

# **JSU Field Schools EE Programs**

## **CURRICULUM GUIDE for PreK-12 Field Trip Learning Stations**

### **Mission**

JSU Field Schools provide in-depth programs designed to nurture appreciation of Alabama's natural and cultural significance, celebrate diversity, and foster stewardship of the natural world. We promote natural history and history education from "the deepest canyon to the highest mountain" in Alabama. Utilizing the Little River Canyon Center and the Cleburne County Mountain Center as well as public land "outdoor classrooms", the Field Schools are a project of JSU's Environmental Policy & Information Center (EPIC).

### Program Objectives

- The students will increase awareness and understanding of the environment.
- The students will develop a sense of responsibility to the environment.
- The students will gain a better sense of cooperation and community.

Outdoor environmental education embraces teachable moments and those happen regularly in the outdoor classroom. The JSUFS instructors each have their own teaching style and choose activities for classes that best suite their philosophy and personality. Instructors will cover the key terms and principles of each class and classes are correlated to the Alabama Course of Study and the Alabama Environmental Literacy Plan.

### Methods of Measurement:

Verbal assessment; written evaluations; participant surveys; semantic web activities; teacher assessment; social media; email discussions; Educational Advisory Committee meetings and input

### **Programs:**

#### **Rock & Roll**

4<sup>th</sup> Grade & up

0.5 mile hike (moderate)

Non-hike options available

Activities: Students explore rock types, the rock cycle and the structure of Little River Canyon as it relates to the Earth. On a Path to Learning hike, students use observation skills to understand how the geology of the land affects the present ecosystem and how it gives clues about ecosystems of the past.

#### Principles:

- The face of the Earth is constantly changing as rocks move through the rock cycle.
- Rocks can provide information about past environments in an area.
- Human behavior can cause processes such as erosion which affect the earth.
- Humans utilize rocks as natural resources in many ways.

Key terms: geology, rock cycle, metamorphic, sedimentary, igneous, erosion, geologic time, stratigraphy, deposition, soil, crust, mantle, core, nutrient cycle, interdependence, weathering and ground water

#### **BEYOND MY POND**

Pond Study (2<sup>nd</sup> – 4<sup>th</sup>) Easy walk to Orchard Pond

Pond & Creek Study (4<sup>th</sup> – 6<sup>th</sup>) Moderate .5 mile hike to Yellow Creek

River Study (7<sup>th</sup> – 12<sup>th</sup>) Moderate .5 mile hike to Little River

Non-hike options available

Activities: Students will review the water cycle and the importance of freshwater environments to plants and animals. Students will gather and observe life from a pond, creek and/or a river, then

participate in activities to help them better understand these aquatic ecosystems and the effects of human impact upon them.

Principles:

- Ponds, creeks and rivers are part of the water cycle. They are important to all living things.
- Aquatic creatures are diverse and interrelated.
- Aquatic creatures have specialized adaptations for feeding, breathing and moving to help them survive in specific micro-habitats such as at the surface or at the bottom of the water or in a pool or a riffle.
- Human actions can alter the health of a creek, river and pond.

Key Terms: water cycle, food chain, adaptation, nymph, larvae, detritus, pollution, tolerance, tributary, erosion, sediment, species, indicator species, macro-invertebrate, sampling, habitat

### **River Study (Enhanced)**

7<sup>th</sup> Grade & Up

Activities: Through biological sampling and chemical testing of a pristine river, students gain an understanding of water quality parameters, learn how to assess water quality and become aware of the impact that humans can have on waterways.

Principles:

- The physical and chemical properties of water determine what organisms can live there.
- Aquatic creatures have different tolerance levels to pollution based on their physical characteristics and behavior.
- Human actions can alter the chemical and physical properties of a river and thus affect its health.
- Each of us can help to monitor and improve water quality.

