Mapping Summer Heat

Read an informational text for claims, evidence, and limits.

10.DSR.B "Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the higher range of the grades 9-10 band (See the Quantitative and Qualitative Analysis charts for determining complexity in the..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline sentences that state an important claim. Circle phrases that provide evidence, examples, or limits on a claim so you can track how the author builds a careful explanation.

More Than a Hot Block

1 On July afternoons, a city can feel like a different climate from the farm fields beyond its limits. This difference, called the urban heat island effect, occurs because dark roofs, pavement, and parking lots absorb solar energy and release heat slowly after sunset. Trees and moist soil, by contrast, cool nearby air through shade and evaporation. The pattern is not spread evenly across a city. Neighborhoods with fewer trees and more hard surfaces often record higher temperatures, especially at night. For residents without air conditioning, that extra warmth can turn an ordinary heat wave into a serious health risk.

2 To understand these local differences, some cities combine weather-station records with measurements gathered by residents. Volunteers may carry sensors along planned routes at morning, afternoon, and evening, then add their readings to a shared map. The map does not simply identify the hottest block. It can reveal when and where heat lingers, which matters because nighttime temperatures affect how well people recover from daytime heat. Researchers must still interpret the data carefully. A sensor beside a brick wall may register a different temperature than one under a tree, and a single unusually cloudy day cannot represent an entire summer. Repeated measurements make the map more useful for planning.

3 City planners can use a heat map to decide where shade, cooling centers, or reflective surfaces might help most. Yet a map should guide decisions rather than settle them alone. It shows surface patterns and air measurements, but it may not show who works outdoors, which apartments lack cooling, or whether residents can reach a cooling center safely. Residents' observations can supply that missing context. Reading the map alongside those accounts leads to a more complete judgment: reducing heat requires both physical changes to streets and buildings and attention to the people whose daily routines expose them to danger.

2 ANSWER WITH EVIDENCE

Use the passage

1. What central idea about heat maps does the passage develop? Use two details from different paragraphs to support your answer.

2. Why does the author say that repeated measurements make a heat map more useful for planning?

3. How does the second paragraph complicate the idea that a map can identify the hottest places in a city?

4. What does the phrase “settle them alone” mean in the third paragraph?

3 YOUR TURN

Your own words

Write exactly three sentences recommending one action city planners should take to reduce heat risk. Use two details from the passage, and include one limitation that planners should consider before acting.

ANSWER KEY

Mapping Summer Heat

GRADE 10 · 10.DSR.B

PART 1 · READ AND MARK

Underline sentences that state an important claim. Circle phrases that provide evidence, examples, or limits on a claim so you can track how the author builds a careful explanation. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What central idea about heat maps does the passage develop? Use two details from different paragraphs to support your answer.	**Heat maps can help cities identify heat risks and plan responses, but they must be interpreted carefully and combined with residents' knowledge. The passage explains that hard surfaces and few trees raise temperatures, and it explains that maps cannot show every resident's access to cooling or exposure to heat.**
2	Why does the author say that repeated measurements make a heat map more useful for planning?	**Repeated measurements reduce the effect of unusual conditions, such as a cloudy day, and show more reliable patterns of when and where heat remains.**
3	How does the second paragraph complicate the idea that a map can identify the hottest places in a city?	**It explains that sensor locations can produce different readings and that one day's data cannot represent a whole summer, so researchers must interpret the map carefully.**
4	What does the phrase “settle them alone” mean in the third paragraph?	**It means that planners should not use a heat map as the only basis for making decisions.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

City planners should prioritize tree planting and shaded bus stops in blocks where repeated maps show heat lasting into the evening. The passage explains that trees cool air through shade and evaporation, while hard surfaces store and release heat. However, planners should also consult residents because temperature readings do not show who lacks home cooling or can safely reach a cooling center.

Accept responses that identify the passage's balanced position: heat maps are useful evidence but not complete evidence. For Part 3, accept any practical action supported by two accurate passage details and one relevant limitation.