# Big Idea/Topic
Survival of plants and animals in Georgia’s Geographic Regions

## Standard Alignment

**S3L1.** Obtain, evaluate, and communicate information about the similarities and differences between plants, animals, and habitats found within geographic regions (Blue Ridge Mountains, Piedmont, Coastal Plains, Valley and Ridge, and Appalachian Plateau) of Georgia.

- a. Ask questions to differentiate between plants, animals, and habitats found within Georgia’s geographic regions.
- b. Construct an explanation of how external features and adaptations (camouflage, hibernation, migration, mimicry) of animals allow them to survive in their habitat.
- c. Use evidence to construct an explanation of why some organisms can thrive in one habitat and not in another.

### Crosscutting Concepts: Patterns

### Other Content Areas

**ELAGSE3RI1:** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**ELAGSE3RI7:** Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

## Instructional Design

This lesson will focus on understanding the regions of Georgia and the flora and fauna living in each region. Students will understand how the flora and fauna are interdependent on survival in the habitat of the regions. Geographic Regions of Georgia will be the focus as students learn about adaptations and survival within the habitats.

You can find rare natural elements by county by using the maps provided by the Georgia Department of Natural Resources. For additional information visit the Georgia Biodiversity Portal.

Share Dear Parent/Caregiver letter.
ENGAGE

Teacher Background: Gopher tortoise require deep, well drained soils, and an open understory that provides open sunny sites for nesting. [https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476](https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476)

**Phenomenon:** Why does the gopher tortoise only live in the southern half of the state?

Show the students the [picture](https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476) of our State reptile, the gopher tortoise. Have them make observations.

Then show them the [map](https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476) of the range for where the gopher tortoise lives in Georgia.

What do you notice about where the gopher tortoise lives in Georgia?

Have them begin to brainstorm questions they have about this.

What might be different about the lower half of the state than the upper half? How can we find out what type of habitat a gopher tortoise needs?

Have students view the [image of a gopher tortoise burrow](https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476) and share the [information coloring sheet](https://georgiabiodiversity.a2hosted.com/natels/profile?es_id=20476) – discuss how long and deep a burrow may be.

What do you notice? What do we know about soil types from our study of S3E1? Which types of soil drains well? Which types of soil may be easier for a tortoise to dig a burrow in? What types of soils are in the part of the state where the gopher tortoise lives?

EXPLORE

**Student Research/Reading:**

Based on students’ questions and wonderings, you may need additional text.


Teachers may ask some of the following questions to review that students understand the survival needs of plants and animals.

1. What does an animal need to survive? (air, water, food, and shelter)
2. What does a plant need to survive? (air, water, light, and nutrients)

Once you ensure students remember the basic concepts of survival of living things, ask the following questions: What are the geographic regions of Georgia?
As students are working on the understanding of the habitats of Georgia, pose the following question (at the beginning, in the middle and at the end): Do you think that plants can only live in one geographic area of the state? Why or why not? Do you think animals can live in only geographic area of the state? Why or why not?

Using the attached map (Appendix A), identify the regions of Georgia. Starting at the top of the map, explain the regions and the terrain. By discussing the terrain, the students will be able to have identifying concepts to help communicate what they are learning about the regions.

**Explain**

Regions are covered in social studies in 2nd grade. Consider using this teacher-led video lesson designed for 2nd grade social studies here with your 3rd grade science students.

A free downloadable coloring book, Exploring Georgia’s Wildlife, provided by the Georgia Department of Natural Resources could serve as a helpful resource for students.

Information for the map:

5 Geographic Regions: Appalachian Plateau, Valley and Ridge, Blue Ridge Mountains, Piedmont, Coastal Plains

**Terrain of the Georgia Regions:**

Appalachian Plateau: rugged topography, steep slopes

Valley and Ridge: very steep slopes, many waterfalls

Blue Ridge Mountains: highest mountains, rugged ridges, and weathered peaks

Piedmont: low hills and narrow valleys

Coastal Plains: low, rolling hills in the upper coastal plains (where it joins the Piedmont) to flat, sandy, swampy areas in the lower coastal plains

The students should research the plants (flora) and animals (fauna) of each of the regions. After researching the geographic regions of the state of Georgia, write a comparing and contrasting statement about the regions describing why some animals are better suited to survive in one region versus another region.