Key Terms: aquatic, adaptation, nymph, larvae, species, indicator species, detritus, pollution, tolerance, tributary, erosion, sediment, titration, dissolved oxygen, pH, acid, base, turbidity, water molecule and watershed

### **Woods Walk**

2<sup>nd</sup> Grade & Up

Moderate 1 – 3 mile hike (depends upon grade level and teacher request)

Options: Medicinal and edible plant focus; native species vs. non-endemic species

Activities: Activities that focus on structure, function and identification of native plants that help the student see every plant as a unique living organism. The students will be guided through the forest, studying the interdependence of the living and non-living components.

Principles:

- Plants are important to the forest and to people.
- A plant is composed of specific parts which function together to create a life-supporting system.
- Each plant species has unique physical characteristics (i.e., leaves, bark, shape) that help to identify it.
- Air, water, animals, plants and soil are the continuously recycled, interdependent components of the forest community.

Key Terms: community, photosynthesis, oxygen, carbon dioxide, decomposer, soil, heartwood, sapwood, xylem, phloem, bark, root, lobed, opposite, compound, dichotomous key, deciduous, evergreen

### **Significance of a Tree**

6<sup>th</sup> Grade & Up

1-3 Mile Hike (Teacher preference)

Activities: Students explore the recreational, ecological, and economical use of the forest. Through a hike, discussions, measurement activities, and role playing, students analyze their own values.

Principles:

- A value is the worth of something.
- Different people value different uses of forests.
- Forestry is the science which strives to maintain and develop forests for human use.
- Human use of the forest can have both positive and negative effects on the forest community.

Key Terms: value, habitat, forestry, natural resources, renewable, non-renewable, aesthetic, economic, hardwood, softwood, merchantable, endangered species

### **Walk a Mile in My Moccasins**

3<sup>rd</sup>- 6<sup>th</sup> Grades

Hiking or non-hike options

Options: Native American Games; Native American Tools & Weapons; Native American Arts (Pottery or Weaving); Native American Storytelling

Activities: Hands-on activities including games, crafts, tools, weapons, edible/medicinal plants, and demonstrations to help students understand the sustainability of prehistoric and historic Native American lifestyles.

Principles:

- People depend upon the environment for food, water and shelter.
- Subsistence living requires a great knowledge of nature.
- The Native American lifestyle, which was closely connected to nature, led to a respect for the environment.
- After meeting the basic needs for survival, Native Americans could enjoy the luxuries such as recreation, adornment, and entertainment.

Key Terms: hunter/gatherer, edible, artifact, technology, primitive, prehistoric, sustainable, bluff/rock shelter, debris hut, village, roundhouse, atlatl, migrate, Bering Strait

### **Survival Skills**

3<sup>rd</sup> Grade & Up

Activities: Students will learn skills and strategies for staying safe in a lost wilderness situation. They will build skills in trip planning and preparation, utilization of outdoor equipment and gear, and primitive living skills. Students will use ingenuity and teamwork during the hands-on activities such as shelter building with natural resources, fire building, collecting potable water, and packing a survival kit.

Principles:

- Traveling in the wilderness requires planning, preparation, and proper utilization of equipment.
- Nature can provide anything to meet the human body's basic needs.
- The four important concepts to consider while traveling in the wilderness are preparation/planning, attitude, meeting your needs and knowledge.

Key Terms: survival, prevention, basic needs, debris shelter, itinerary, positive mental attitude (PMA), dehydration, hypothermia, potable, compass, transpiration, microorganisms

### **Nature Journaling**

4<sup>th</sup> Grade & Up

Activities: Inspired by the smells, sounds, textures, and tapestry of nature, students learn to express themselves articulately. Sequenced drawing, sensory awareness, and observation activities help students hone their creative writing skills. Surrounded by forest, creeks, rivers and canyons, even the most reluctant writer finds that words come easily.

Principles:

- Sensory details improve creative and descriptive writing.

- Careful observation brings a new awareness of, knowledge about and perspective on natural objects.
- Both authors and explorers utilize nature journals and art pencils as tools to improve their trade.

