

Charge Paths Compared

Compare evidence about lightning and controlled electric current.

S5P2.a "Obtain and combine information from multiple sources to explain the difference between naturally occurring electricity (static) and human-harnessed electricity."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline one detail from each source that tells how electricity travels. Circle words that show whether people control it, then write 1 and 2 beside the two sources.

Two Sources, Two Paths

- ① At a science museum, Maya read a label about lightning. It explained that static electric charges can build up in storm clouds as ice and water droplets move. When the charges discharge, electricity travels through the air as lightning. The label called this a naturally occurring electrical event. It happens quickly and is not directed through wires or devices people designed.
- ② Later, Maya used a second source, a city power company handout. It explained that generators at power plants use energy from moving water, wind, steam, or fuels to make electric current. Power lines carry that current to homes and schools. People harness this electricity by building circuits, switches, and appliances that control where the current goes and what it does.
- ③ To compare the sources, Maya wrote notes in two columns. She recorded where each example starts, how it travels, and whether people control its path. Her notes helped her notice that electricity can appear in nature or be put to use by people. Looking at more than one source gave her evidence for a careful explanation.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Gather one detail from the museum source and one detail from the power company source about how electricity travels. How do the paths differ?

2 What evidence from both sources supports this claim: People control power-line electricity, but they do not control lightning?

3 Which source would you use to explain why a switch is useful, and which source would you use to explain an unplanned electrical discharge? Give a reason for each choice.

4 Name two comparison questions Maya used for her notes. Tell how those questions could help sort a new example as naturally occurring or human-harnessed.

3 YOUR TURN _____ Your own words

Write a four-sentence museum caption for an exhibit with lightning and a school appliance. Use one fact from each source, explain how visitors could sort the examples, and include the words *static*, *current*, and *control*.

PART 1 • READ AND MARK

Underline one detail from each source that tells how electricity travels. Circle words that show whether people control it, then write 1 and 2 beside the two sources. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Gather one detail from the museum source and one detail from the power company source about how electricity travels. How do the paths differ?	Lightning travels through the air after charges discharge. Human-harnessed current travels on power lines and through circuits. Lightning is not directed through built pathways, but current is.
2	What evidence from both sources supports this claim: People control power-line electricity, but they do not control lightning?	The museum source says lightning is not directed through wires or devices people designed. The power company source says people build circuits, switches, and appliances to control where current goes and what it does.
3	Which source would you use to explain why a switch is useful, and which source would you use to explain an unplanned electrical discharge? Give a reason for each choice.	Use the power company handout for a switch because it explains that switches help control current. Use the museum label for an unplanned discharge because it explains that storm-cloud charges discharge as lightning.
4	Name two comparison questions Maya used for her notes. Tell how those questions could help sort a new example as naturally occurring or human-harnessed.	Answers may name where the electricity starts, how it travels, or whether people control its path. These questions show whether the example occurs in nature without built controls or is guided by people through a system.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Lightning is a naturally occurring event caused by static charges that build up in storm clouds. When the charges discharge, electricity can travel through the air. At a power plant, generators make electric current that power lines carry to schools. People control this current with circuits and switches to use it in appliances.

Accept equivalent evidence-based comparisons from both sources. Students should distinguish naturally occurring static-charge discharge from current that people guide through designed systems.