

# Riverbank System Hunt

Identify Earth systems by their main components.

**6.10.A** "differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system;"

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline one component example for each Earth system in the passage. In the margin, label each underlined example B, H, A, or G to show its system.

### After the Spring Storm

- ① After a spring storm, Maya visits a riverbank near her school. She notices that Earth works as connected systems. The biosphere includes living things, such as cottonwood trees, moss, insects, and a frog beside the trail. These organisms need matter and energy to survive. The frog rests on a wet rock, but it is part of the biosphere because it is alive. A living thing can interact with more than one system at once during its life.
- ② The hydrosphere contains Earth's water, whether it is liquid, solid, or gas. At the riverbank, rainwater flows into the river, and groundwater fills spaces in soil and rock. A puddle is also part of the hydrosphere. The atmosphere is the layer of gases around Earth. Wind moves through the air, and water vapor rises from the river into that air. Clouds form when water vapor cools and condenses. Although air and water can mix, they belong to different systems.
- ③ The geosphere is Earth's solid part, including rocks, minerals, soil, landforms, and the layers below the surface. At the riverbank, pebbles and sandy soil belong to the geosphere. The river can carry sediment and wear away part of its bank. Tree roots grow through soil, and rainwater soaks downward. These interactions show that the four systems affect one another, even though each system is identified by its own main components. Scientists study both the parts and their connections.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** Which Earth system includes the frog? Why does the frog belong in that system?

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**2** Name one hydrosphere component and one atmosphere component from the passage.

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**3** Which Earth system contains the pebbles and sandy soil at the riverbank?

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**4** How is the biosphere different from the geosphere? Use one example of each from the passage.

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**3 YOUR TURN** \_\_\_\_\_ Your own words

Choose a place that is not described in the passage, such as a playground, garden, or sports field. Write four sentences that identify one component of each Earth system at that place and explain why it belongs to that system.

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**PART 1 • READ AND MARK**

Underline one component example for each Earth system in the passage. In the margin, label each underlined example B, H, A, or G to show its system. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                                     | ANSWER                                                                                                                                                     |
|---|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Which Earth system includes the frog? Why does the frog belong in that system?               | <b>The frog is part of the biosphere because it is alive.</b>                                                                                              |
| 2 | Name one hydrosphere component and one atmosphere component from the passage.                | <b>Answers may include hydrosphere: rainwater, river water, groundwater, puddle, or water vapor. Atmosphere: air, wind, gases around Earth, or clouds.</b> |
| 3 | Which Earth system contains the pebbles and sandy soil at the riverbank?                     | <b>The geosphere.</b>                                                                                                                                      |
| 4 | How is the biosphere different from the geosphere? Use one example of each from the passage. | <b>The biosphere contains living things, such as a frog or trees. The geosphere contains solid Earth materials, such as pebbles, soil, or rocks.</b>       |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

At a baseball field, the biosphere includes the grass because it is alive. The hydrosphere includes water in a player's bottle. The atmosphere is the air above the field. The geosphere includes the dirt on the infield. Accept any passage-based component correctly matched to its system. For the open response, accept reasonable components from one chosen place when each is accurately classified and explained.