Key Terms: nature journal, observation, metaphor, simile, adjective, setting, scene, detail, naturalists, creativity, sketch, outline, original

### **Critter Clues**

3<sup>rd</sup> – 5<sup>th</sup> Grades

Hike and non-hike options

Options: Focus can be on a variety of Alabama animals or specifically toward mammals, birds, reptiles or insects

Activities: Students participate in activities that illustrate animal adaptations. They can take a hike (or participate in an interactive classroom) to find evidence of animals in their habitats, examine animal pelts and skulls, and explore the effects of habitat loss. Students will make decisions about habitat requirements.

Principles:

- A habitat is where an animal obtains food, water and shelter.
- An adaptation is a physical or behavioral attribute that allows an animal to survive in a particular environment.
- Habitat alteration and destruction is the number one problem for wildlife today.

Key Terms: food chain, predator, prey, community, adaptation, habitat, camouflage, niche, extinction, species, scat, track, wings, scales, fur, feathers

### **Hiss & Sslither**

All grades

Hike and non-hike options

Activities: Students participate in a hands-on experiential learning hour about herpetology (amphibians and reptiles). Students meet live non-venomous snakes. Optional: Students participate in a “fake snake” hike to increase observation skills.

Principles:

- Identify different reptile and amphibian species and their characteristics.
- Learn about the selection, care, needs of herps and basic principles of herp behavior.
- Demonstrate movement of species.
- Explore the behavioral and chemical defense of reptiles and amphibians.

Key Terms: vertebrate, cold blooded, life cycle, venomous, non-venomous, Jacobson’s organ, fangs, unhinged jaw, adaptation, camouflage, estivate, endangered species, indicator species, habitat, predator, prey

### **Birds of Prey**

All grades

Hike and non-hike options

Activities: Students participate in a hands-on experiential learning hour focused on ornithology and birds of prey in particular. Students study feathers, skulls, beaks, feet, bones, scat and pellets. Optional (and as available): Students meet a live bird of prey. Optional: Students participate in a bird identification hike. Optional: Students dissect owl pellets and report on the type of prey the owls are eating.

Principles:

- Identify different bird species and their characteristics.
- Learn about the needs of birds and basic principles of bird behavior.
- Demonstrate movement of species.
- Explore the behavioral and chemical defense of birds.

-Discuss adaptations of several unique bird species.

Key Terms: Flight, sedentary, wings, feathers, talons, beak, egg, molt, plumage, nest, predator, prey, insectivore, carnivore, herbivore, warm blooded, pellet, scat

### **Insect Safari**

3<sup>rd</sup> – 5<sup>th</sup> Grades

Outdoor/easy walk

Activities: Through discovery-oriented explorations of habitats, students collect and study insects in their natural setting. Students use sweep nets, collecting jars and magnifying equipment.

Principles:

- Insects are amazing in their adaptations and abundance.
- Most small creatures are harmless to humans.
- These animals play invaluable roles in ecological processes such as decomposition and pollination.

Key Terms: niche, adaptation, head, thorax, abdomen, invertebrate, arthropod, arachnid, decomposer, pollinator, herbivore, predator, species, venomous, poisonous

### **Bibbity Bobbity Bugs**

PreK-2<sup>nd</sup> Grades

Outdoor/easy walk

Activities: Students are led on an insect identification hike that includes live bugs and fake bugs. Creative drama activities are woven into the science so that the children are taught about the movement and sounds of insects through experiential play.

Principles:

- Insects are amazing in their adaptations and abundance.
- Most small creatures are harmless to humans.
- These animals play invaluable roles in ecological processes such as decomposition and pollination.

Key Terms: insect, arachnid, wings, legs, head, abdomen, thorax, stinger, pollen, flowers, color, camouflage

### **Teddy Bear Hike**

Pre-K to 2<sup>nd</sup> Grade

Activities: Students take an easy hike along a trail with a naturalist. Toy (but realistic) stuffed animals have been placed along the trail in natural poses. The students stop at each animal and are asked a series of questions and then told a story about the animal.

