



## ZooMobile Outreach Programs

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**◀ ZooMobile: Beastly Basics ▶**

◀ **Subject/Course:** Science  
◀ **Grades:** Kindergarten

**Stage 1-Desired Results**

**Established Goals:**

- **SKL1.** Students will sort living organisms and non-living materials into groups by observable physical attributes. **a.** Group animals according to their observable features, such as appearance, size, motion, where they live, etc. (Example: A green frog has four legs and hops. A rabbit also hops.)
- **SKL2.** Students will compare the similarities and differences in groups of organisms. **a.** Explain the similarities and differences in animals (color, size, appearance, etc.).
- **SKP2.** Students will investigate different types of motion. **a.** Sort objects into categories according to their motion (straight, zigzag, round and round, back and forth, fast and slow, and motionless).

**Understandings:**  
**Students will understand that ...**

- Animals have basic needs they must meet in order to survive.
- Animals have different ways of getting their food
- Animals have different ways of finding shelter for themselves and their young
- Humans can help animals meet their basic needs in their backyards and schoolyards.

**Essential Questions:**

- What do animals need in order to survive?
- How do different animals get their food?
- How do different animals find shelter for themselves or their young?
- What can we do to help local animals survive?

**Students will know...**

- Animals need food, water, air and shelter in order to survive.
- Animals gather, chase, or ambush to get their food.
- For shelter, many animals live in under items or in trees.
- Humans can help local animals meet their basic needs by adding shelter, food, and water sources to their backyards and schoolyards.
- Humans can also walk, bike, or carpool to reduce air pollution to ensure animals have clean air to breathe.

**Students will be able to...**

- Name the four basic needs of animals.
- Describe different ways animals obtain their food.
- Describe different ways animals find shelter for themselves or their young.
- Explain how they can help local animals meet their basic needs.



<b>Key Words:</b> <ul style="list-style-type: none"> <li>• Shelter</li> <li>• Ambush</li> <li>• Burrow</li> </ul>	
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**◀ ZooMobile: Beastly Basics ▶**

<b>◀ Subject/Course:</b> Science	
<b>◀ Grades:</b> 1 <sup>st</sup> Grade	

**Stage 1-Desired Results**

<b>Established Goals:</b> <ul style="list-style-type: none"> <li>• <b>S1L1.</b> Students will investigate the characteristics and basic needs of plants and animals.           <ul style="list-style-type: none"> <li>a. Identify the basic needs of an animal.               <ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Food</li> <li>• Shelter</li> </ul> </li> <li>b. Compare and describe various animals - appearance, motion, growth, basic needs.</li> </ul> </li> <li>• <b>S1CS7.</b> Students will understand important features of the process of scientific inquiry. Students will apply the following to inquiry learning practices:           <ul style="list-style-type: none"> <li>a. Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them.</li> </ul> </li> </ul>	
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<b>Understandings:</b> <b>Students will understand that ...</b> <ul style="list-style-type: none"> <li>• Animals have basic needs they must meet in order to survive.</li> <li>• Animals have different ways of getting their food</li> <li>• Animals have different ways of finding shelter for themselves and their young.</li> <li>• Humans can help animals meet their basic needs in their backyards and schoolyards.</li> </ul>	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>• What do animals need in order to survive?</li> <li>• How do different animals get their food?</li> <li>• How do different animals find shelter for themselves or their young?</li> <li>• What can we do to help local animals survive?</li> </ul>
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<b>Students will know...</b> <ul style="list-style-type: none"> <li>• Animals need food, water, air and shelter in order to survive.</li> <li>• Animals gather, chase, or ambush to get their food.</li> <li>• For shelter, many animals live in or under items or in trees.</li> <li>• Humans can help local animals meet their basic needs by</li> </ul>	<b>Students will be able to...</b> <ul style="list-style-type: none"> <li>• Name the four basic needs of animals.</li> <li>• Describe different ways animals obtain their food.</li> <li>• Describe different ways animals find shelter for themselves or their young.</li> <li>• Explain how they can help local</li> </ul>
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<p>adding shelter, food, and water sources to their backyards and schoolyards.</p> <ul style="list-style-type: none"> <li>• Humans can also walk, bike, or carpool to reduce air pollution to ensure animals have clean air to breathe.</li> </ul> <p><b>Key Words:</b></p> <ul style="list-style-type: none"> <li>• Shelter</li> <li>• Ambush</li> <li>• Burrow</li> </ul>	<p>animals meet their basic needs.</p>
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## ◀ ZooMobile: Beastly Basics ▶

