Heat Evidence Check

Evaluate sources before turning evidence into a claim.

10.R "The student will conduct research and read a series of conceptually related texts on selected topics to build knowledge on grade-ten content, texts, and areas prompted by student interest..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the name or description of each source, including the team's original measurements, and circle each statement that explains a source's limit, so you can compare what the evidence supports.

Researching Hotter Bus Stops

1. For a project on summer heat, Maya began with a broad question: "Why do some blocks in Riverton feel hotter than others?" She narrowed it after noticing little shade near bus stops: "How does tree cover affect afternoon surface temperature on Riverton bus-stop blocks?" Her team measured pavement and grass temperatures at six stops at 3 p.m. for four clear days, recording the date, location, surface, and reading each time. These original measurements were primary data. The team also used the City of Riverton Weather Office's daily station record, another primary source, to confirm that the days had similar air temperatures.

2. To explain their results, Maya consulted the U.S. Environmental Protection Agency's "Heat Island Effect" webpage. This secondary source describes how trees can cool surfaces through shade and evapotranspiration. It was credible and useful because a federal agency published it and linked to supporting research, but it did not report conditions at Riverton's six stops. Maya also found the National Weather Service forecast archive, which showed clear skies on the measurement dates. That record supported the team's weather check, yet it could not show why one stop's pavement was warmer. Each source answered a different part of the inquiry.

3. Maya's draft claim stated that blocks with more tree cover had cooler pavement during the team's four afternoons. She added a counterclaim: weather, pavement color, and the small sample could also affect temperatures, so the results did not prove that trees alone caused the difference. A landscaping company's blog, Cool Pavement Now, claimed that its reflective coating "cuts neighborhood heat by 20 percent." Because the company sells the coating and gives no study methods, Maya treated its claim as possible bias, not reliable proof. She paraphrased the EPA webpage in her notes, cited it in MLA style, and did not copy its wording or present AI-generated text as research.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did Maya narrow her original research question, and what observation led her to revise it?

2. According to the passage, which two sources are explicitly identified as primary sources?

3. Why was the EPA webpage useful to Maya, and what important limitation did it have?

4. Why did Maya reject the landscaping company blog as reliable proof, and how did she use the EPA webpage ethically?

3 YOUR TURN

Your own words

Create a 90 to 120 word research plan about a school or community question. Include a broad question and a narrower revision, three sources with their source types, one credibility or limitation note, a tentative claim and counterclaim, and one ethical citation or technology-use choice.

ANSWER KEY

Heat Evidence Check

GRADE 10 · 10.R

PART 1 · READ AND MARK

Underline the name or description of each source, including the team's original measurements, and circle each statement that explains a source's limit, so you can compare what the evidence supports. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did Maya narrow her original research question, and what observation led her to revise it?	**She changed a general question about hotter Riverton blocks into a question about tree cover and afternoon surface temperature at bus stops after noticing little shade near bus stops.**
2	According to the passage, which two sources are explicitly identified as primary sources?	**The team's own pavement and grass temperature measurements and the City of Riverton Weather Office's daily station record.**
3	Why was the EPA webpage useful to Maya, and what important limitation did it have?	**It explained how trees can cool surfaces and was published by a federal agency with supporting research. It did not report conditions at Riverton's six bus stops.**
4	Why did Maya reject the landscaping company blog as reliable proof, and how did she use the EPA webpage ethically?	**The company sold the coating and gave no study methods, showing possible bias and weak evidence. Maya paraphrased the EPA information, cited it in MLA style, and did not copy wording or present AI text as research.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Broad question: How does shade affect comfort at our school? Revised question: How does tree shade affect pavement temperature at three school entrances at 3 p.m. in September? I will collect my own pavement readings, a primary source, and use the City Parks Department Tree Inventory, a primary record, to identify tree cover. The EPA's "Heat Island Effect" webpage is a credible secondary source, although it cannot describe our entrances. My tentative claim is that shadier entrances will have cooler pavement. A counterclaim is that pavement material or wind may explain differences. I will cite the EPA when paraphrasing (U.S. Environmental Protection Agency) and will not copy text or submit AI output as my own.

Accept equivalent explanations that distinguish a source's usefulness from its limitations and identify the team's original measurements as primary data. For the open task, accept other relevant topics and sources if the response includes all required research-plan elements and uses source types accurately.