Storm Connections

Trace how rain connects Earth's systems.

5.ESS2.1 "Develop a model to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two sentences that show different Earth systems interacting, then write the names of those systems beside each sentence.

A Rainy Day in the Schoolyard

1. At the edge of a schoolyard, sunflowers grow beside a shallow ditch. During a hard rain, drops from clouds strike the dirt and fill spaces between grains of soil. Water that cannot soak in runs downhill into the ditch. As it moves, the water carries tiny bits of soil. The ditch turns brown, even though the rain itself was clear.

2. The sunflower roots take in some of the water stored in the soil. Leaves use that water as the plants grow. The plants also slow water flowing toward the ditch. Moving water has less force near their stems, so fewer bits of soil wash away there than on bare ground. After a storm, the ground around the plants often looks less worn.

3. After the storm, sunlight warms the ditch. Some liquid water changes into water vapor and enters the air. Earth's systems include the geosphere (soil and rock), hydrosphere (water), atmosphere (air), and biosphere (living things). A model could use arrows to show what moved between these systems during the storm. It could also show how one change led to another.

2 ANSWER WITH EVIDENCE

Use the passage

1. Show an arrow from rainwater to soil. What change to the soil would your arrow show?

2. What arrow would connect water in the soil to the sunflowers? Tell what moves along the arrow.

3. Which two Earth systems would you connect with an arrow to show how sunflowers affect flowing water? What effect would the arrow show?

4. Show an arrow between the ditch water and the air after the storm. What moves, and how does the ditch change?

3 YOUR TURN

Your own words

In the box, draw a model of a mountain meadow during spring thaw. Label the atmosphere, hydrosphere, geosphere, and biosphere, use arrows to show at least two interactions, and write two sentences explaining your arrows.

ANSWER KEY

Storm Connections

GRADE 5 · 5.ESS2.1

PART 1 · READ AND MARK

Underline two sentences that show different Earth systems interacting, then write the names of those systems beside each sentence. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Show an arrow from rainwater to soil. What change to the soil would your arrow show?	**Rainwater → soil: Moving water carries tiny bits of soil into the ditch.**
2	What arrow would connect water in the soil to the sunflowers? Tell what moves along the arrow.	**Water in the soil → sunflower roots: Water moves into the roots.**
3	Which two Earth systems would you connect with an arrow to show how sunflowers affect flowing water? What effect would the arrow show?	**Biosphere → hydrosphere: The sunflowers slow the flowing water.**
4	Show an arrow between the ditch water and the air after the storm. What moves, and how does the ditch change?	**Ditch water → air: Water vapor enters the air, leaving less water in the ditch.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Model: warmer air (atmosphere) → melting snow (hydrosphere) → water flowing over soil (geosphere) → meadow grass (biosphere). Warmer air helps melt the snow, and the meltwater flows over the soil. Grass roots take in some of that water.

Accept arrows that show the correct direction of an interaction described in the passage. For the meadow model, accept other scientifically accurate interactions if all four systems are labeled and the two sentences explain at least two arrows.