**Elaborate**

Complete Appendix B: Plants and Animals of the 5 Geographic Regions of Georgia.

Teacher may use the following website Plants and Animals of Georgia to get information needed to complete Appendix B. You will need to scroll down to get to the Georgia section. An unplugged handout is available for copying at Appendix C.

As students are working on the understanding of the habitats of Georgia, pose the following question (at the beginning, in the middle and at the end): Do you think that plants can only live in one geographic area of the state? Why or why not? Do you think animals can live in only geographic area of the state? Why or why not?
Once students have provided an understanding of the plants and animals that live in certain areas, the students should be able to provide evidence that some plants and animals live in the same geographic regions because of adaptations.

Ask - What is an adaptation? Adaptations are physical or behavioral characteristics that organisms develop over time to help increase its chance of survival in a certain environment. Share the instructional PowerPoint with students (will download as a file to open). There are several types of adaptations and those include camouflage, hibernation, migration, and mimicry. Students should create a foldable on the types of adaptations. The foldable should be a 4-tab foldable – one for each type of adaptation. To make the foldable: Fold a piece of paper in half (hamburger fold). Crease. Fold the bottom up, crease. Fold the bottom up again, crease. Unfold, cut on the folds on the top of the half of the paper.

The following type of information should be included in the foldable:

Camouflage: method of making oneself hard to detect. When an animal is “camouflaging” it is trying to conceal its appearance, sound, or smell.

There are several types of camouflage with blending being the most common. When animals “blend in”, the animal and habitat colors match. Think about snow (polar bear, snow owl), tree bark (beetles, lizards), sand (snakes, shells), and grass (lizards, bugs, beetles, snakes). The animals camouflage to blend in to avoid being detected by predators.

Other animals are boring. They camouflage to look like ordinary rocks or leaves.

Some animals hide by covering themselves with the objects they are living in or on. This is called putting on a costume.

Some animals are different colors on top and bottom. This always the animal to camouflage from the top or bottom.

When animals have busy patterns that causes the predator to become confused or makes it difficult to pinpoint, they are said to have a confusing pattern.

Another form of adaptation is hibernation. Hibernation is an activity an animal does to stay alive. Hibernation allows animals to survive during winter months due to the animal’s body processes slowing down. This slower process allows the animal to survive the winter by using stored food or fat.

Migration is the form of adaptation in which groups of animals move from one area to another. Birds and butterflies are the most common animals that we know that migrate.

Mimicry is the final form of adaptation and is an adaptation in which one animal evolves to look like another animal. Animals use mimicry to avoid predators, but some predators use mimicry to obtain food. Some parasites even use mimicry to help them escape detection.

Once the foldable is completed, students have information needed to create an explanation on how their external features and their adaptations allow them to survive in each of the geographic regions of Georgia.

Ask: Do you think that plants can only live in one geographic area of the state? Why or why not? Do you think animals can live in only geographic area of the state? Why or why not? What adaptations do each of the animals have to have in order to survive in a different geographic region?

From the research conducted during the activity (Appendix A and B) students should develop an explanation of plant and animal survival in one geographic region of Georgia and not in another.
Evaluate

Evaluation Project: Create a diorama of one of Georgia’s Geographic Regions.

Students should identify one of the regions, create the landscape including the terrain with accurate plants and animals. Students should camouflage one animal and place in the habitat. The rubric for the diorama is Appendix D. Depending on student needs and access to resources, provide choices for the project (they could do a drawing with labels, design an online space to share with the teacher, create a short video or written report describing their local area and the animals and plant that live there, etc.)

