Heat Detective

Track how a researcher tests sources and builds a conclusion.

ELA.7.C.4 "Researching"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline details that show why a source is reliable or unreliable. Circle the evidence Maya compares before making her conclusion.

Investigating a Hot Playground

1. When Maya noticed that the playground felt hotter than nearby streets, she formed a research question: How do shade and ground materials affect afternoon temperatures at Riverview Park? She planned to compare several kinds of evidence instead of trusting one online post. First, she checked the city parks department's map to identify tree cover, benches, and paved areas. The map listed its survey date and was published by the agency that maintains the park, so Maya considered it a reliable starting source.

2. Next, Maya used a digital thermometer to measure the surface temperature of grass, rubber tiles, and black asphalt at 3:00 p.m. on three clear days. She recorded the time, weather, location, and each reading in a table. Her results showed that shaded grass was cooler than sunny asphalt each day. Maya also found a university extension article explaining that dark pavement absorbs more solar energy than light-colored surfaces. Because the article named its author, cited studies, and came from a university, it supported, but did not replace, her own observations.

3. One source made Maya pause. A neighborhood blog claimed that new trees would lower every park temperature by 20 degrees within a week, but it gave no author, measurements, or links to evidence. She did not use that claim. After comparing her table, the parks map, and the university article, Maya concluded that shade and surface type both likely influence heat at Riverview Park. Her research also raised a new question: Which shade structures would cool the playground most without blocking space for games?

2 ANSWER WITH EVIDENCE

Use the passage

1. Which source does Maya reject? Give two details that make it unreliable.

2. How do Maya's temperature table and the parks department map help her investigate the same question in different ways?

3. Which source helps explain why pavement might be hotter, and what makes that source credible?

4. What new research question does Maya generate after studying the park?

3 YOUR TURN

Your own words

Source packet: fictional Cedar outdoor sketch club
These three classroom-authored practice records are invented. They are evidence for this limited fictional inquiry, not facts about a real school.

Source A: art teacher's checked inventory, October 9, 2026
The art room has 12 usable clipboards. All 12 are available for the sketch club on Friday from 3:00 to 3:30.

Source B: club coordinator's signup record, October 9, 2026
Eighteen students have signed up for Friday's 3:00–3:30 sketch club. Each student needs one clipboard for the planned activity. No clipboard sharing is planned.

Source C: office borrowing note, October 9, 2026
The office can lend 6 additional usable clipboards to the sketch club Friday from 2:50 to 3:40. These 6 are separate from the art-room inventory. The note does not list rain arrangements.

Conduct this inquiry: Can the club provide one clipboard to each signed-up student during the planned activity? Read all three records, make source-labeled notes on extra paper, and write a supported answer combining their findings. Explain why each record is relevant and directly usable for this question, and identify one limitation. Generate an additional research question arising from the evidence and name what further information would answer it. Keep your actual notes for your teacher.

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PART 1 · READ AND MARK

Underline details that show why a source is reliable or unreliable. Circle the evidence Maya compares before making her conclusion. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which source does Maya reject? Give two details that make it unreliable.	**She rejects the neighborhood blog because it has no author, measurements, or links to evidence.**
2	How do Maya's temperature table and the parks department map help her investigate the same question in different ways?	**The map identifies shade, trees, and paved areas, while Maya's table records temperatures at different surfaces and locations.**
3	Which source helps explain why pavement might be hotter, and what makes that source credible?	**The university extension article helps explain it. It names an author, cites studies, and comes from a university.**
4	What new research question does Maya generate after studying the park?	**Which shade structures would cool the playground most without blocking space for games?**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Source A provides 12 usable art-room clipboards for the planned time. Source B lists 18 students who each need one. Source C provides 6 separate usable office clipboards during an interval that includes the whole club meeting. The total is 12 + 6 = 18, so the club can provide one clipboard per signed-up student if it borrows all 6 office clipboards. These dated records directly document the inventory, participant needs and borrowing availability, making them useful for this limited fictional question. They do not give rain arrangements; my additional question is where the club can sketch if it rains, and a coordinator's indoor-backup plan would help answer it.

Preserve all four correct Maya answers and cautious source-limit reasoning. Inspect actual A/B/C notes, a combined answer, reasons tied to the record contents, a real limitation and an additional evidence-driven question. Verify 12 + 6 = 18, one per 18 students, with Friday 3:00–3:30 inside office availability 2:50–3:40. Do not invent rain arrangements or treat a date alone as universal credibility. Other genuine gaps/questions are acceptable. A would-use list alone is not completion; actual supported source consultation is required, with no live internet or all-format quota.