

Questions Before Claims

Build a focused investigation with credible evidence.

10.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 the two sources she treats as credible evidence, and number the details she uses to judge a source.

Shade on the Blacktop

- ① When Maya’s school planned to replace part of its blacktop courtyard with shade trees, she wanted to know whether the change would make summer afternoons safer. Her first question, “Are trees good for heat?” was too broad to guide research. She revised it: “How much can tree shade lower surface temperatures in a paved school courtyard during a summer day?” This question names a place, a condition, and a measurable result. Maya also listed smaller questions: “Which tree designs produce the most shade?” and “How do hotter surfaces affect students during outdoor activities?” These questions could lead to evidence rather than opinions.
- ② To investigate, Maya would collect temperature readings at shaded and unshaded spots at the same times. For background research, she would use the Environmental Protection Agency’s urban heat island pages, which explain how pavement and buildings can raise local temperatures. She would also read a peer-reviewed study that reports measured temperatures or health effects in comparable outdoor spaces. A landscaping company’s blog might offer useful planting ideas, but it sells services and may not report methods or limits. Maya would check each source’s author, date, evidence, purpose, and connection to her exact question.
- ③ After gathering evidence, Maya would not simply stack facts. She would compare her courtyard readings with the EPA explanation and the peer-reviewed study. If shaded pavement was consistently cooler, she could argue that shade is likely to reduce heat exposure in that courtyard. She would still avoid claiming that trees alone prevent every heat-related illness, because her measurements cover one location and limited times. Her next question might be, “Which shaded areas do students actually use during hot days?” That question would help her connect temperature data to a practical school decision.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Why was Maya's first question too broad, and what makes her revised question more useful for research?

2 What are Maya's two smaller research questions, and how could they help her investigation?

3 Which source should Maya use for evidence about measured temperatures or health effects, and why is the landscaping company's blog weaker for that purpose?

4 State Maya's supported claim about shade and one reason she must limit that claim.

3 YOUR TURN _____ Your own words

Choose a school or community issue you want to investigate. Write exactly four sentences: state one focused research question, give two smaller questions, name two credible sources you would use and why, then make a cautious claim you could investigate with those sources.

PART 1 • READ AND MARK

Underline Maya's main research question, circle the two sources she treats as credible evidence, and number the details she uses to judge a source. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Why was Maya's first question too broad, and what makes her revised question more useful for research?	The first question is general and does not identify what to measure. The revised question names a paved school courtyard, tree shade, a summer day, and surface temperature.
2	What are Maya's two smaller research questions, and how could they help her investigation?	She asks which tree designs produce the most shade and how hotter surfaces affect students during outdoor activities. They help her find evidence about shade design and heat effects on students.
3	Which source should Maya use for evidence about measured temperatures or health effects, and why is the landscaping company's blog weaker for that purpose?	She should use a peer-reviewed study. The blog sells services and may not report its methods or limits.
4	State Maya's supported claim about shade and one reason she must limit that claim.	She can claim that shade is likely to reduce heat exposure in that courtyard if shaded pavement is consistently cooler. Her data come from one location and limited times, so she cannot claim that trees prevent every heat-related illness.

PART 3 • YOUR TURN (SAMPLE ANSWER)

My research question is, "How would a later school start time affect the amount of sleep tenth graders get?" I would ask, "What time do tenth graders currently go to sleep?" and "How would bus schedules change if school began later?" I would use guidance from the Centers for Disease Control and Prevention and a peer-reviewed study of adolescent sleep, because each source provides evidence from health experts or researchers. If both sources show that later starts are linked to more sleep, I could argue that the district should study a schedule change, while recognizing that local transportation evidence is also needed.

Accept focused questions that name a specific group, setting, condition, or outcome. In Part 3, accept credible sources with a clear explanation of authority or evidence, plus a claim that is limited by the available evidence.