Virtual Field Trip: GPB Regions of Georgia Virtual Tour

<table>
<thead>
<tr>
<th>Evidence of Student Success</th>
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<tbody>
<tr>
<td>• Teacher may use the tables in Appendix A and B as evidence of learning.</td>
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<tr>
<td>• Evaluation Project: Diorama, drawing, presentation, etc.</td>
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</tbody>
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Distance Learning Supports

The goal for science education in the state of Georgia is as follows: All Students, over multiple years of school, actively engage in science and engineering practices and apply crosscutting concepts to deepen their understanding of the core ideas in these fields. The learning experiences provided for students should engage them with fundamental questions about the world and with how scientists have investigated and found answers to those questions. This lesson includes the disciplinary core ideas, science and engineering practices and crosscutting concepts to actively engage students in exploring science concepts with real world topics. As part of the vision, we must support the inclusion of all students in science learning.

Some general strategies to include all students in the learning process of science are as follows:
• Provide consistent and positive feedback.
• Keep directions brief and clear.
• Make sure parents and students know schedules, due dates, requirements, expectations, and how assignments/tests are going to be collected.
• Share evaluation results in a timely manner to students and parents.
• Package assignments in a way that students know the sequence, what is required, when it is required, what is available as choice and what is for fun.
• Provide/encourage organizational strategies such as where to work, store work, when and where to turn in assignments, graphic organizers, etc.
• Provide reminders of important dates and requirements.
• Go over notebook and journal ideas and share your entries with students so they can see what you expect.
• Allow dictation and/or text to speech software programs and tools.
• Check in with students by phone or online to answer questions, give reminders, and check progress.
• Provide parents with updates on progress and upcoming assignments. Communicate often.
• Provide resources that students can access offline.
• Allow students to give information orally or in drawings.
• Model expectations and demonstrations in video/online/phone.
• The teacher should have students match letter prior to reading or writing to remind them of the alphabet.
• The teacher can have students identify words that they know in any text that they are reading.
• The teacher can provide students with sentence frames to assist students frames to help students get started writing.
• Provide students with the opportunity to interact with numbers.
• The teacher should provide multiple ways for students to gain and show their knowledge.

Some strategies specific to this lesson are as follows:
• Students may use the internet to look up the geographic regions of Georgia to determine the information needed to complete Appendices.
• Students may create a Georgia diorama – one large landscape of the state. Use the same guidelines from Appendix D to assess.
• Differentiation strategies might include allowing students to draw instead of creating a diorama, creating a fill-in-the-blank sheet for students reading on a lower level.
• The teacher may need to help students with the vocabulary. The teacher may want to post flora and fauna with an image to give students something to refer to as they work through the lesson. The image will help students make connections between the words and the meaning.
• The teacher may want to have some guiding questions prepared to help students read and discuss the map.
• The teacher should have clear and consistent guidelines for discussion. This will help students feel comfortable with sharing their thoughts and ideas.
• The teacher should consider providing students with images of the different types of soil to help with review.
• The teacher should keep a running list of students’ questions to help students keep track of what has been asked and what they have answered as they work through the lesson.
• The teacher should consider the level of text that students are working with an provide an option for read aloud to students that need it.
• The teacher should consider coming up with a working understanding of what a region is and discuss that with the class. This should be review for students, but it may be beneficial to make sure that everyone is on the same page as they work through the lesson.
• The teacher may want to consider curating resources in a place that students can access them easily as needed during the lesson.
• The teacher may want to use graphic organizers to help students organize their thoughts, ideas, and research.
• The teacher may want to ask students about the information that they have learned about the gopher tortoise. Ask students to think about an discuss what would happen if the gopher
tortoise ended up in the mountains. This will help students have a way to organize the information around something they are learning about. It will also help them connect the information about adaptations, regions, and other information in their schema.

- The teacher should consider adding images to the unplugged research for students that have difficulty with reading and/or comprehension.
- The teacher may, also, want to consider providing students with images of the different adaptations. A consideration for helping students understand the different adaptations is to ask students to get involved in identifying the adaptations. An example would be providing students with an image of a camouflaged animal and asking students to find the animal. This will help students create a working definition and work to complete their flip book and other activities.
- The teacher should consider how students show knowledge. Students need options of how they show their knowledge which can be done by offering students multiple formats to share their knowledge.