Principles:

- Many animals only come out at night.
- Most animals leave clues that they have been active in the forest
- Animals need food, water and shelter.
- Animals are connected to the forest in many ways.

Key Terms: mammal, bird, reptile, insect, fish, amphibian, camouflage, track, scat, carnivore, herbivore, omnivore, various animal calls (growl, bleat, bark, chirp, song)

### **Walk on the Wild Side**

All ages

Hikes from 1 – 4 miles

Activities: During this class, students gain the opportunity to interact with professional naturalists to visit unique trails during a hike through the forest. Topics, just like flora and fauna, will change with

the seasons. This can be an exciting option for allowing students to learn naturalist skills such as identifying plants, critters, tracks, and scat.

Principles:

- Being mentored by a professional naturalist or biologist offers the students an opportunity to careers in the field
- Using a dichotomous key or field guide to identify plants
- Using a field guide to hypothesize which animals left tracks and/or scat on the trail
- Using observation skills

Key Terms: classification, diversity, habitat, identification, niche, adaptations, camouflage, scat, track, rub, scrape, den, nest, etc.

### **Orienteering**

6<sup>th</sup> & Up

Activities: In a field group, students will utilize a map and compass for an adventure through the forest, off-trail. Each student will use their own skills to find a direct bearing from one point to another.

Principles:

- Topographic maps are models which represent 3D landscape
- An understanding of scale, map orientation, and landforms are all important in the use of a topographic map
- Close observation to detail is key to using a topographic map
- There are many different leadership styles and everyone in the group is a valuable resource
- Listening to others, cooperation and inclusion are crucial to problem-solving

Key Terms; scale, symbol, legend, landmark, distance, cardinal directions, orient, compass rose, housing, direction, description, details, designation, contour lines, pacing, declination

### **Canoeing & Kayaking**

6<sup>th</sup> & up

JSU Field Schools partner with two outdoor adventure guide organizations: One World Adventure Company (Little River in Mentone) and Terrapin Creek Outdoor Center (Terrapin Creek in Piedmont)

Activities: Few outdoor activities are more fun than canoeing a placid stream through rock bluffs and amidst a natural habitat. Canoeing and kayaking builds teamwork and communication skills. All participants wear life jackets and stay within site of two or more trained instructors. Interpretation of flora and fauna is part of this experience.

Skills:

- Learn and follow the basics of water safety
- Learn the name, function and care of the equipment
- Practice basic strokes and maneuvers
- Identify basic components of flora and fauna in a river habitat

### **Enhancing Observation Skills through Fairy Houses**

PreK- Grey (All ages)

*This program has received national and international recognition.*

#### **Activity: Building Fairy Houses and Enhancing Observation Skills**

What is a Fairy House?

Fairy Houses are tiny constructed homes for the fairies and nature's friends to visit. Twigs, tree bark, dry grasses, little pebbles, dried shells, naturally shed feathers, dried seaweed, pine cones and nuts are a few of the items that can be used. Ranging from rustic to intricate 'Fairy Mansions', these

enchancing habitats are built by children, families, gardeners and nature lovers reflecting their creativity, joy and pride. The simple challenge of creating a home for a fairy gives children a unique activity that encourages them to go outside and connect with the natural world, nurturing care and respect for the environment.

*No child but must remember laying his head in the grass, staring into the infinitesimal forest and seeing it grow populous with fairy armies. ~Robert Louis Stevenson, Essays in The Art of Writing*  
Concept:

The activity of building fairy houses offers unique opportunities for cross-curricula education. While children are fully engaged with building a fairy house they are stimulated in many ways – creating, observing, collecting, exercising, communicating and imagining – all while having lots of fun. It's a win-win situation for both child and educator. Expanded environmental education (EE) will also help boost academic achievement. A number of studies have found that students who take part in environmentally themed lessons perform better in science and other subjects.