<p>◀ <b>Subject/Course:</b> Science</p> <p>◀ <b>Grades:</b> 2<sup>nd</sup> Grade</p>	
<div style="border: 1px solid black; width: 100%; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); margin-bottom: 5px;"></div> <h3 style="margin: 0;">Stage 1-Desired Results</h3>	
<p><b>Established Goals:</b></p> <ul style="list-style-type: none"> <li>• <b>S2CS4.</b> Students will use the ideas of system, model, change and scale in exploring scientific and technological matters. <b>a.</b> Compare very different sizes, weights, ages (baby/adult) and speeds (fast/slow) of both human-made and natural things.</li> <li>• <b>S2CS5.</b> Students will communicate scientific ideas and activities clearly.             <ul style="list-style-type: none"> <li><b>a.</b> Describe and compare things in terms of number, shape, texture, size, weight, color, and motion.</li> </ul> </li> <li>• <b>S2CS7.</b> Students will understand important features of the process of scientific inquiry. Students will apply the following to inquiry learning practices: <b>a.</b> Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them.</li> </ul>	
<p><b>Understandings:</b>  <b>Students will understand that ...</b></p> <ul style="list-style-type: none"> <li>• Animals have basic needs they must meet in order to survive.</li> <li>• Animals have different ways of getting their food.</li> <li>• Animals have different ways of finding shelter for themselves and their young.</li> <li>• Humans can help animals meet their basic needs in their backyards and schoolyards.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• What do animals need in order to survive?</li> <li>• How do different animals get their food?</li> <li>• How do different animals find shelter for themselves or their young?</li> <li>• What can we do to help local animals survive?</li> </ul>
<p><b>Students will know...</b></p> <ul style="list-style-type: none"> <li>• Animals need food, water, air and shelter in order to survive.</li> </ul>	<p><b>Students will be able to...</b></p> <ul style="list-style-type: none"> <li>• Name the four basic needs of animals.</li> </ul>

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<ul style="list-style-type: none"> <li>Animals gather, chase, or ambush to get their food.</li> <li>For shelter, many animals live in or under items or in trees.</li> <li>Humans can help local animals meet their basic needs by adding shelter, food and water sources to their backyards and schoolyards.</li> <li>Humans can also walk, bike, or carpool to reduce air pollution to ensure animals have clean air to breathe.</li> </ul> <p><b>Key Words:</b></p> <ul style="list-style-type: none"> <li>Shelter</li> <li>Ambush</li> <li>Burrow</li> </ul>	<ul style="list-style-type: none"> <li>Describe different ways animals obtain their food.</li> <li>Describe different ways animals find shelter for themselves or their young.</li> <li>Explain how they can help local animals meet their basic needs.</li> </ul>
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## ◀▶ ZooMobile: Georgia Goes Wild ▶◀

▶◀ <b>Subject/Course:</b> Science, Social Studies, English/Language Arts ▶◀ <b>Grade:</b> 3 <sup>rd</sup> Grade	
<h3 style="margin: 0;">Stage 1-Desired Results</h3>	
<p><b>Established Goals:</b></p> <p><b>Science:</b></p> <ul style="list-style-type: none"> <li><b>S3L1.</b> Students will investigate the habitats of different organisms and the dependence of organisms on their habitat. <b>a.</b> Differentiate between habitats of Georgia (mountains, marsh/swamp, coast, Piedmont, Atlantic Ocean) and the organisms that live there. <b>b.</b> Identify features of animals that allow them to live and thrive in different regions of Georgia.</li> <li><b>S3L2.</b> Students will recognize the effects of pollution and humans on the environment. <b>a.</b> Explain the effects of pollution (such as littering) to the habitats of plants and animals. <b>b.</b> Identify ways to protect the environment: conservation of resources and recycling of materials.</li> <li><b>SS3G1</b> The student will locate major topographical features of the United States of America. <b>a.</b> Identify major mountain ranges of the United States: Appalachian, Rocky.</li> </ul> <p><b>Language Arts: Listening/Speaking/Viewing</b></p> <ul style="list-style-type: none"> <li><b>ELA3LSV1</b> The student uses oral and visual strategies to communicate. The student: <b>a.</b> Listens to and views a variety of media to acquire information.</li> </ul>	
<p><b>Understandings:</b>  <b>Students will understand that ...</b></p> <ul style="list-style-type: none"> <li>Georgia can be divided into different physiographic</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>What does each physiographic region of</li> </ul>



