

Evidence Under the Trees

Evaluate sources and build a careful research claim.

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

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the evidence that supports the team’s cautious claim, circle each source limitation or credibility concern, and number the three sources in the order they appear.

Cooling Claims in Riverton

- ① Riverton’s council is considering a summer tree-planting plan after residents reported hotter walks near large parking lots. A student research team first asked, “Do more trees make Riverton cooler?” That question was too broad to investigate well. The team revised it: “How did afternoon air temperatures differ between Riverton blocks with high and low tree canopy during July 2025?” The revision names a place, measure, comparison, and time period. It also prevents the team from assuming that trees alone caused every temperature difference. They planned to compare several blocks rather than rely on one memorable walk.
- ② To answer the revised question, the team downloaded hourly readings from 18 city-operated temperature sensors. The city’s open-data file listed each sensor’s location, date, time, and calibration checks, so it was a primary record of measurements. For July afternoons from 2:00 to 5:00 p.m., blocks with at least 40 percent canopy averaged 2.1 degrees Fahrenheit cooler than blocks with less than 10 percent canopy. The team also used a university report that summarized studies of shade and heat. It was a credible secondary source because it named authors, methods, and references, but it could not establish what happened on Riverton’s particular blocks.
- ③ A neighborhood blog claimed that trees explained every difference, but it offered no data or author expertise. The team treated that statement as a viewpoint, not evidence. They also noted limits in the sensor study: traffic, building shade, pavement, and sensor placement may have affected temperatures. The evidence supports a careful claim that, during the measured July afternoons, high-canopy blocks were cooler on average. It does not prove that planting trees will produce the same change everywhere. In the final report, the team quoted the city file and paraphrased the university report with MLA citations. They disclosed using an AI tool to brainstorm search terms, then verified sources themselves.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did the team narrow its original research question? Give two details that make the revised question more researchable.

2 Why is the city open-data file a primary source, and what is one limitation of the university report?

3 State the temperature finding that supports the team’s claim. Then name one factor that prevents the finding from proving that tree canopy alone caused the difference.

4 Why did the team treat the neighborhood blog as a viewpoint instead of evidence, and how did the team use AI ethically?

3 YOUR TURN _____ Your own words

Choose a researchable issue that matters to you. Create a research card with a broad question and a revised question, three real sources labeled primary or secondary with one credibility, usefulness, or limitation note each, and a tentative claim supported by evidence plus a counterclaim or limitation. Use MLA-style in-text citations for your claim, add a Works Cited entry for each source, and state how you used AI or that you did not use it.

PART 1 • READ AND MARK

Underline the evidence that supports the team's cautious claim, circle each source limitation or credibility concern, and number the three sources in the order they appear. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did the team narrow its original research question? Give two details that make the revised question more researchable.	It changed a broad question about whether trees make Riverton cooler into a question about July 2025 afternoon air temperatures on Riverton blocks with high versus low canopy. The revision specifies a place, measure, comparison, and time period.
2	Why is the city open-data file a primary source, and what is one limitation of the university report?	The city file is a primary source because it records the sensor measurements, including locations, dates, times, and calibration checks. The university report cannot show what happened on Riverton's specific blocks.
3	State the temperature finding that supports the team's claim. Then name one factor that prevents the finding from proving that tree canopy alone caused the difference.	From 2:00 to 5:00 p.m. in July, blocks with at least 40 percent canopy averaged 2.1 degrees Fahrenheit cooler than blocks with less than 10 percent canopy. Traffic, building shade, pavement, or sensor placement could also have affected temperatures.
4	Why did the team treat the neighborhood blog as a viewpoint instead of evidence, and how did the team use AI ethically?	The blog gave no data or author expertise. The team disclosed that AI was used only to brainstorm search terms and verified sources themselves.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Broad question: Should high schools start later? Revised question: How might an 8:30 a.m. or later start affect sleep among students at my high school? Dunster et al. is a peer-reviewed primary study, though it was not a randomized experiment. Seattle Public Schools' bell-time page is a reliable primary record of schedules, but it does not measure sleep. The CDC is a credible secondary public-health source, but its guidance is general. Claim: Our district should study later starts because adolescents need 8 to 10 hours of sleep, and later starts in Seattle were associated with more student sleep (Centers for Disease Control and Prevention; Dunster et al.). Counterclaim: Bus schedules and after-school activities could make a change difficult. AI use: None. Works Cited Centers for Disease Control and Prevention. "How Much Sleep Do I Need?" CDC, www.cdc.gov/sleep/about_sleep/how_much_sleep.html. Dunster, Gideon P., et al. "Sleepmore in Seattle: Later School Start Times Are Associated with More Sleep and Better Performance in High School Students." *Science Advances*, vol. 4, no. 12, 2018, eaau6200. Seattle Public Schools. "School Bell Times." Seattle Public Schools, www.seattleschools.org.

Accept equivalent explanations that accurately distinguish direct measurement records from summarized research, evaluate source limits, and avoid claiming causation beyond the evidence. For the open task, accept any appropriate topic, provided the student includes three real sources, a qualified evidence-based claim, a limitation or counterclaim, MLA-style documentation, and an AI-use disclosure.