*Wind chimes in your yard will serenade garden creatures - squirrels, fairies and angels.  
It's easy to believe in magic when you're young. Anything you couldn't explain was magic then. It didn't matter if it was science or a fairy tale. Electricity and elves were both infinitely mysterious and equally possible - elves probably more so. ~Charles de Lint*

Narrowing Curriculum:

Many schools have responded to the requirements of the federal No Child Left Behind law by sacrificing subjects such as EE so that they can focus on seemingly more important subjects required by testing, such as reading and math. A 2008 study by the Center on Education Policy documented the problem. It found that many school districts have significantly reduced the amount of class time spent on such subjects as social studies and science. Many teachers and parents also report that field trips and time devoted to outdoor learning activities have been cut. The No Child Left Inside Act would help address this problem by giving new incentives and support to school systems to provide EE. The Act also recognizes that high-quality environmental education often requires students to use math, reading, science and writing skills as they pursue engaging activities.

Alabama's Environmental Literacy Plan (ELP)

The Environmental Education Association of Alabama (EEAA) is currently working with the State Department of Education to create an ELP for the state which will incorporate EE into the formal curriculum. As many teachers who have taught for more than a decade would say, "The state curriculum revolves in a circle and we learn as we journey. Science and EE have been sacrificed for a season, but the season is coming when EE will dominate the formal curriculum. We believe teachers need to prepare for an EE revolution. It will be a good day for students and teachers alike."

*A scientist in his laboratory is not a mere technician:  
he is also a child confronting natural phenomena that impress him  
as though they were fairy tales.  
-Marie Curie*

A National Problem

"Let's Move Outside" is a federal program designed to help children become healthier and more involved in nature and outdoor activities. It highlights a national recognition of problems with childhood obesity and their disconnect with the outdoors. Richard Louv's book, "Last Child in the Woods," concludes that many children are becoming alienated from nature, suffering from what he terms "nature-deficit disorder." When Richard Louv interviewed Renee Morrison's son in 2008 for his book, *Got Dirt? Beyond the Nature Deficit Disorder*, Louv said, "teenager Josh Morrison founded GEEKs in the Woods for his friends and fellow geeks everywhere. He defines "geek" as a "gaming environmentally educated kid," and says he and his friends -- "tired of being labeled" tech addicts -- can have their PlayStations and their outdoor time too: "We could be the generation that makes a U-turn back to...a balance between virtual reality and what sustains all life...nature."

*The fairies went from the world, dear,  
Because men's hearts grew cold:  
And only the eyes of children see*

*What is hidden from the old...*  
~Kathleen Foyle

#### Educator Participant Comments

Building Fairy Houses is proving very popular with many schools throughout the state:

*What do I see in my students' sparkling eyes during the fairy houses activity? I see pride, excitement, learning and fun!*

Fourth Grade Teacher

*The activity of creating fairy habitats engages children's imaginations and rekindles interest in the natural world. A pine cone becomes a tree, pieces of bark become a roof, a shell becomes a bathtub, acorn caps become dishes. Will they get a visitor? Perhaps a chipmunk, frog or butterfly...and of course the potential for fairy guests!*

First Grade Teacher

*The students enjoyed the activity immensely. The only issue we had was getting them to stop creating. It is a rare thing to see K-6 graders so involved in something that is not related to electronics.*

Elementary School Principal

*We built our fairy village in our outdoor classroom area over a period of six weeks. Every day we'd take a few minutes to work on the houses, improve and enhance them or repair small damage done in the night (by the fairies that used them, of course). During this time the students wrote letters to the fairies in a journal. We noticed an increase in the students' concentration skills and their overall grades improved.*

Sixth Grade Teacher

*Fairy House programs have inspired an enormous variety of activities in our school, including nature walks, artwork, sorting, creative drama, collecting, reading, writing, math and science activities, web browsing, and best of all...cooperating! I am still hearing fairy house stories every day from students, parents and teachers!*

Media Specialist

*We are seeking funding to hire a full time educator at our nature center whose primary focus will be to implement Nature Observation through Fairy Houses for our PreK- 6 student groups, special groups, and general public. We haven't found a better curriculum for getting children (and adults!) involved in scientific exploration and creative thought.*

Director of Auburn University Forest Ecology Center

#### Objectives:

Encourage children (and parents) to get kids outside and connected with nature; a catalyst for curiosity; teaching focus skills and methods of creative processing; enhancing communication skills; improving teamwork skills.

