# Heat Words Matter

Use context to understand academic and environmental vocabulary.

**12.RV.1.A** "Develop and accurately use general academic and content-specific vocabulary through reading, discussing, and writing about grade-level texts and topics."

NAME _____ DATE _____

## 1 READ AND MARK

Read it twice

**YOUR JOB** Underline four content-specific terms and circle three general academic words. For each underlined term, draw a line to the words or sentence that helps you infer its meaning.

### Why Cities Stay Hot

1 On a cloudless July afternoon, a city block can be far hotter than a nearby park. This difference is known as the urban heat island effect. Dark roofs, asphalt, and brick absorb solar energy during the day, then release heat slowly after sunset. Trees and grass, by contrast, shade surfaces and cool air through transpiration, the process in which plants release water vapor. The effect is not merely uncomfortable. Higher temperatures can increase electricity demand for air conditioning and can worsen heat-related illness, especially when warm nights prevent people's bodies from recovering.

2 Researchers measure this pattern with satellites, street-level sensors, and temperature records collected across neighborhoods. Their findings often reveal that heat is distributed unevenly. Areas with fewer trees and more paved land may experience greater exposure, while residents may have less access to cooling, health care, or reliable housing. This disparity is shaped by past planning decisions and current investment, not by temperature alone. For that reason, scientists and planners examine both physical conditions and social vulnerability when they assess heat risk. Precise vocabulary helps them distinguish a hazard, such as extreme heat, from the people and places most likely to be harmed.

3 Several strategies can mitigate urban heat. A light-colored roof has higher albedo, meaning it reflects more incoming sunlight than a dark roof. Planting and protecting a tree canopy can also lower surface and air temperatures, although young trees need water and time before they provide substantial shade. Cities can pair these measures with cooling centers, heat alerts, and building rules that reduce indoor danger. No single intervention eliminates risk. Effective planning combines environmental design with policies that reach residents who face the greatest exposure and have the fewest resources to adapt.

## 2 ANSWER WITH EVIDENCE

Use the passage

1. What does transpiration mean in paragraph 1? Use the context to explain the term.

2. In paragraph 2, what does disparity refer to? Identify the unequal conditions described by the author.

3. How does the author distinguish a hazard from social vulnerability in paragraph 2?

4. Why does the author use mitigate instead of eliminate in paragraph 3?

## 3 YOUR TURN

Your own words

Write exactly three sentences proposing a heat-safety improvement for your school. Accurately use at least three content-specific terms from the passage and one general academic word from the passage.

ANSWER KEY

# Heat Words Matter

GRADE 12 · 12.RV.1.A

## PART 1 · READ AND MARK

Underline four content-specific terms and circle three general academic words. For each underlined term, draw a line to the words or sentence that helps you infer its meaning. Accept any marking that follows this job and points at the right text.

## PART 2 · ANSWERS

| # | QUESTION | ANSWER |
|---|---|---|
| 1 | What does transpiration mean in paragraph 1? Use the context to explain the term. | **Transpiration is the process in which plants release water vapor, which helps cool the air.** |
| 2 | In paragraph 2, what does disparity refer to? Identify the unequal conditions described by the author. | **Disparity refers to unequal heat exposure and unequal access to cooling, health care, or reliable housing among neighborhoods and residents.** |
| 3 | How does the author distinguish a hazard from social vulnerability in paragraph 2? | **A hazard is the dangerous condition, such as extreme heat. Social vulnerability concerns the people and places more likely to be harmed because they have fewer protections or resources.** |
| 4 | Why does the author use mitigate instead of eliminate in paragraph 3? | **Mitigate means reduce or lessen heat risk. The author explains that no single intervention can eliminate the risk completely.** |

## PART 3 · YOUR TURN (SAMPLE ANSWER)

Our school could mitigate afternoon heat by replacing a dark roof section with a surface of higher albedo. We could also plant trees so transpiration and shade lower temperatures near the bus area. Before choosing an intervention, leaders should assess which students have the greatest heat exposure and vulnerability.

Accept accurate, context-based explanations of vocabulary, even when students use different wording. For Part 3, accept proposals that use at least three content-specific terms and one general academic word accurately in exactly three sentences.