

Ecosystem Evidence Hunt

Gather clues from sources to sort biomes and aquatic ecosystems.

S7L4.d "Ask questions to gather and synthesize information from multiple sources to differentiate between Earth's major terrestrial biomes (i.e., tropical rain forest, savanna, temperate forest, desert, grassland, taiga...)"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline facts about climate, plant cover, or salt content. In the margin, write 1, 2, or 3 beside each fact to show whether it came from the climate database, field guide, or monitoring report.

Three Sources, Many Ecosystems

- ① A class compared notes from three sources: a climate database, a field guide, and an estuary monitoring report. The climate database grouped tropical rain forest, savanna, temperate forest, desert, grassland, taiga, and tundra as terrestrial biomes. Each biome has a climate pattern and typical plants. Tropical rain forests stay warm and wet, so tall broadleaf trees grow densely. Deserts receive very little precipitation, and plants conserve water. Tundra has long, cold winters and a short growing season, which limits tree growth.
- ② The field guide separated several biomes that may look alike from far away. Grasslands are dominated by grasses and usually have too little rain for many trees. Savannas also have grasses, but scattered trees grow where seasonal rainfall supports them. Temperate forests have four seasons and many deciduous trees that lose leaves in autumn. Taiga is colder and is dominated by cone-bearing trees. Comparing climate with plant cover prevents a reader from sorting biomes by one clue alone.
- ③ The monitoring report focused on aquatic ecosystems. Freshwater has very low salt content and includes rivers, lakes, and ponds. Estuaries form where river water mixes with ocean water, so salinity can change with tides and river flow. Marine ecosystems are saltwater environments, including open oceans and coral reefs. To classify an unknown site, students can combine observations of water salinity, plant cover, temperature, and rainfall with information from more than one source. A single clue may fit more than one ecosystem.

2 ANSWER WITH EVIDENCE _____ Use the passage

- 1 Which source would you use first to compare the salt content of freshwater, estuaries, and marine ecosystems? Give one detail that supports your choice.

- 2 Combine one climate database fact and one field guide fact to explain why tundra is not taiga.

- 3 One site has grasses, scattered trees, and seasonal rainfall. Another site has salt content that changes with tides. Identify both ecosystems and name the source that supports each identification.

- 4 Write two questions a student could ask to gather evidence for classifying an unknown site. Each question must focus on a different type of evidence named in the passage.

3 YOUR TURN _____ Your own words

Complete the table to plan a comparison using multiple sources. In row 1, compare two terrestrial biomes. In row 2, compare two aquatic ecosystems. In row 3, compare one terrestrial biome and one aquatic ecosystem.

STUDY PAIR	QUESTION TO ASK	SOURCE(S)	EVIDENCE-BASED DISTINCTION

PART 1 • READ AND MARK

Underline facts about climate, plant cover, or salt content. In the margin, write 1, 2, or 3 beside each fact to show whether it came from the climate database, field guide, or monitoring report. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which source would you use first to compare the salt content of freshwater, estuaries, and marine ecosystems? Give one detail that supports your choice.	Use the estuary monitoring report. It explains that freshwater has very low salt, estuary salinity changes, and marine ecosystems are saltwater.
2	Combine one climate database fact and one field guide fact to explain why tundra is not taiga.	The climate database says tundra has long, cold winters and a short growing season that limits tree growth. The field guide says taiga is dominated by cone-bearing trees.
3	One site has grasses, scattered trees, and seasonal rainfall. Another site has salt content that changes with tides. Identify both ecosystems and name the source that supports each identification.	The first site is a savanna, supported by the field guide. The second site is an estuary, supported by the monitoring report.
4	Write two questions a student could ask to gather evidence for classifying an unknown site. Each question must focus on a different type of evidence named in the passage.	Answers may include: What is the water's salt content? What is the area's rainfall pattern? Other supported evidence types are plant cover and temperature.

PART 3 • YOUR TURN (SAMPLE ANSWER)

STUDY PAIR	QUESTION TO ASK	SOURCE(S)	EVIDENCE-BASED DISTINCTION
Savanna and grassland	How do rainfall and tree cover differ?	Field guide	A savanna has scattered trees where seasonal rainfall supports them, while a grassland is dominated by grasses and usually has too little rain for many trees.
Freshwater and estuary	How does salt content differ?	Estuary monitoring report	Freshwater has very low salt content, while an estuary has changing salinity because river water mixes with ocean water.
Tundra and marine ecosystem	Is the site land or saltwater, and what climate occurs there?	Climate database and estuary monitoring report	Tundra is a terrestrial biome with long, cold winters and a short growing season, while a marine ecosystem is a saltwater environment.

Accept equivalent evidence-based comparisons that use information from the passage and correctly match sources to evidence. For Question 4 and the table, accept other clear questions about salinity, plant cover, temperature, or rainfall.