangered species. Through demonstrations and activities using pelts, skulls, and many of our rare animal artifacts, students will gain an up close and personal understanding of wildlife and their role in the ecosystem and our lives.
WILDLIFE CSI

Location: School  Presentation Style: Individual Class Visits
Instructional Resources: Hands-on investigation for animal evidence, live animal ambassador

Coyotes, raccoons, owls, bobcats, and thousands of other wild animals are impressive creatures to see in the natural world. Unfortunately for the curious observer, some of these animals are also among the most reclusive, their presence only evident through the clues they leave behind. Students will investigate several wildlife “crime” scenes to find evidence that can include tracks, scat, food remains, feathers or fur, to draw conclusions about who was there and what happened. The program will conclude with a discussion to help students better understand predator and prey relationships and the food chain and will include a live animal ambassador.

WINTER ADAPTATIONS

Location: School  Presentation Style: Assembly/Class Visits
Instructional Resources: Projector, pelts, skulls, shells, claws, artifacts, models and live animals

There are four main methods animals use to survive the winter: go dormant, hibernate, migrate, or stay active. This program introduces students to each method, how it is done, and which animals use each method. During the interactive stations, students will examine animal pelts, preserved specimens and skulls of various animals that use each method, do an experiment to test the insulation quality of blubber and meet one of our animal ambassadors that would normally be dormant or hibernating in the wild.