Heat Report

Study a short research report, then write one of your own.

6.6.W.4 "Students will create research papers and/or projects independently for shorter timeframes (e.g., a single sitting or a day or two)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the research question, circle the names of the two sources, and number one fact from each source that helps answer the question.

Why Does the Sidewalk Feel Hot?

1 On a sunny afternoon, a concrete sidewalk can feel much warmer than the grass beside it. Why can a sunny sidewalk feel warmer than nearby grass? This short research report looks at two possible causes: the material covering the ground and the presence of plants. The question is narrow enough to explore with a few useful sources. To investigate it in one sitting, I used information from NASA and the U.S. Environmental Protection Agency, or EPA. Both agencies explain how sunlight affects outdoor spaces.

2 NASA's information about urban heat islands explains that roads and buildings absorb and hold more of the sun's heat than natural areas do. These built surfaces can release stored heat after the sun goes down. The EPA explains that trees cool nearby areas in two ways. Their leaves block some sunlight, and trees release water vapor into the air through a process called transpiration. Each source adds a different piece to the answer: NASA describes how built surfaces gain heat, while the EPA describes how plants help reduce it.

3 Together, these facts help explain the sidewalk and grass comparison. A sunny sidewalk has a built surface that takes in heat, while a grassy area may stay cooler, especially if trees provide shade. Shade does not change what the sidewalk is made of, but it can reduce the sunlight striking it. This report does not prove that every patch of grass is cooler at every hour. To check the idea at one school, a student could compare temperatures on a sunny sidewalk and in a shaded grassy spot at the same time.

2 ANSWER WITH EVIDENCE

Use the passage

1. What focused research question guides the report?

2. Which fact from NASA helps answer that question? Name the source in your answer.

3. Which fact from the EPA adds a different part of the answer? Name the source in your answer.

4. How does the report avoid claiming that its answer applies everywhere, and what does it suggest doing next?

3 YOUR TURN

Your own words

Write a 5 to 6 sentence mini research report about how your school could cool an outdoor lunch area with dark pavement and no shade. State a focused question, use one fact from NASA and one from the EPA in your own words, then recommend one change and explain how the facts support it.

ANSWER KEY

Heat Report

GRADE 6 · 6.6.W.4

PART 1 · READ AND MARK

Underline the research question, circle the names of the two sources, and number one fact from each source that helps answer the question. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What focused research question guides the report?	**Why can a sunny sidewalk feel warmer than nearby grass?**
2	Which fact from NASA helps answer that question? Name the source in your answer.	**NASA explains that roads and buildings absorb and hold more of the sun's heat than natural areas do.**
3	Which fact from the EPA adds a different part of the answer? Name the source in your answer.	**The EPA explains that trees block some sunlight and release water vapor, which helps cool nearby areas.**
4	How does the report avoid claiming that its answer applies everywhere, and what does it suggest doing next?	**It says not every patch of grass is cooler at every hour. It suggests comparing temperatures on a sunny sidewalk and in a shaded grassy spot at the same time.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

How could our school cool an outdoor lunch area with dark pavement and no shade? NASA explains that roads and other built surfaces take in and hold heat from the sun. The EPA explains that trees provide shade and release water vapor that helps cool nearby areas. I recommend planting shade trees beside the lunch tables. Their leaves would block some sunlight from reaching the pavement and the students. The trees could also help cool the air around the tables.

Accept accurate paraphrases of each agency's facts. For the mini report, look for a focused question, a fact attributed to each source, and a recommendation supported by those facts.