<table>
<thead>
<tr>
<th><strong>Engaging Families</strong></th>
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<tr>
<td><strong>Dear Parent Letter</strong></td>
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<tr>
<td>Students will demonstrate their understanding of camouflage by drawing an insect (beetle or butterfly), &quot;coloring&quot; it, cutting it out and displaying it somewhere in the house. Students and parents should all participate and create a camouflaged insect. Once everyone has their insect camouflaged, each participant should place their insect on the location which matches the camouflage. Once everyone has placed their insect in the designated location, family members should search for the &quot;camouflaged&quot; insects. Do not reveal the locations as everyone should search for all of the hidden ones. This activity can be extended and continued to cover all types of camouflage.</td>
</tr>
<tr>
<td><strong>Books</strong> on Georgia habitats and animal adaptations to read together are available online and at school/local libraries.</td>
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</table>
Dear Parent/Caregiver:

In third grade science, students are asked to learn about the similarities and differences between plants, animals, and habitats found within the geographic regions of Georgia. There are 5 geographic regions in Georgia:

1. Blue Ridge Mountains
2. Piedmont
3. Coastal Plains
4. Valley and Ridge
5. Appalachian Plateau

Where do you live? Help your child explore outside, on the internet and in the library. What plants and animals do you notice where you live? Do they live in other parts of Georgia? If you have access to the internet, here are some sites that will help you support your child as they learn:

- **GPB Regions of Georgia Virtual Tour**: [https://www.gpb.org/education/virtual/regions-of-georgia](https://www.gpb.org/education/virtual/regions-of-georgia)
- **Exploring Georgia’s Wildlife Coloring Book**: [https://georgiawildlife.com/ColoringBook](https://georgiawildlife.com/ColoringBook) is available to download for free

After studying about the animals, plants and habitats found in Georgia, students will be asked to select a region, create the landscape including the terrain with accurate plants and animals. Students should camouflage one animal and place it in the habitat. Students will be asked to create these models in cardboard boxes, as a drawing, a video or in some way that they agree upon with their teacher. Students often really enjoy creating models, so you may want to start collecting things they could use:

- Something to color with (crayons, marker, etc.)
- A cardboard box (shoe boxes work well)
- Scraps of different colored paper
- Glue
- Some sort of clay or play dough may be useful (layers and height can also be created with paper)
- Natural objects that can safely be collected from outside (small pebble, plant matter, etc.)

Memorizing all the regions and their locations is not as important as developing an understanding that animals have basic needs, some animals have very specific habitat needs, animals have external features and adaptations that allow them to survive in certain habitats and that some organisms can thrive in one habitat but not in another. This is a great time to get out and explore our State, visit a [https://gastateparks.org/](https://gastateparks.org/) or just hang out in your backyard or local park to notice the plants and animals that are there.

Georgians with public library cards can check out a Georgia State Park "ParkPass" and Historic Site Pass—much like checking out a book. The ParkPass exempts you from paying the daily $5 parking fee at state parks, and the Historic Sites Family Pass exempts up to 4 visitors from admission fees to state historic sites operated by Georgia State Parks & Historic Sites. Plan ahead because supplies are limited.
Gopher Tortoise

"Gopher Tortoise and Habitat" by MyFWC Florida Fish and Wildlife is licensed under CC BY-ND 2.0
Georgia Range Map - Gopher Tortoise

https://georgia.biodiversity.a2hosted.com/natels/rangemaps?es_id=20476
Appendix A: The Geographic Regions of Georgia

List the 5 Geographical Regions of Georgia:
1 –
2 –
3 –
4 –
5 –

Geographic Regions with Terrain Distinctions
1 –
2 –
3 –
4 –
5 –
Appendix B: Plants (flora) and Animals (fauna) of the Geographic Regions of Georgia

<table>
<thead>
<tr>
<th>Region</th>
<th>Flora</th>
<th>Fauna</th>
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After researching the geographic regions of the state of Georgia, write a comparing and contrasting statement about the regions describing why some animals are better suited to survive in one region versus and another region.
Appendix C: Unplugged research material.