<p>regions.</p> <ul style="list-style-type: none"><li>• Animals have certain adaptations that help them survive where they live.</li><li>• Not all hibernating animals are true hibernators.</li><li>• Everyone can help protect wild animals where they live.</li></ul>	<p>Georgia look like?</p> <ul style="list-style-type: none"><li>• What region do I live in?</li><li>• How are Georgia animals adapted to where they live?</li><li>• What is the difference between true and partial hibernation?</li><li>• How can I help protect wildlife in Georgia?</li></ul>
<p><b>Students will know ...</b></p> <ul style="list-style-type: none"><li>• Georgia's physiographic regions – the Mountains, Ridges and Valleys; the Piedmont; the Upper Coastal Plain and the Lower Coastal Plain – are significantly different in elevation and soil type.</li><li>• Hibernation (true or partial) helps an animal protect itself from winter temperatures.</li><li>• Living in a burrow provides an animal with protection from both predators and temperature changes.</li><li>• Individuals can make simple changes to help provide habitat for native animals in their backyards and schoolyards.</li></ul> <p><b>Key Words:</b></p> <ul style="list-style-type: none"><li>• <b>Mountains, Ridges &amp; Valleys</b></li><li>• <b>Piedmont</b></li><li>• <b>Upper Coastal Plain</b></li><li>• <b>Lower Coastal Plain</b></li><li>• <b>Adaptation</b></li><li>• <b>True hibernation</b></li><li>• <b>Partial hibernation</b></li></ul>	<p><b>Students will be able to...</b></p> <ul style="list-style-type: none"><li>• Name and describe the physiographic regions of Georgia.</li><li>• Identify which region of Georgia they live in.</li><li>• Explain some ways animals are adapted to the region where they live.</li><li>• Differentiate between true and partial hibernation.</li><li>• Explain how they can provide habitat - places to live and food to eat - for animals in their region.</li></ul>



◀▶ ZooMobile: Georgia Goes Wild ▶◀

◀▶ **Subject/Course:** Science, Social Studies, English/Language Arts  
 ▶▶ **Grade:** 4<sup>th</sup> Grade

**Stage 1-Desired Results**

**Established Goals:**

- **S4L2.** Students will identify factors that affect the survival or extinction of organisms, such as adaptation, variation of behaviors (hibernation) and external features (camouflage and protection). **a.** Identify external features of organisms that allow them to survive or reproduce better than organisms that do not have these features (e.g. camouflage, use of hibernation, protection, etc.).
- **SS4G1.** The student will be able to locate important physical and man-made features in the United States **a.** locate major physical features of the United States, including Atlantic Coastal Plain; Great Plains; Continental Divide; The Great Basin; Death Valley; Gulf of Mexico; St. Lawrence River; and the Great Lakes.

**Understandings:**  
**Students will understand that ...**

- Georgia can be divided into different physiographic regions.
- Animals have certain adaptations that help them survive where they live.
- Not all hibernating animals are true hibernators.
- Everyone can help protect wild animals where they live.

**Essential Questions:**

- What does each physiographic region of Georgia look like?
- What region do I live in?
- How are Georgia animals adapted to where they live?
- What is the difference between true and partial hibernation?
- How can I help protect wildlife in Georgia?

**Students will know...**

- Georgia's physiographic regions – the Mountains, Ridges and Valleys; the Piedmont; the Upper Coastal Plain and the Lower Coastal Plain – are significantly different in elevation and soil type.
- Hibernation (true or partial) helps an animal protect itself from winter temperatures.
- Living in a burrow provides an animal with protection from both predators and temperature changes.
- Individuals can make simple

**Students will be able to...**

- Name and describe the physiographic regions of Georgia.
- Identify which region of Georgia they live in.
- Explain some ways animals are adapted to the region where they live.
- Differentiate between true and partial hibernation.
- Explain how they can provide habitat - places to live and food to eat - for animals in their region.



<p>changes to help provide habitat for native animals in their backyards and schoolyards.</p> <p><b>Key Words:</b></p> <ul style="list-style-type: none"> <li>• <b>Mountains, Ridges &amp; Valleys</b></li> <li>• <b>Piedmont</b></li> <li>• <b>Upper Coastal Plain</b></li> <li>• <b>Lower Coastal Plain</b></li> <li>• <b>Adaptation</b></li> <li>• <b>True hibernation</b></li> <li>• <b>Partial hibernation</b></li> </ul>	
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**◀ ZooMobile: What Vertebrate Am I? ▶**

<p>◀ <b>Subject/Course:</b> Science, English/Language Arts</p> <p>◀ <b>Grade:</b> 5th Grade</p>	
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**Stage 1-Desired Results**

