Hotter City Blocks

Trace how sources, details, and structure explain an environmental issue.

7.W.1.B "Write expository texts to examine a topic or concept that develops the focus with relevant facts, definitions, concrete details, or other information from multiple credible sources, using structures and patterns (e.g., description..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline facts and concrete details, circle each source, and write C by causes and E by effects or solutions. These marks show how the writer develops the focus using evidence from multiple sources.

Why Some City Streets Stay Hot

1 Cities can become hotter than nearby rural areas, a pattern called the urban heat island effect. The U.S. Environmental Protection Agency explains that dark roofs and pavement absorb sunlight and release heat slowly. Trees and grass cool places by shading surfaces and moving water vapor into the air. In a city block with few plants, however, more sunlight strikes concrete and asphalt. As a result, afternoon temperatures can stay high even after the sun begins to set.

2 Scientists carefully measure this difference with thermometers on the ground and instruments on satellites. According to NASA's Earth Observatory, satellite images can show warmer land surfaces in built-up areas than in surrounding vegetated land. The National Weather Service advises people to drink water, seek air-conditioned spaces, and check on nearby neighbors during periods of extreme heat. These sources provide different kinds of information: EPA describes causes, NASA supplies observations, and the Weather Service connects heat to safety actions.

3 Communities can reduce heat by adding shade and choosing cooler building materials. For example, the EPA reports that trees, green roofs, and reflective roofs can lower surface or nearby air temperatures, depending on local conditions. Planting trees also has limits: young trees need water and time before they make broad shade. Reflective roofs can work sooner on large buildings, but they do not create parks or improve sidewalk shade. Because each strategy solves a different part of the problem, planners often combine them.

2 ANSWER WITH EVIDENCE

Use the passage

1. What focus does the writer develop, and which structure mainly organizes the first paragraph?

2. How do the EPA, NASA's Earth Observatory, and the National Weather Service each contribute different information to the text?

3. Use one detail from paragraph 1 to explain a cause-and-effect relationship in the urban heat island effect.

4. Compare planting trees with using reflective roofs. Why does the writer say planners often combine these strategies?

3 YOUR TURN

Your own words

Write a 90- to 120-word, two-paragraph explanation of a community problem and one or more solutions. Name two credible sources, include concrete details from each, and use cause-effect or problem-solution structure to connect your ideas.

ANSWER KEY

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GRADE 7 · 7.W.1.B

PART 1 · READ AND MARK

Underline facts and concrete details, circle each source, and write C by causes and E by effects or solutions. These marks show how the writer develops the focus using evidence from multiple sources. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What focus does the writer develop, and which structure mainly organizes the first paragraph?	**The writer explains why city areas can become hotter than nearby rural areas. The first paragraph mainly uses cause-effect structure.**
2	How do the EPA, NASA's Earth Observatory, and the National Weather Service each contribute different information to the text?	**The EPA explains causes and cooling strategies, NASA provides satellite observations of warmer built-up land, and the Weather Service gives heat-safety actions.**
3	Use one detail from paragraph 1 to explain a cause-and-effect relationship in the urban heat island effect.	**Dark roofs and pavement absorb sunlight and release heat slowly, so temperatures can remain high after the sun begins to set.**
4	Compare planting trees with using reflective roofs. Why does the writer say planners often combine these strategies?	**Trees need water and time to provide broad shade, while reflective roofs can work sooner on large buildings but do not create parks or sidewalk shade. Planners combine them because each solves a different part of the heat problem.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Food waste at school creates a problem beyond a messy lunchroom. The U.S. Department of Agriculture explains that wasted food also wastes the land, water, labor, and energy used to produce it. In addition, the Environmental Protection Agency estimates that food made up about 24 percent of material landfilled in the United States in 2018. When food scraps decompose there, they can produce methane, a greenhouse gas. Our school can reduce this waste by asking students to take only foods they plan to eat and by collecting unopened items for a share table, when local rules allow. This plan addresses the cause, oversized or unwanted servings, and keeps usable food out of the trash.

Accept equivalent descriptions of the sources' roles and any accurately stated cause-effect or comparison relationship from the passage. For the open response, accept varied topics if the response has two credible named sources, relevant details, a clear focus, and an effective explanatory structure.