Heat, Evidence, Choices

Connect what you know to new evidence, then notice what is still missing.

10.P.EICC.3.c "Draw from, compare, build, and integrate prior knowledge with the material in the text, addressing inconsistencies or gaps and adding to knowledge repertoires as appropriate. (I)"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB As you read, underline an idea that connects to something you already know, circle a detail that changes or adds to that idea, and number one question or missing piece of information. These marks will help you compare prior knowledge with the text and identify gaps.

Why Cities Stay Hot

1 On a July afternoon, downtown blocks can feel much hotter than nearby parks. This difference is called the urban heat island effect. Dark roofs, asphalt streets, and brick walls absorb sunlight and release heat slowly after sunset. Trees and grass, by contrast, shade surfaces and cool the air as water evaporates from leaves. Someone who already knows that cities contain many heat-producing cars and air conditioners might assume those machines are the main cause. They add heat, but the stored heat in built surfaces is often a larger reason neighborhoods stay warm at night.

2 Measurements show that heat is not spread evenly across a city. A satellite image may identify especially hot rooftops, while thermometers at street level can reveal hot sidewalks or bus stops. Yet a map of surface temperature does not automatically tell how hot people feel. Humidity, wind, shade, building height, traffic, and access to air conditioning also matter. A reader may have learned that planting trees lowers temperatures, but the text leaves an important gap: young trees need years to grow, water, soil space, and protection. In a crowded neighborhood, officials must consider which cooling actions can work soon and which need long-term care.

3 Some cities respond by coating roofs with light-colored materials that reflect more sunlight than dark roofs. Others open cooling centers during heat waves or redesign streets with shade structures and trees. These strategies do not solve the same problem in the same way. Reflective roofs can reduce heat absorbed by a building, whereas cooling centers provide people with a safer place during dangerous hours. A resident could connect the evidence to local knowledge. Which blocks lack tree cover? Who can reach a cooling center? What information about costs, maintenance, or tenant access is still missing? Comparing these questions with the passage builds a more complete understanding.

2 ANSWER WITH EVIDENCE

Use the passage

1. What prior idea about why cities are hot does the first paragraph complicate? Use a detail from the text to explain how the idea changes.

2. Why would a satellite map of surface temperature be incomplete evidence for deciding how hot people feel? Name two other factors from the passage.

3. Compare reflective roofs and cooling centers. What problem does each strategy address?

4. Choose two questions or missing kinds of information from the last paragraph that a resident should investigate before choosing a cooling action.

3 YOUR TURN

Your own words

Choose a place you know that gets hot. Write exactly three sentences: state a prior belief about its heat, revise or add to that belief using one idea from the passage, and name one missing piece of information that would help you choose a cooling action.

ANSWER KEY

Heat, Evidence, Choices

GRADE 10 · 10.P.EICC.3.c

PART 1 · READ AND MARK

As you read, underline an idea that connects to something you already know, circle a detail that changes or adds to that idea, and number one question or missing piece of information. These marks will help you compare prior knowledge with the text and identify gaps. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What prior idea about why cities are hot does the first paragraph complicate? Use a detail from the text to explain how the idea changes.	**The idea that cars and air conditioners are the main cause is complicated. They add heat, but built surfaces that store and slowly release heat are often a larger reason neighborhoods stay warm at night.**
2	Why would a satellite map of surface temperature be incomplete evidence for deciding how hot people feel? Name two other factors from the passage.	**Surface temperature alone does not show how hot people feel. Any two of these factors are acceptable: humidity, wind, shade, building height, traffic, and access to air conditioning.**
3	Compare reflective roofs and cooling centers. What problem does each strategy address?	**Reflective roofs reduce heat absorbed by a building. Cooling centers give people a safer place during dangerous heat hours.**
4	Choose two questions or missing kinds of information from the last paragraph that a resident should investigate before choosing a cooling action.	**Any two are acceptable: which blocks lack tree cover, who can reach a cooling center, costs, maintenance, or tenant access.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I used to think our school parking lot feels hot only because cars are parked there. The passage adds that dark asphalt can absorb sunlight and release heat later. I still need to know where students can find shade during dismissal before choosing an action.

Accept responses that accurately connect a personal observation or prior belief to a relevant passage idea and identify a meaningful gap. For Part 3, verify that the response has exactly three sentences and includes all three required elements.