

Evidence With Limits

Read a model research brief that connects evidence, synthesis, and responsible recommendations.

12.R.1.E "Create research products aligned with the demands of the reading and writing standards."

NAME _____

DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the central claim and the final recommendation, circle each source or data type used as evidence, and write 1 beside each limit on what the evidence can show.

Cooling a Hot City

- ① City planners often promote tree planting as a response to extreme heat, but a useful research brief must distinguish a plausible benefit from a guaranteed result. The U.S. Environmental Protection Agency explains that shade and evapotranspiration from trees can lower surface and air temperatures. That broad scientific explanation supports the claim that canopy can reduce heat exposure. It does not show which blocks in one city need trees most. For a local decision, a writer needs location-specific evidence, such as mapped temperatures, existing canopy, and the places where residents are most exposed to heat.
- ② Satellite images can estimate land-surface temperature across a city, allowing a writer to compare hotter and cooler areas. Because pavement and rooftops can be much hotter than the air people breathe, the brief should not treat satellite readings as direct measures of residents' air temperatures. Ground weather sensors can supply air-temperature observations, while a tree inventory can show where canopy is absent. American Community Survey data can indicate neighborhood patterns in age, income, and housing, factors that may shape heat risk. Each source answers a different question, so combining them is synthesis, not merely a longer list of facts.
- ③ A research product for a city council should make its reasoning visible. It could recommend prioritizing tree maintenance and planting in locations where high surface heat, sparse canopy, and high exposure overlap. The product should cite the agency explanation, identify the dates and methods behind local maps, and explain why the datasets were compared. It should also acknowledge uncertainty. A satellite image taken on one cloud-free afternoon may not represent nighttime conditions or every hot day, and census estimates describe groups rather than every household. Clear source notes and a stated limit let decision makers judge how strongly the evidence supports the recommendation.

2 ANSWER WITH EVIDENCE Use the passage

1 What claim does the EPA explanation support, and what local decision can it not make by itself?

2 Why should a writer avoid treating satellite readings as direct measures of residents' air temperatures? What source can provide the missing type of observation?

3 How does the passage explain synthesis when using several sources about heat risk?

4 Name two details the research product should include so city council members can evaluate its reasoning.

3 YOUR TURN Your own words

Choose a school or community issue. Write a 100 to 130 word research-product proposal that states a qualified claim, identifies two sources or data types, explains how each will serve the claim, names one limitation or unanswered question, and ends with a recommendation for a specific audience.

PART 1 • READ AND MARK

Underline the central claim and the final recommendation, circle each source or data type used as evidence, and write 1 beside each limit on what the evidence can show. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What claim does the EPA explanation support, and what local decision can it not make by itself?	It supports the claim that tree canopy can reduce heat exposure. By itself, it cannot identify which blocks in a particular city need trees most.
2	Why should a writer avoid treating satellite readings as direct measures of residents' air temperatures? What source can provide the missing type of observation?	Satellite images measure land-surface temperature, and pavement or rooftops may be hotter than the air people breathe. Ground weather sensors can provide air-temperature observations.
3	How does the passage explain synthesis when using several sources about heat risk?	Synthesis combines sources because each answers a different question, such as where land is hottest, where canopy is absent, and which populations may face greater risk.
4	Name two details the research product should include so city council members can evaluate its reasoning.	Answers may include citations to the agency explanation, dates and methods for local maps, an explanation of why datasets were compared, clear source notes, and a stated limitation.

PART 3 • YOUR TURN (SAMPLE ANSWER)

For the school board, later high school start times may improve students' opportunity for sleep, although local transportation limits must be studied. I would use the American Academy of Pediatrics' policy statement on adolescent sleep and school start times to establish the health rationale. I would also examine district bus-route schedules and a student sleep survey to determine whether a later start is feasible and needed locally. The policy statement cannot predict how this district's buses or families will respond, and a voluntary survey may miss some students. I recommend that the board pilot a later start at one high school, collect attendance and sleep data, and compare results with a similar school.

Accept responses that accurately distinguish what a source can support from what it cannot establish. For Part 3, look for a qualified claim, purposeful use of two sources, a meaningful limitation, and a recommendation that follows from the proposed evidence.