<table>
<thead>
<tr>
<th>Geographic Region</th>
<th>Plants, Animals and Habitat Information of the Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appalachian Plateau</td>
<td>This area of Georgia is the smallest and is in the extreme Northwestern corner of the state. The Appalachian Plateau is a very dense forest and rugged mountains. The terrain has very high peaks and flattens out causing the plant species to change. Plants include Tulip Poplar, Mountain Laurel and Eastern Hemlocks. Because of the diversity of the area, the habitat allows for a wide range of plants and animals. Some of the animals present in the Appalachian Plateau include the cottontail rabbit and the gray fox.</td>
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<tr>
<td>Valley and Ridge</td>
<td>This area of Georgia covers much of the northwestern portion of the state. The terrain of the Valley and Ridge has very narrow, parallel valleys while being separated by low lying ridges. Plants include Eastern Hemlocks and Yellow Birch, as well as many small flowering plants along the ground. One endangered flower found in this region is the Mountain Skullcap. It has tubular white flowers. Many animals thrive in this region including the Virginia Opossum and the southern flying squirrel. Many birds live in the area including the northern mockingbird.</td>
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<tr>
<td>Blue Ridge</td>
<td>This area of Georgia covers the northeastern corner of the state and borders both North and South Carolina. The topography has steep mountain ridges and wide valleys. Because of the differences in the ridges and valleys, the weather is varied and provides the conditions necessary for a wide variety of plant growth. Many trees, including the chestnut oak and pignut hickory, cover the mountain slopes. The Blue Ridge mountains provide the conditions necessary for many brush shrubs including the mountain azalea. Animals of the area are numerous and include the white-tailed deer and the black bear.</td>
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<td>Piedmont</td>
<td>This area of Georgia is below the mountainous area and has rolling lands and wide river valleys. The flora of the area consists of a wide variety of a mixed forest – the most diverse in the southeastern US. The forest consists of several evergreen species including the shortleaf pine and loblolly pine and a mix of deciduous species including red maple and a variety of oaks. This combination creates a very diverse habitat for many animals. Skunks and bobcats, as well as wild turkey, are frequently spotted animals of the Piedmont region.</td>
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<tr>
<td>Coastal Plains</td>
<td>This area of Georgia is the largest area in the state and covers almost two-thirds of the total landmass of Georgia. This area is known for the flat topography and soil that is fertile for growing a wide variety of groups. This area of the state is known for its huge agricultural row crop production. In addition to crops such as peanuts, cotton and corn, the Coastal plan is home to redgum trees, black tupelo, flowering dogwoods, and slash pines. Several stands of over 100-year-old longleaf pines are located in the sandy soils of South Georgia. The climatic conditions of the Coastal Plains provides the habitat necessary for various animals including the armadillo, the coyote, and the wild hog.</td>
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Appendix D: Rubric for Diorama

Geographic Region: ____________________________________________ (5 points)

<table>
<thead>
<tr>
<th>Topography</th>
<th>Plants</th>
<th>Animals</th>
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<tr>
<td>15 points</td>
<td>2 or more aspects of topography is accurate</td>
<td>2 or more animals are accurate</td>
</tr>
<tr>
<td>10 points</td>
<td>Only 1 topographical feature is included</td>
<td>Only 1 plant is included</td>
</tr>
<tr>
<td>5 points</td>
<td>Topography is not accurate for geographic region</td>
<td>Plants are inaccurate for geographic region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animals are inaccurate for geographic region</td>
</tr>
</tbody>
</table>

Total points Earned: ______________ of 50

Camouflaged Animal is created: Yes/No (5 points)

Explain how your camouflaged animal can survive in its geographic region. Be sure to include the correct type of camouflage you created. (20 points)

Is your animal to survive in another geographical region in Georgia? (5 points)

Why or why not? (10 points)

What do you need to do to make your camouflaged animal survive in a different region? (10 points)