Many Alabama Habitats

How land and water create places for life

SS24.AS.2 "Explain how Alabama's geography contributes to the biodiversity of the state."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two geographic conditions in each paragraph, then circle a plant or animal group linked to each condition. Number each matching condition and group so you can trace how geography supports life.

From Rocky Creeks to Coastal Marshes

1. From the rocky hills of northeastern Alabama to the broad Tennessee Valley, the ground changes over short distances. Higher slopes can be cooler and have thinner soils than nearby lowlands, creating different places for forest plants to grow. Rain travels downhill into streams, where flowing water carries oxygen and shapes gravel beds. Those beds provide living space for aquatic insects and some freshwater mussels. Alabama's rivers also drain different regions, so their channels connect many kinds of land to aquatic habitats. A single northern watershed can include wooded slopes, rocky creeks, and wider river valleys, each offering different conditions for life.

2. In central Alabama, the Black Belt is named for its dark, fertile soil, formed in part from chalk-rich rock beneath it. Historically, parts of this region supported open grasslands as well as woods. Grasses and flowering plants in those openings offered food and shelter to insects and birds that use open spaces. Farther south, much of the Coastal Plain has sandy soils that drain quickly. Longleaf pine woodlands once covered large areas there, with plants adapted to sunny ground beneath widely spaced trees. Because the soil and sunlight differ from those in the Black Belt, these areas can support different plant communities and the animals that depend on them.

3. At the southern edge of the state, the Mobile-Tensaw Delta spreads river water through channels, swamps, and wetlands before it reaches Mobile Bay. Freshwater supports plants and animals that need little salt, while nearby tidal marshes face changing water levels and saltier water. Along the Gulf coast, dunes and beaches create dry, shifting ground, another set of conditions for life. The coast is not a single habitat: changes in water, soil, and salt can occur close together. Across Alabama, this variety of landforms and water conditions creates many habitats, helping the state support many kinds of plants and animals.

2 ANSWER WITH EVIDENCE

Use the passage

1. How can differences between northern slopes and nearby lowlands lead to different forest plant communities?

2. How do northern streams create habitat for aquatic insects and some freshwater mussels?

3. Why might the Black Belt and the southern Coastal Plain support different plant communities?

4. How do freshwater and tidal marsh conditions create different habitats near Mobile Bay?

3 YOUR TURN

Your own words

Design a two-stop Alabama nature trail using two settings from the passage. In five sentences, explain how a different geographic condition at each stop supports living things, then predict how changing one condition could affect biodiversity at one stop.

ANSWER KEY

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HIGH SCHOOL · SS24.AS.2

PART 1 · READ AND MARK

Underline two geographic conditions in each paragraph, then circle a plant or animal group linked to each condition. Number each matching condition and group so you can trace how geography supports life. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How can differences between northern slopes and nearby lowlands lead to different forest plant communities?	**Higher slopes can be cooler and have thinner soils than lowlands, giving forest plants different growing conditions.**
2	How do northern streams create habitat for aquatic insects and some freshwater mussels?	**Flowing water carries oxygen and shapes gravel beds that provide living space for these animals.**
3	Why might the Black Belt and the southern Coastal Plain support different plant communities?	**The Black Belt has dark, fertile soil and historically included open grasslands. Much of the Coastal Plain has quickly draining sandy soil, and its longleaf pine woodlands have sunny ground beneath widely spaced trees.**
4	How do freshwater and tidal marsh conditions create different habitats near Mobile Bay?	**Freshwater supports organisms that need little salt, while tidal marshes have changing water levels and saltier water.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

My first trail stop is a rocky creek below a wooded northern slope. Water flowing over gravel creates space for aquatic insects and some freshwater mussels. My second stop is a Gulf coast marsh, where changing tides and saltier water favor organisms that can handle those conditions. The two stops would show visitors how water movement and salt help create different habitats. If the creek were filled with sediment, its gravel spaces could shrink, leaving less habitat for animals that use them.

Accept other passage-supported geographic conditions and living things. For the trail task, look for two distinct settings, a clear cause-and-effect explanation at each, and a plausible prediction about one changed condition.