<p><b>Established Goals:</b></p> <ul style="list-style-type: none"> <li>• <b>ELALSV1</b> – The student participates in student-to-teacher, student-to-student, and group verbal interactions. <b>a.</b> Responds to questions with appropriate information. <b>b.</b> Volunteers contributions and responds when directly solicited by teacher or discussion leader. <b>c.</b> Gives reasons in support of opinions expressed.</li> <li>• <b>S5L1</b> – Students will classify organisms into groups and relate how scientists determined the groups and why scientists use classification. <b>a.</b> Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal).</li> </ul>	
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<p><b>Understandings:</b>  <b>Students will understand that ...</b></p> <ul style="list-style-type: none"> <li>• Mammals and reptiles have different coverings.</li> <li>• Mammals and reptiles have different ways of providing for their young.</li> <li>• Mammals and reptiles have different ways of regulating their body temperature.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• What are the differences between mammals and reptiles?</li> <li>• How does a mammal’s fur help it survive?</li> <li>• How does a reptile’s scales help it survive?</li> <li>• How does a mammal regulate its body temperature?</li> <li>• How does a reptile regulate its body temperature?</li> <li>• How do we know humans are mammals?</li> </ul>
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<p><b>Students will know...</b></p>	<p><b>Students will be able to...</b></p>
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- Mammals are characterized by:
    - fur or hair
    - making milk for their young
    - being endotherms
    - most having live birth
  - A mammal's fur can help the mammal keep warm, keep dirt out of its eyes, and if sharp, can be used for protection.
  - Reptiles are characterized by:
    - scales
    - not being able to make milk for their young
    - being ectotherms
  - A reptile's scales can protect it from rough surfaces, predators' bites, or germs outside its body.
  - A mammal must maintain a constant body temperature.
  - A reptile's temperature fluctuates (within a certain range).
  - A mammal eats more often than a reptile because it needs more energy to keep its body a certain temperature.
  - A reptile regulates its body temperature using its environment.
  - Human beings are mammals.
- Name 3 differences between mammals and reptiles.
  - Define the terms endotherm and ectotherm.
  - Give examples of mammals and reptiles.
  - Identify an animal as a mammal or a reptile and explain how they made their decision.
  - Explain why humans are classified as mammals.

## Key Words:

- **mammal**
- **reptile**
- **endotherm**
- **ectotherm**



◀▶ ZooMobile: Creature Connections ▶◀

◀▶ Subject/Course: Science

◀▶ Grades: 6<sup>th</sup>-8<sup>th</sup> Grades

Stage 1-Desired Results

**Established Goals:**

- **S6E5.** Students will investigate the scientific view of how the earth’s surface is formed. **a.** Describe methods for conserving natural resources, such as water, soil and air.
- **S6CS5.** Students will use the ideas of system, model, change and scale in exploring scientific and technological matters. **a.** Observe and explain how parts are related to other parts in systems, such as weather systems, solar systems, and ocean systems, including how the output from one part of a system (in the form of material, energy, or information) can become the input to other parts. (For example: El Nino’s effect on weather.)
- **S6CS10.** Students will enhance reading in all curriculum areas by:
  - a.** Building vocabulary knowledge
    - Demonstrate an understanding of contextual vocabulary in various subjects.
- **S7CS5.** Students will use the ideas of system, model, change and scale in exploring scientific and technological matters. **a.** Observe and explain how parts can be related to other parts in a system, such as predator/prey relationships in a community/ecosystem.
- **S7L4.** Students will examine the dependence of organisms on one another and their environments. **a. Explain in a food web that sunlight is the source of energy, and that this energy moves from organism to organism. b. Recognize that changes in environmental conditions can affect the survival of both individuals and entire species.**
- **S7CS10.** Students will enhance reading in all curriculum areas by:
  - a.** Building vocabulary knowledge
    - Demonstrate an understanding of contextual vocabulary in various subjects.
- **S8CS5. Students will use the ideas of system, model, change and scale in exploring scientific and technological matters.**
  - a.** Observe and explain how parts can be related to other parts in a system, such as the role of simple machines in complex machines.
- **S8CS10. Students will enhance reading in all curriculum areas by:**
  - a.** Building vocabulary knowledge (*see bolded words below*)
    - Demonstrate an understanding of contextual vocabulary in various subjects.

**Understandings:**

**Students will understand that ...**

- Most organisms’ energy originally comes from the sun.
- One organism consuming/preying upon another results in the transfer

**Essential Questions:**

- How do anatomical features reveal the way of life of an organism?
- What happens to matter and energy as it passes through a food chain?

