

What Happened and Why

Read like a scientist. Every event in this text has a cause you can point to.

GRADE 4 • RI.4.3

CCSS.ELA-Literacy.RI.4.3 "Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text."

NAME _____

DATE _____

READ AND CIRCLE Read it twice

YOUR JOB Read the text twice. On your second read, circle every signal word that connects a cause to what happened. They are your evidence for Part 2.

SIGNAL WORDS

when

because

so

as a result

this causes

How a Geyser Erupts

- ① Rain and melted snow soak into the ground. The water seeps down through cracks near rocks heated by magma deep below. When the water reaches these rocks, it becomes very hot. It can heat past the boiling point at Earth's surface because the heavy water above it presses down and raises the pressure. This pressure keeps the deep water liquid, even though it is hotter than boiling water.
- ② Because the water is so hot, small steam bubbles begin to form in the deep water. The bubbles rise and push some water up the narrow vent, so a little water spills out at the surface. As a result, there is less water pressing down on the hot water below. This causes the pressure deep in the geyser to drop quickly for a short time.
- ③ With less pressure, the superheated water can no longer stay liquid. It quickly flashes into steam, and the expanding steam blasts water and steam out of the vent in an eruption. Afterward, water drains back into the geyser chamber, and cooler groundwater seeps in again. The water heats near the hot rocks, so the same steps can happen again and the geyser cycle repeats. Some eruptions shoot high into the air.

BUILD THE CHAIN Use the text

Box 1 is done for you. Fill in boxes 2, 3, and 4 with what happened next and why it happened, using specific information from the text.

1

WHAT HAPPENED

Deep groundwater heats past the surface boiling point.

WHY IT HAPPENED

The heavy water above it presses down and raises the pressure.



2

WHAT HAPPENED

WHY IT HAPPENED



3

WHAT HAPPENED

WHY IT HAPPENED



4

WHAT HAPPENED

WHY IT HAPPENED

EXPLAIN IT Your own words

Explain how a geyser erupts in 2 or 3 sentences. Use at least two of these cause words: **because, so, as a result.**

PART 1 • READ AND CIRCLE

Signal words in the text: **When, because, Because, so, As a result, This causes.** Accept any circled word or phrase that links a cause to an effect.

PART 2 • BUILD THE CHAIN

#	WHAT HAPPENED	WHY IT HAPPENED
1	Deep groundwater heats past the surface boiling point.	The heavy water above it presses down and raises the pressure.
2	Steam bubbles form and push some water out of the vent.	The deep water is so hot.
3	The superheated water flashes into steam and erupts.	Water leaving the vent lowers the pressure deep in the geyser.
4	Water drains back, groundwater refills the chamber, and the cycle repeats.	The water heats again near the hot rocks.

PART 3 • EXPLAIN IT (SAMPLE ANSWER)

Groundwater heats under pressure because hot rocks warm it and the water above presses down. Because steam bubbles push some water out, pressure drops, so the superheated water flashes into steam and erupts. Water then drains back and reheats, so the cycle repeats.

Accept equivalent wording when each event and cause stays in the correct order and is supported by the passage. In Part 3, check that the explanation includes the full cycle and uses at least two cause-and-effect words.