

Evidence Under Heat

Evaluate sources before building a research claim.

12.R.1 "Evaluation and Synthesis of Information Formulate and revise questions about a research topic broadening or narrowing the inquiry as necessary. Gather and organize information from various sources..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline choices that make the model inquiry focused and evidence-based. Circle ethical source-use checks. Riverton and its council are fictional; the source cards identify real publications.

Investigating Hot Bus Stops

- ① A model research team wants to advise a fictional Riverton council about hot bus stops. It cannot claim to have local temperature logs or a current canopy map, because none are supplied. The team starts by asking what published evidence would justify investigating trees as one response. It defines the kind of heat, the time period and the comparison it wants to explain. As sources reveal limits, it revises the question rather than making its evidence sound more complete than it is.
- ② A primary study and a secondary guidance page have different roles. The team evaluates each source's main idea and supporting evidence, author expertise, methods, purpose, accuracy and limitations. It looks for corroboration, bias or a misconception, and asks whether apparently conflicting claims concern the same conditions. A final argument connects evidence from several sources, introduces a fair counterclaim and answers it. It distinguishes the team's reasoned recommendation from a measured fact and identifies what additional evidence a local decision would require.

- ③ Plagiarism is presenting another person's words or ideas as your own. School consequences can apply; unauthorized copying of protected material can also create copyright liability when no legal exception applies. A citation gives credit but is not permission. The team marks quotations, credits paraphrases and follows class rules for AI and other tools. It verifies suggested claims and references against original sources and discloses substantive help. Its teacher checks the completed source log, argument, citations and honest AI-use statement, not a promise to do those things later.

Source A

Ziter, Carly D., et al. "Scale-dependent interactions between tree canopy cover and impervious surfaces reduce daytime urban heat during summer." PNAS, 2019. Early-online version, pp. 1-6. DOI: 10.1073/pnas.1817561116.

https://turnerlab.ibio.wisc.edu/wp-content/uploads/sites/43/2021/12/Ziter_et alPNAS2019_UrbanHeat-1.pdf

Editorial summary: Measured summer air temperatures varied with tree canopy and paved cover.

Limits to examine: Read the abstract and Methods on page 5. Examine the setting, sampling and limits before transferring findings elsewhere.

Source B

"Measuring Heat Islands." U.S. Environmental Protection Agency, updated 10 Mar. 2026.

<https://www.epa.gov/heatislands/measuring-heat-islands>

Editorial summary: This guidance connects research objectives to the location, timing and type of temperature evidence needed. Air and surface measurements answer different questions. It recommends consistent measurement methods and documenting study context.

Limits to examine: Read the objectives, data-needs and key-considerations sections. This is a decision framework, not a completed assessment of your neighborhood.

2 ANSWER WITH EVIDENCE Use the passage and sources

- 1 Why must the team distinguish a general finding from a claim about Riverton?

- 2** Name two checks beyond author reputation that the team uses to evaluate sources. Explain how one affects usefulness.

- 3** What should the team check before calling two source claims contradictory, and what must its final argument include?

- 4** Define plagiarism and explain why a citation alone does not settle legal or ethical source use.

3 YOUR TURN _____ Your own words

Supplies: internet, a research database or repository and a document tool. Allow three sessions. Complete the full log and argument in your document; the printed lines record progress. No real Riverton data, paid source or outdoor measurements are required.

Research a question you generate about heat near bus stops. Submit a source log and a four-paragraph argument for the mock Riverton council, including a counterclaim, citations, Works Cited and an AI-use statement.

1. Gather and revise the question

Record your initial question. Read A's abstract and Methods and B's specified sections. Find and read a third relevant source through a database, repository or authoritative website. Log search terms, retrieval dates, authors, titles, publication dates and URLs. Revise your question as evidence changes its scope; explain why. Record what each source actually contributes, without inventing local observations.

Record your revised question and the additional source you actually read.

2. Evaluate and organize the sources

For each source, log its main idea, supporting evidence and locator, primary/secondary role, purpose or viewpoint, and a credibility judgment. Evaluate reliability, accuracy, usefulness and limitations through methods, dates and corroboration. Identify possible bias or misconceptions; compare a disagreement or apparent conflict and decide whether differing conditions explain it. Organize notes by claim and counterclaim rather than by which source you prefer.

Record a source comparison and how it affected the strength of your claim.

3. Write a supported argument

Write four connected paragraphs: revised question and qualified claim; evidence integrated from multiple sources; a fair counterclaim with a reasoned response; and a conclusion naming limits and missing local evidence. Use all three sources substantively. Include one short quotation and at least two paraphrases with MLA citations. Explain relationships among ideas, rather than listing source summaries. Revise for coherent organization and precise language.

Record your final claim and the strongest counterclaim you answered.

4. Verify ethical use and submit

Check every quotation, paraphrase and citation against the originals. Use MLA in-text citations matching an alphabetized Works Cited list with author, title, container, date and URL or DOI as appropriate. Use only page numbers from the consulted version. Follow permission or fair-use rules and class policies for AI and new tools; citation is not permission. Disclose substantive allowed AI help and verification, or state 'none' if accurate. Cite incorporated AI content too. Submit the completed argument, log, citations and work record.

Record the final title, one source-use check and your honest AI-use disclosure.

PART 1 • READ AND MARK

Underline choices that make the model inquiry focused and evidence-based. Circle ethical source-use checks. Riverton and its council are fictional; the source cards identify real publications. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Why must the team distinguish a general finding from a claim about Riverton?	Riverton is fictional and no local logs or current map are supplied. Published research can inform an inquiry without establishing measured facts about that location.
2	Name two checks beyond author reputation that the team uses to evaluate sources. Explain how one affects usefulness.	It checks methods, evidence, purpose, accuracy, limitations and corroboration. For example, evidence from different conditions may be credible yet less useful for the particular question.
3	What should the team check before calling two source claims contradictory, and what must its final argument include?	It should compare the conditions and scope of the claims. Its argument must connect evidence, introduce a fair counterclaim, respond and identify limits.
4	Define plagiarism and explain why a citation alone does not settle legal or ethical source use.	Plagiarism presents another's words or ideas as one's own. Credit does not itself authorize copying; permission or an applicable exception and class technology/AI rules still matter.

PART 3 · YOUR TURN (SAMPLE ANSWER)

Illustrative argument structure: a writer supports a carefully bounded investigation, explains evidence from the read sources, fairly considers whether other factors or evidence gaps weaken the recommendation, and concludes with a limited answer. The student must supply the actual evidence and third source; this structure is not a completed argument.

For the linked A version's Methods, use (Ziter et al. 5); for B's title-led entry, use ("Measuring"). Build and verify full Works Cited entries from the consulted sources. Accept a different defensible claim when the evidence and reasoning support it.

Assess actual read sources, notes, changed questions and completed reports, not a proposed investigation. Require evidence to support the answer and limits, with sources connected in the writer's reasoning. Do not accept invented bus-stop measurements or a generic future plan. Source A is an early-online PDF numbered 1-6; use those locators when citing that version. Source-card metadata and URLs provide a starting point for Works Cited; students must check and format the versions they actually consult. Arrange real source access if needed. Require an initial/revised question, three evaluated sources, synthesis with counterclaim/response, quote and paraphrases, MLA documentation and truthful AI statement. Ethical background: MLA, 'Plagiarism and Academic Dishonesty' (style.mla.org/plagiarism-and-academic-dishonesty/) and 'Beyond Citation: Describing AI Use in Your Work' (style.mla.org/describing-ai-use/); U.S. Copyright Office use/permission FAQ (copyright.gov/help/faq/faq-fairuse.html).