Ridge Water Connections

Trace how Earth's systems affect one another.

SC.6.E.7.4 "Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each sphere name, then underline every sentence that describes material moving or a change happening between two or more spheres.

Spring Changes on Pine Ridge

1. On a spring morning, snow still covers the high slopes of Pine Ridge. This frozen water is part of the cryosphere. As sunlight warms it, some snow melts and flows downhill as streams. The moving liquid water belongs to the hydrosphere. Beneath the stream, cracked rock and soil make up the geosphere. Water seeps into spaces in the soil, carrying dissolved minerals from rock toward the stream. It may feed nearby springs later in the summer.

2. Above the ridge, the atmosphere holds air, clouds, and water vapor. Wind moves moist air across the slopes. Some stream water evaporates, changing from liquid water in the hydrosphere to vapor in the atmosphere. Cooler air can cause the vapor to form clouds, and precipitation may return water to land as rain or snow. Pine trees, insects, and deer are part of the biosphere. Trees take in water through roots and release water vapor from leaves, adding moisture to the air during warm afternoons.

3. During a late-spring storm, dark clouds release rain on Pine Ridge. The rain, part of the hydrosphere, strikes bare soil and can loosen it. Flowing water carries the soil downhill, reshaping the geosphere. At the highest elevations, colder air changes some precipitation into snow, adding to the cryosphere. Grasses slow the moving water with their roots, so less soil washes away. When storms become more frequent or plants are removed, the connections among the spheres can change the stream, slope, and living habitat over time.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which sphere includes the frozen snow, and which sphere includes the moving stream water?

2. What happens when water seeps into soil, and which two spheres interact?

3. How do trees connect the biosphere, hydrosphere, and atmosphere?

4. During the storm, what changes some precipitation into snow, and which sphere gains the snow?

3 YOUR TURN

Your own words

Create a different event in a cold place, not Pine Ridge. Complete all five rows, name one part of each sphere, and write a complete sentence explaining how it interacts with another sphere.

SPHERE	PART OF YOUR EVENT	INTERACTION SENTENCE

ANSWER KEY

Ridge Water Connections

GRADE 6 · SC.6.E.7.4

PART 1 · READ AND MARK

Circle each sphere name, then underline every sentence that describes material moving or a change happening between two or more spheres. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which sphere includes the frozen snow, and which sphere includes the moving stream water?	**Frozen snow is in the cryosphere. Moving stream water is in the hydrosphere.**
2	What happens when water seeps into soil, and which two spheres interact?	**Water enters spaces in the soil and carries dissolved minerals from rock toward the stream. The hydrosphere and geosphere interact.**
3	How do trees connect the biosphere, hydrosphere, and atmosphere?	**Trees take in water through their roots and release water vapor from their leaves into the air.**
4	During the storm, what changes some precipitation into snow, and which sphere gains the snow?	**Colder air changes some precipitation into snow. The cryosphere gains the snow.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

SPHERE	PART OF YOUR EVENT	INTERACTION SENTENCE
Atmosphere	Cold clouds and air	Cold air helps water vapor form snow that falls to the ground.
Cryosphere	Fresh snow	Fresh snow melts and adds liquid water to the lake.
Hydrosphere	Lake water	Lake water soaks into the sandy shore.
Geosphere	Sandy shore	The shore soil gives reeds a place to grow.
Biosphere	Reeds	Reeds take up water and hold soil with their roots.

Accept accurate examples that correctly identify all five spheres and describe real interactions among them. For the open task, each row should name a fitting sphere part and give a scientifically accurate connection to another sphere.