Shade and Evidence

Use focused questions and credible sources to investigate a complex topic.

7.T.RA.1 "Research & Inquiry: Conduct research, generating questions to guide investigations of complex topics of interest and using credible sources to support analyses."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline Maya's main research question. Circle each source she uses, number the sources 1 through 3, and draw a line from each source to the information it can help investigate.

Shade on the Schoolyard

1 When seventh grader Maya noticed that the playground near her apartment had little shade, she began an investigation. Her first question was, "How could planting trees change heat and comfort around our school?" She added smaller questions: Which places get hottest? Which tree species can survive there? Who would care for them? These questions helped her see that the topic was more complex than simply buying seedlings. They also guided her search for evidence about cost, water, and neighborhood needs.

2 To find reliable evidence, Maya checked who created each source and why. A city parks department map showed where public trees already stood. That map helped with location, but it did not explain how shade affects temperature. For that question, she used a U.S. Forest Service webpage describing how tree shade and evaporation can cool nearby areas. She also read a peer-reviewed study about summer temperatures at schoolyards. The study compared shaded and unshaded surfaces there.

3 Next, Maya planned to compare three places on school grounds at the same time of day. She would record surface temperatures and note whether each place had shade. The city map and federal webpage gave useful background, while her observations could show local conditions. Maya knew that one hot day would not prove that trees caused every temperature difference. She planned to collect measurements on several days and compare them carefully before making a claim.

2 ANSWER WITH EVIDENCE

Use the passage

1. What is Maya's main research question?

2. Name two smaller questions Maya asks. How do these questions make her investigation more focused?

3. Which source helps Maya learn how shade can affect temperature? Why is the city parks map not enough for that question?

4. What local evidence will Maya collect, and why will she collect it on several days?

3 YOUR TURN

Your own words

Choose a school or community topic you want to investigate. Write one broad research question, two smaller questions, and name two credible sources, explaining what each source could help you learn.

ANSWER KEY

Shade and Evidence

GRADE 7 · 7.T.RA.1

PART 1 · READ AND MARK

Underline Maya's main research question. Circle each source she uses, number the sources 1 through 3, and draw a line from each source to the information it can help investigate. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What is Maya's main research question?	**How could planting trees change heat and comfort around our school?**
2	Name two smaller questions Maya asks. How do these questions make her investigation more focused?	**Answers include which places get hottest, which tree species can survive, and who would care for them. They focus her research on specific needs, such as location, suitable trees, and maintenance.**
3	Which source helps Maya learn how shade can affect temperature? Why is the city parks map not enough for that question?	**The U.S. Forest Service webpage helps explain how shade and evaporation can cool nearby areas. The city map shows tree locations, but it does not explain temperature effects.**
4	What local evidence will Maya collect, and why will she collect it on several days?	**She will record surface temperatures and shade at three school locations. Several days of measurements provide more evidence because one hot day cannot prove that trees caused every difference.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

My question is, "How could our school reduce food waste in the cafeteria?" Smaller questions are, "How much unopened food is thrown away each day?" and "Which rules affect donating safe leftover food?" A daily cafeteria waste log kept by nutrition staff could show what and how much food is discarded, and a USDA Food and Nutrition Service webpage could explain federal guidance for donating food safely.

Accept focused questions that show the topic has more than one part to investigate. Sources should be credible and relevant, and students should clearly connect each source to a question or type of evidence.