#### Supplies:

Only natural materials; be respectful to living things (such as ferns, moss, flowers, etc)...fairies are careful not to harm living things.

Simple Activity- children use ONLY what they find in the area selected for building fairy houses

Enhanced Activity- Children bring a small bag of their own unique natural materials (feathers, shells, clay, seeds, dried flowers, picked garden flowers, etc) from home or educator supplies "enhancement" objects to group.



Location:

Fairy Houses can take many forms and can be created in many different places. Find a quiet place away from roads or busy pathways. The base of a tree or the side of a rock could be just right. Close to the ground is usually best. Sometimes you may find a special place in the low branches of a tree or bush. Many fairy houses look so natural that they are almost hidden.

Getting Started:

Ask students to hold up their pointing finger. Encourage them to imagine that they are the same size as that finger. Where would they live? What would they need in their habitat?

Steps for Building

1. Allow the children (working in small groups or individually) to select a safe location for their house.
2. Encourage children to gather natural materials from the area (without disturbing living things).
3. For enhanced activity: After students have gotten a good start by utilizing found objects, allow them to select a few "extra objects" that you or they have brought to place in and on their creations.
4. Call time (10 minutes, 5 minutes, 1 minute...stop); gather the students together and visit each house as a group. Allow the builders to tour the group through their creation. Teachers are amazed at the creativity revealed during these tours. Take photographs of each house (macro) and each house with the builders.
5. If possible, revisit the fairy house the day after construction. Look for "visitors" such as ants, frogs, bees, dragonflies, lady bugs, etc. These little creatures are fairy spies...sent to investigate the houses to see if the fairies might want to visit. Often there is some "damage" to the house...children will usually explain that the damage is due to the fairy visit during the night.
6. Optional: some educators leave tokens of appreciation in the houses for the students to find the next day...items such as a glass pebble (dragon's tear), charms, foreign coins, dollhouse items (tiny cups, tiny dice, tiny books)

Other Activities:

Creative Writing: Letters to fairies; poetry; plays; descriptive essays (a popular theme is "What happened when the fairies visited my house...")

Math: graphs, measurements, shapes

Science: research the objects that were found and used as part of the fairy house; research the creature visitors who visited the houses; identify the types of trees, rocks, plants, etc. in the area where the houses are built

Art: drawing, collages, photography, sculpting, architectural design, construction and balance

Other Resources:

[www.fairyhouses.com](http://www.fairyhouses.com)

The published works of Tracy Kane:

*Fairy Houses*

*Fairy Houses and Beyond*

*Kristen's Fairy House DVD*

Fairy Tale: A True Story (1997) DVD

The Borrowers (1973) DVD

The works of Tasha Tudor:

Take Joy DVD

Take Peace DVD

## **Fairy Workshops support the Alabama Curriculum for Science, Literature, Oral and Visual Communication and Extended Standards K-5.**

### **Kindergarten Content**

#### Earth & Space Science

10. Identify objects observed in the day sky with the unaided eye, including the sun, clouds, moon, and rainbows.

Objective K.10.1: Identify the sun and clouds in the day sky.

Objective K.10.2: Describe a rainbow.

### **First Grade Content**

#### Literature

6. Recognize a variety of narrative text forms, including fairy tales, adventure stories, and poetry.

- Identifying characters, settings, problems, and solutions in a variety of texts
- Comparing story elements through text-to-text connections

7. Use the basic features of informational text to distinguish fact from fiction.

Examples: captions, headings, table of contents

#### Writing & Language

8. Use complete sentences to address a topic or tell a story.

- Using graphic organizers to outline content
- Rereading to make revisions
- Editing for spelling, punctuation, and capitalization
- Publishing final draft
- Using descriptive, narrative, and expository modes of writing
- Writing simple poems addressing a topic

