

Mapping City Heat

Find the main conclusion, then summarize the evidence and limits.

CCSS.ELA-Literacy.RST.11-12.2 "Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline one sentence in each paragraph that carries a major idea. Number the three underlined ideas 1, 2, and 3 to show how the text builds its conclusion.

How Cities Map Heat

- ① On a July morning, volunteers in Phoenix attached small temperature sensors to cars and drove assigned routes before sunrise, at midday, and after sunset. Each sensor recorded air temperature every second, while a phone logged the car's location. Later, researchers matched each temperature reading to a place on a map. The resulting maps showed that heat was not spread evenly across the city. Blocks with wide roads, dark roofs, and little shade often stayed much hotter than nearby parks or tree-lined streets. The project turned thousands of separate measurements into evidence about where heat exposure was greatest.
- ② Researchers did not treat the maps as a complete explanation. They compared temperatures with records of tree cover, pavement, building density, and household income. The comparisons revealed patterns, not proof that one feature alone caused a neighborhood's heat. Still, the patterns mattered because older decisions about zoning, highway construction, and investment had shaped where shade and cooling resources were available. In many cities, lower-income neighborhoods had fewer trees and more heat-absorbing surfaces. A heat map could therefore help officials identify an urgent problem, but it also raised questions about which past policies had produced unequal risks.
- ③ City agencies have used these maps to plan cooling centers, plant street trees, revise building rules, and target aid during heat emergencies. Yet a map is only one tool. A route measured on one day may miss conditions during a cloudy week, and air temperature does not fully capture humidity, indoor heat, health, or access to transportation. Residents can add knowledge that sensors cannot collect, such as whether a bus stop lacks shade or an apartment's cooling system fails. The strongest response combines repeated measurements with local experience, then directs resources toward reducing danger rather than merely producing a colorful map.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 State the central idea of paragraph 1 in one sentence.

2 Paraphrase the warning in paragraph 2 about the relationship between neighborhood features and heat.

3 How does paragraph 2 deepen the text's overall conclusion about unequal heat risk?

4 Summarize why the author calls a heat map "only one tool." Include two limits named in paragraph 3.

3 YOUR TURN _____ Your own words

Write a 60 to 75 word summary for a city council newsletter. State the text's central conclusion, explain how the maps are made, and include one limitation and one response the city could take. Use your own words.

PART 1 • READ AND MARK

Underline one sentence in each paragraph that carries a major idea. Number the three underlined ideas 1, 2, and 3 to show how the text builds its conclusion. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	State the central idea of paragraph 1 in one sentence.	Location-linked temperature readings can be turned into maps that show where heat exposure is uneven across a city.
2	Paraphrase the warning in paragraph 2 about the relationship between neighborhood features and heat.	The comparisons show connections between features such as tree cover or pavement and heat, but they do not prove that any one feature by itself caused the heat.
3	How does paragraph 2 deepen the text's overall conclusion about unequal heat risk?	It explains that unequal heat may be connected to earlier planning and investment decisions that affected access to shade and cooling resources.
4	Summarize why the author calls a heat map “only one tool.” Include two limits named in paragraph 3.	A map may reflect conditions from only one day, and air temperature does not show factors such as humidity, indoor heat, health, or transportation access. Resident knowledge is also needed.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Phoenix volunteers collected location-linked temperatures along city routes, allowing researchers to map unequal heat exposure. The maps show that hotter areas often have limited shade and heat-absorbing development, while suggesting that past planning choices may matter. Because a single map cannot measure every condition or establish causes, cities should repeat data collection, consult residents, and use the findings to direct cooling measures where danger is highest.

Accept accurate paraphrases that identify unequal heat exposure, the mapping process, and the need to interpret patterns cautiously. For the open response, accept varied wording if it includes all required elements and remains within 60 to 75 words.