

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

Write a research question about a school or community problem. List three sources you would use, tell what each source could help you learn, and explain why each source is reliable.

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)

Research question: Would water-bottle filling stations reduce plastic bottle waste at our school? I would use dated school recycling records to measure bottle waste, a student survey with listed questions and participant totals to learn about student habits, and a city water-quality report to check tap-water safety. The records are direct evidence, the survey method is visible, and the city report comes from the agency that tests local water.

Accept answers that accurately identify source evidence and explain how credibility features support or weaken a source. For the open task, accept varied questions and sources when the student explains what each source provides and gives a reasonable reliability check.