#### Research & Inquiry

12. Collect information from print and nonprint resources to investigate a teacher- or student-selected topic.

Examples: nonfiction books, videos, resource persons, interviews, Web-based sources, dictionaries

- Generating oral and written questions to gather information
- Using parts of a book to locate information
- Using alphabetical order to the first letter to access information
- Interpreting information from simple charts, maps, graphs, and directions

#### Oral & Visual Communication

13. Listen for meaning in conversations and discussions, including looking at the speaker without interrupting.

- Following two- and three-part oral directions
- Making connections to literature read aloud

Examples: text-to-text, text-to-self, text-to-world

14. Use appropriate intonation when speaking and interacting with others.

- Using grammar and word choice appropriate for a specific audience
- Reciting poems, rhymes, songs, and stories
- Demonstrating the ability to take turns in a conversation
- Expanding vocabulary reflective of a growing range of interests and knowledge
- Using pictures, objects, music, and computer resources to present information
- Using the writing process to prepare oral presentations

#### Physical Science

2. Identify basic properties of objects.

Examples: size, shape, color, texture

Objective 1.2.1: Describe the shape, size, and texture of objects using the terms *big*, *little*, *soft*, *hard*, *round*, *square*, *rough*, and *smooth*.

Objective 1.2.2: Classify objects according to size.

Objective 1.2.3: Classify objects according to color.

#### Life Science

4. Describe survival traits of living things, including color, shape, size, texture, and covering.

Objective 1.4.1: List ways plants and animals protect themselves.

Objective 1.4.2: Identify basic needs of plants and animals, including air, water, food, and shelter.

Objective 1.4.3: Categorize plants and animals by color, shape, size, texture, and covering.

Additional content to be taught:

- Classifying plants and animals according to physical traits

Examples: animals—six legs on insects,  
plants—green leaves on evergreen trees

- Identifying developmental stages of plants and animals

Examples: plants—seed developing into seedling, seedling developing into tree;

animals—piglet developing into pig, kid developing into goat  
• Describing a variety of habitats and natural homes of animals

#### Earth & Space Science

7. Identify components of Earth's surface, including soil, rocks, and water.

Objective 1.7.1: Differentiate between soil and rocks.

Objective 1.7.2: Illustrate components of Earth's surface, including soil, rocks, and water..

8. Recognize daily changes in weather, including clouds, precipitation, and temperature.

Objective 1.8.1: Define precipitation and temperature.

Objective 1.8.2: Identify rain, snow, and hail as forms of precipitation.

Objective 1.8.3: Identify appropriate clothing for different types of weather.

Objective 1.8.4: Describe seasonal changes in the weather.

Additional content to be taught:

• Recognizing instruments used to observe weather

Examples: thermometer, rain gauge, wind sock, weather vane

• Recording weather data using weather journals, charts, and maps

9. Identify ways to conserve Earth's resources.

Example: turning off lights and water when not in use

Objective 1.9.1: Define conserve.

Objective 1.9.2: Identify the sun, water, and wind as examples of Earth's resources.

10. Describe uses of recycled materials.

Examples: manufacture of paper products from old newspapers, production of mulch from trees

Objective 1.10.1: Define recycle.

Objective 1.10.2: List materials that can be recycled.

11. Compare the day sky to the night sky as observed with the unaided eye.

Objective 1.11.1: Identify the moon and stars as objects in the night sky.

Objective 1.11.2: Identify the sun, clouds, and rainbows as objects in the day sky.