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<p>of this energy through pathways called food chains or webs.</p> <ul style="list-style-type: none"> <li>• Organisms have adaptations that reflect their level in food chains and enhance their ability to survive in their natural environment.</li> <li>• Changes in ecosystems, such as habitat destruction or over consumption of resources, can threaten the survival of species, including our own.</li> <li>• Humans can make behavioral changes to help species survive.</li> </ul>	<ul style="list-style-type: none"> <li>• How do you affect other species' survival?</li> <li>• Why should you promote biodiversity in all areas of the Earth?</li> <li>• How does the extinction of a species impact you?</li> <li>• What changes can you make in your life to help protect the environment?</li> </ul>
<p><b>Students will know...</b></p> <ul style="list-style-type: none"> <li>• Food chains are pathways through which energy and nutrients pass from one living thing to another.</li> <li>• Predator/prey relationships consist of a predatory consumer, and a prey that may be a lower level consumer or a producer.</li> <li>• Predators have adaptations to help them obtain prey, while prey have adaptations to help them avoid being eaten.</li> <li>• When humans alter the environment, they disrupt the delicate balance of food chains, sometimes causing species' endangerment or extinction.</li> <li>• Animals and plants are important for human survival.</li> <li>• Humans can help protect the planet by making simple changes in their daily activities.</li> </ul> <p><b>Key Words:</b></p> <ul style="list-style-type: none"> <li>• food web</li> <li>• canines</li> <li>• incisors</li> <li>• molars</li> <li>• predator</li> <li>• prey</li> <li>• carnivore</li> <li>• herbivore</li> <li>• omnivore</li> </ul>	<p><b>Students will be able to...</b></p> <ul style="list-style-type: none"> <li>• By examining skulls, determine what animals eat and these animals' place in food chains.</li> <li>• Give examples of adaptations a predator animal might have to obtain prey.</li> <li>• Give examples of adaptations a prey animal might have to avoid getting eaten.</li> <li>• Define the terms carnivore, herbivore and omnivore.</li> <li>• Explain how humans disrupting a food chain can cause drastic consequences.</li> <li>• Identify ways they can reduce the threats to the environment.</li> </ul>



## ◀▶ ZooMobile: Endangered Species ▶◀

◀▶ **Subject/Course:** Science, English/Language Arts, Social Studies  
 ▶▶ **Grades:** 9<sup>th</sup>-12<sup>th</sup> Grades

### Stage 1-Desired Results

**Established Goals:**

- **SCSh2.** Students will use standard safety practices for all classroom laboratory and field investigations. **a.** Demonstrate appropriate technique in all laboratory situations.
- **SCSh6.** Students will communicate scientific investigations and information clearly. **a.** Participate in group discussions of scientific investigation and current scientific issues.
- **SCSh9.** Students will enhance reading in all curriculum areas by:
  - a.** Building vocabulary knowledge: Demonstrating an understanding of contextual vocabulary in various subjects; Using content vocabulary in writing and speaking.
- **SB4.** Students will assess the dependence of all organisms on one another and the flow of energy and matter within their ecosystems. **a.** Investigate the relationships among organisms, populations, communities, ecosystems, and biomes. **a.** Assess and explain human activities that influence and modify the environment, such as global warming; population growth; pesticide use; and water and power consumption.

**Understandings:**

**Students will understand that ...**

- Human beings are part of the Earth's ecosystems. Human activities can, deliberately or inadvertently, alter the equilibrium in ecosystems.
- Some species are endangered due to human impacts.
- Humans can reduce threats to endangered species and their habitats by doing things such as reducing their resource consumption, not polluting the environment, and planting only native species in their yards.

**Essential Questions:**

- How do humans impact the environment?
- Why do we need plants, animals and their habitats?
- What can we do to help save endangered species?

**Students will know...**

- The rate of species extinction has increased dramatically due to human impacts.
- Habitat destruction; introduced species; pollution; human

**Students will be able to...**

- Identify products as illegal or made from endangered species.
- Identify and discuss different human-caused threats to species survival.

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population growth and over-consumption of resources are all human causes of species endangerment and extinction.

- Organisms are dependent on one another. The loss of one species often causes the loss of another, as species need each other for food, shelter, and even assistance in reproduction, as is the case with plants that depend on animals to spread their pollen.
- The fact that certain species are in trouble is an indication that the environment itself is also in jeopardy, an environment that sustains the basic needs (food, clean water, etc.) of all living things, including humans.
- In the U.S., it is illegal to possess an endangered species or product made from endangered species.
- Each person can help save endangered species by altering his/her own behavior.

## Key Words:

- **ecosystem**
- **threatened**
- **endangered**
- **extinct**

- Provide reasons why we should protect animals, plants and ecosystems as a whole.
- Be respectful and safe when encountering live wild animals.
- Personally reduce the threats to endangered species.