Reading Heat Maps

Interpret evidence and build a clear public explanation.

12.P.EICC.2.c "Explain and learn concepts and processes by interpreting and constructing texts. (I/C)"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each detail that provides evidence or a qualification for interpreting a heat-map decision. In paragraph 3, number the four parts of a useful public explanation in the order the passage gives them.

Mapping a Hotter City

1 On a July afternoon, two blocks in the same city can feel strikingly different. Pavement and dark roofs absorb sunlight, while trees cool nearby air through shade and by releasing water vapor. To locate the hottest places, city planners can create a heat map. They combine temperature readings from sensors, satellite images, and measurements taken by residents walking set routes. A map does not merely decorate a report. It turns many scattered observations into a pattern that planners can compare with neighborhoods, parks, and bus stops.

2 Interpreting the map requires more than noticing the darkest color. A dark area suggests higher surface or air temperatures, but readers must check the map key, the date, and the kind of measurement. For example, a parking lot may register as hot, yet it may have few people nearby during the reading. A crowded bus stop with slightly lower temperatures could still deserve attention because people wait there in the heat. Planners therefore read the map alongside population data, shade surveys, and residents' reports before deciding where cooling projects could help most.

3 After choosing a site, planners must construct a clear explanation for the public. One useful message states the problem, names the evidence, describes the proposed action, and explains how the action addresses the evidence. Suppose the city proposes shade structures at a bus stop. The explanation should identify when and how temperatures were measured, not simply claim that the stop is unbearable. It should also explain that shade reduces direct solar exposure for waiting riders, while acknowledging that shade alone will not lower every neighborhood's temperature. Clear texts let readers trace a decision from observations to a proposed response and evaluate whether the reasoning is sound.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why is a heat map alone not enough for planners to decide where cooling projects should go? Use two details from the passage.

2. How does the comparison between the parking lot and the bus stop change how a reader should interpret temperature data?

3. What four parts should a public explanation include after planners choose a site?

4. What limitation should the explanation of bus-stop shade acknowledge, and why does including it strengthen the explanation?

3 YOUR TURN

Your own words

Choose an everyday public decision, such as adding a crosswalk, changing a lunch schedule, or placing a recycling bin. Write a 90 to 120 word explanation that states the problem, names at least two kinds of evidence, describes an action, explains how the action responds to the evidence, and includes one limitation.

ANSWER KEY

Reading Heat Maps

GRADE 12 · 12.P.EICC.2.c

PART 1 · READ AND MARK

Underline each detail that provides evidence or a qualification for interpreting a heat-map decision. In paragraph 3, number the four parts of a useful public explanation in the order the passage gives them. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why is a heat map alone not enough for planners to decide where cooling projects should go? Use two details from the passage.	**A map must be checked for its key, date, and type of measurement, and planners also use population data, shade surveys, and residents' reports.**
2	How does the comparison between the parking lot and the bus stop change how a reader should interpret temperature data?	**A hotter parking lot may affect few people, while a slightly cooler bus stop may need more attention because many people wait there in the heat.**
3	What four parts should a public explanation include after planners choose a site?	**It should state the problem, name the evidence, describe the proposed action, and explain how the action addresses the evidence.**
4	What limitation should the explanation of bus-stop shade acknowledge, and why does including it strengthen the explanation?	**It should acknowledge that shade alone will not lower every neighborhood's temperature. This makes the explanation more accurate and lets readers evaluate the reasoning.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Our school should add a water-bottle refill station near the gym. During lunch and after practice, students often line up at the two nearby fountains, and a one-week count could record how many people wait at each location. A short student survey could also show how many students carry reusable bottles. The school could install a refill station beside the gym entrance and post signs that direct students to it. This action would reduce crowding and make refilling bottles easier where demand is high. It would not solve lines at other fountains, so the school should review use after installation.

Accept equivalent interpretations that use relevant passage evidence and accurately explain its significance. For the open response, accept any realistic decision and action if the response meets the word range and includes all required explanation elements.