### Second Grade

#### Literature

6. Differentiate among folktales, tall tales, fables, realistic fiction, and other narrative texts.

• Recognizing the author's purpose or intent in a variety of texts

• Inferring the main idea and supporting details in narrative texts

• Summarizing the plot and characters' actions and motivations in narrative texts

• Recognizing morals and lessons in narrative texts

#### Writing & Language

8. Organize sentences into a paragraph to address a topic or tell a story.

• Sorting information using graphic organizers

• Generating a topic sentence and a concluding sentence in a paragraph

• Drafting a written piece, including an introductory paragraph and a concluding paragraph

• Editing for spelling, punctuation, capitalization, and sentence variety

• Publishing final draft

• Using descriptive, narrative, and expository modes of writing

• Writing free verse poetry to express ideas

#### Oral & Visual Communication

14. Respond to various types of literature read aloud.

• Focusing attention on a speaker without interrupting

• Following multistep oral directions

• Interpreting presented information

15. Select appropriate voice tone, gestures, and facial expression to enhance meaning.

• Using active listening skills

Example: "Stop, Look, and Listen" technique

• Retelling stories and events in logical order

• Remaining on topic when speaking

• Using visual aids, props, and technology in oral presentations

Examples: poster, puppet, slideshow

• Using appropriate grammar and word choice in oral presentations and in conversations

#### Physical Science

2. Identify vibration as the source of sound.

Objective 2.2.1: Relate a variety of sounds to their sources, including weather, animal, and transportation sounds.

Objective 2.2.2: Identify different sounds produced by vibrations in the environment.

Examples: rustling sound of leaves caused by blowing wind, buzzing sound of bees

caused by rapid wing movement, whirring sound of helicopters caused by

rotation of propellers

Additional content to be taught:

- Identifying pitch and volume as properties of sound
- Distinguishing between pitch and volume of sound

Life Science

5. Identify the relationship of structure to function in plants, including roots, stems, leaves, and flowers.

Objective 2.5.1: Identify plant roots, stems, leaves, and flowers, including how they benefit the plant.

Objective 2.5.2: Identify plant needs for growth.

6. Identify characteristics of animals, including behavior, size, and body covering.

Objective 2.6.1: Identify animal behaviors and characteristics that help them survive.

Objective 2.6.2: Describe physical traits of animals, including color, shape, and size.

Additional content to be taught:

- Comparing existing animals to extinct animals
- Examples: iguana to stegosaurus, elephant to woolly mammoth
- Identifying migration and hibernation as survival strategies

### Third Grade

Literature

5. Compare poetry, folktales, and fables in respect to their genre characteristics.

6. Recognize linguistic and cultural similarities and differences in multicultural literature.

Examples: regional dialects, clothing, food, games

7. Compare fictional characters and events to real-life experiences.

Example: relating hardships faced by early settlers in literature to hardships faced by families today

8. Use text features to guide interpretation of expository texts, including italics, headings, maps, and charts.

Examples: social studies—locating physical features on a map science—interpreting weather data from charts and tables

- Interpreting the author's purpose or intent in a given text

Oral and Visual Communication

13. Demonstrate the ability to follow multistep oral directions.

14. Demonstrate eye contact, articulation, and appropriate voice intonation with oral narrative presentations.

- Using dramatizations with oral descriptive presentations
- Using figurative language to enhance oral communication

Examples: simile, onomatopoeia, metaphor, alliteration

- Utilizing precise vocabulary in oral presentations

Examples: *exceptional* instead of *good*, *brilliant* instead of *smart*

### Fourth Grade

Oral and Visual Communication

13. Demonstrate eye contact, articulation, and appropriate voice intonation with descriptive presentations.

- Using demonstrations with oral expository presentations
- Using figurative language to enhance oral communication

Examples: simile, metaphor, onomatopoeia, personification

- Utilizing precise vocabulary in oral presentations

Examples: *leap* instead of *jump*, *miniature* instead of *little*

14. Identify strategies of a skillful listener, including attending to the listening task and assigning meaning to the message.

### Fifth grade

Oral & Visual Communication

12. Demonstrate eye contact, articulation, and appropriate voice intonation with expository presentations.

- Using dramatizations with oral persuasive presentations

Examples: role play, Reader's Theater

- Using figurative language found in literature to enhance oral communication

Examples: personification, idiom, metaphor, simile, hyperbole, onomatopoeia, alliteration, symbolism

13. Apply strategies of a skillful listener, including maintaining eye contact, attending to the listening task, and assigning meaning to the message.

