Cooling the Block

Analyze how text structures organize information about urban heat.

ELA.9.R.2 "Reading Informational Text"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB In each paragraph, underline the words or sentences that show its main text structure. In the margin, label each paragraph cause and effect, problem and solution, or compare and contrast.

How Cities Fight Heat

1. On a summer afternoon, pavement can become far hotter than the air above it. Dark asphalt absorbs sunlight, then releases stored heat slowly after sunset. In neighborhoods with few trees, this process raises nighttime temperatures and can make heat waves more dangerous. The effect is not shared equally: blocks with more concrete and less shade often measure warmer than nearby leafier blocks. Heat also increases demand for air conditioning, which can strain electrical systems. Researchers call this pattern the urban heat island effect because built surfaces make a city warmer than its surrounding rural area.

2. Cities face a heat problem: paved surfaces absorb sunlight, yet cities cannot erase every paved surface. One response is to plant street trees, especially along routes used by people walking to schools, bus stops, and stores. Leaves block direct sun, while water released by trees cools the nearby air. Another response uses pale, reflective coatings on roofs or pavement. These materials reflect more solar energy away from the surface instead of absorbing it. Because trees need years to grow and coatings need maintenance, planners often combine both approaches rather than depend on one quick fix.

3. Different cooling strategies fit different places. A wide schoolyard may have room for several large trees, which can shade students and lower surface temperatures for decades if the trees stay healthy. A crowded downtown block may lack planting space, so a reflective roof can be installed on an existing building without changing the sidewalk. Trees provide habitat and can improve air quality, whereas reflective surfaces mainly reduce heat absorption. However, reflective materials may be useful immediately, while young trees offer limited shade at first. Comparing benefits and limits helps a city choose a plan suited to each block.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the cause-and-effect structure in paragraph 1 explain why some city blocks stay hotter at night?

2. How does the problem-and-solution structure in paragraph 2 help convey the author's idea?

3. What information does the compare-and-contrast structure in paragraph 3 help the reader understand?

4. Why does the author use the word "However" in paragraph 3?

3 YOUR TURN

Your own words

Write a three-sentence mini informational passage about one school improvement. Use cause and effect to explain a problem, then use problem and solution to present a response. In your third sentence, explain how those structures organize your ideas.

ANSWER KEY

Cooling the Block

GRADE 9 · ELA.9.R.2

PART 1 · READ AND MARK

In each paragraph, underline the words or sentences that show its main text structure. In the margin, label each paragraph cause and effect, problem and solution, or compare and contrast. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the cause-and-effect structure in paragraph 1 explain why some city blocks stay hotter at night?	**Dark pavement absorbs sunlight and releases heat slowly, so blocks with more concrete and less shade can have higher nighttime temperatures.**
2	How does the problem-and-solution structure in paragraph 2 help convey the author's idea?	**It presents heat-absorbing pavement as a problem and shows that trees and reflective coatings can work together as solutions.**
3	What information does the compare-and-contrast structure in paragraph 3 help the reader understand?	**It shows that trees and reflective surfaces have different benefits, limits, and best locations.**
4	Why does the author use the word "However" in paragraph 3?	**It signals a contrast: reflective materials can help immediately, but young trees provide little shade at first.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Because the cafeteria uses many disposable forks each day, its trash bins fill quickly and more waste is sent to a landfill. To reduce this waste, the school could provide washable metal utensils and place collection bins near the dish-return area. The cause-and-effect sentence establishes the problem, and the problem-and-solution sentences present a practical response.

Accept equivalent explanations that connect each structure to the information it organizes. For Part 3, accept any accurate three-sentence response that clearly uses both required structures and explains their purpose.