

Hot Spot Detectives

Track structure, questions, and summary in a complex informational text.

10.DSR.E "Use reading strategies as needed to aid and monitor comprehension when encountering challenging sections of text. These sense-making strategies attend to text structure, common organizational structures, summarizing..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle two transitions that show how ideas connect. Beside each paragraph, write a brief main-idea note; use notebook paper if needed. Mark a sentence whose meaning you need to check.

Heat Maps, Cooler Cities

- ① On a July afternoon, two neighborhoods only a mile apart can feel noticeably different. Dark roofs, asphalt, and sparse tree cover absorb sunlight and release heat slowly after sunset, creating an urban heat island. The effect is not merely uncomfortable. Higher nighttime temperatures can make sleep difficult and can increase health risks during heat waves, especially for older adults and people without air conditioning. Yet a citywide temperature reading can hide these local differences. To understand where protection is most needed, researchers must compare conditions block by block rather than assume that every resident experiences the same heat.
- ② To reveal that pattern, volunteers in several cities have driven planned routes with sensors attached to their cars. The instruments record air temperature, humidity, and location at frequent intervals. Researchers combine readings into maps showing cooler and hotter areas during the campaign. This method has limits: observations from one day cannot establish conditions for every season, and wind can change conditions quickly. Comparing morning, afternoon, and evening readings helps reveal differences across the sampled day; additional observations are needed to test whether a pattern persists. The maps do not explain every cause by themselves, but they provide evidence that can guide closer investigation.

- ③ Once officials identify hotter blocks, they can weigh several responses. Planting trees can provide shade and cool surrounding air, but young trees need water and years to grow. Reflective roofs can reduce the heat absorbed by buildings, while cooling centers offer immediate relief during emergencies. Because each choice has costs and benefits, residents should ask who will receive the protection and who will maintain it. A useful plan pairs map data with community observations, such as which bus stops lack shade or which apartments stay hot at night. In this way, measurement becomes a starting point for decisions, not a final answer.

2 ANSWER WITH EVIDENCE Use the passage

- 1 What contrast does “Yet” introduce in paragraph 1? Explain how noticing it helps prevent a mistaken reading.

- 2 Trace paragraph 2’s structure from method to limitation to further investigation. Explain what the words “This method has limits” change about the earlier claims.

- 3 Ask a question about a hot spot that paragraph 2 cannot answer. Quote the sentence that helps you identify that limit, and explain the connection.

- 4** Summarize the whole passage in 25-35 words, preserving both the value and the limits of mapping.

3 YOUR TURN _____ Your own words

Use paragraph 2, from “This method has limits” to its end. Record an uncertain meaning or interpretation, then actually reread using a structure clue, a summary, or a question. Show your initial meaning, the strategy you used, and the checked meaning with a quotation. If already confident, test the claim that one campaign proves a permanent hot spot. State what you can now explain and what remains unknown.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

PART 1 • READ AND MARK

Circle two transitions that show how ideas connect. Beside each paragraph, write a brief main-idea note; use notebook paper if needed. Mark a sentence whose meaning you need to check. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What contrast does “Yet” introduce in paragraph 1? Explain how noticing it helps prevent a mistaken reading.	A citywide reading can conceal different conditions from block to block. The transition prevents readers from assuming that one reported temperature represents every resident’s experience.
2	Trace paragraph 2’s structure from method to limitation to further investigation. Explain what the words “This method has limits” change about the earlier claims.	Sensor routes provide measurements for maps; the paragraph then limits those observations to sampled conditions and calls for further investigation. The transition qualifies the map’s usefulness instead of saying that a map proves conditions in every season or establishes every cause.
3	Ask a question about a hot spot that paragraph 2 cannot answer. Quote the sentence that helps you identify that limit, and explain the connection.	What causes this particular hot spot? “The maps do not explain every cause by themselves, but they provide evidence that can guide closer investigation.” The sentence separates a mapped pattern from an explanation of its cause.
4	Summarize the whole passage in 25-35 words, preserving both the value and the limits of mapping.	Urban heat differs across neighborhoods. Sensor maps reveal sampled patterns, but further observations and community knowledge are needed to understand causes and choose cooling responses that fit local needs.

PART 3 · YOUR TURN (SAMPLE ANSWER)

Initial interpretation: a heat map proves that the same block is always hotter. Check: I reread the limitation and separated what was measured from what needs testing. The phrase “additional observations are needed to test whether a pattern persists” limits the earlier mapping claim. Checked meaning: the campaign reveals conditions during its sampled day; persistence needs more observations. I can now explain why maps guide investigation rather than finish it. The cause of a particular hot spot remains unknown from this passage.

Assess the actual before/check/after process and whether the quoted text supports the resulting meaning. A student may confirm a sound interpretation without inventing confusion. Accept accurate summaries within the word range. The informational passage is an original explanation, not a quotation; NOAA describes volunteer car-sensor routes sampled morning, afternoon and evening. Reference: [noaa.gov/news-release/noaa-seeks-applications-for-2024-urban-heat-island-initiative](https://www.noaa.gov/news-release/noaa-seeks-applications-for-2024-urban-heat-island-initiative). No outside text is required.