Words That Cool

Use context to understand academic and science vocabulary.

10.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 Circle five vocabulary words or phrases that name a scientific process, urban condition, or planning response. Underline the nearby words that help you infer each term's meaning.

Cooling a City

1 On a hot July afternoon, temperatures on a treeless city block can be far higher than in a nearby park. This pattern is called the urban heat island effect. Asphalt and dark roofs absorb solar energy, then release heat slowly after sunset. Trees alter this local climate. Their leafy canopy shades pavement, and water released through leaves cools the air. Scientists use the term transpiration for this movement of water from plants into the atmosphere.

2 City planners study where heat is most intense because the effect is not distributed equally. Neighborhoods with fewer parks and more paved surfaces often face greater exposure to dangerous temperatures. This unequal burden can affect health, especially for older adults, outdoor workers, and people without reliable air conditioning. To mitigate heat, planners may plant street trees, install reflective roofs, or create shaded bus stops. These strategies are part of climate adaptation, efforts that help communities respond to conditions already changing.

3 However, trees are not a complete solution. Young trees need water and care, and their benefits grow as their canopies expand over time. Planners also need evidence about which streets lack shade and which residents have limited access to cooling. A city map that combines temperature readings, tree cover, and population data can guide investments. When officials explain these choices clearly, residents can evaluate whether a proposed project is equitable as well as effective.

2 ANSWER WITH EVIDENCE

Use the passage

1. What does canopy mean in the first paragraph? Use a detail from the passage to support your answer.

2. What does mitigate mean in the second paragraph?

3. How does the passage distinguish the urban heat island effect from climate adaptation?

4. What does equitable mean in the final paragraph?

3 YOUR TURN

Your own words

Write exactly two sentences proposing one way your school could reduce heat. Use at least two vocabulary terms from the passage accurately.

ANSWER KEY

Words That Cool

GRADE 10 · 10.RV.1.A

PART 1 · READ AND MARK

Circle five vocabulary words or phrases that name a scientific process, urban condition, or planning response. Underline the nearby words that help you infer each term's meaning. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What does canopy mean in the first paragraph? Use a detail from the passage to support your answer.	**A canopy is the leafy upper cover of trees. It shades pavement.**
2	What does mitigate mean in the second paragraph?	**Mitigate means reduce or lessen a harmful effect, such as dangerous heat.**
3	How does the passage distinguish the urban heat island effect from climate adaptation?	**The urban heat island effect is a pattern of higher city temperatures. Climate adaptation is action that helps communities respond to changing conditions.**
4	What does equitable mean in the final paragraph?	**Equitable means fair, especially in how a project serves residents and directs resources.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Our school could expand its tree canopy along the hottest walkways, reducing students' exposure during afternoon dismissal. This climate adaptation would be more equitable if planners first mapped where shade is scarce.

Accept equivalent, context-supported meanings for the vocabulary terms. For Part 3, accept any realistic heat-reduction proposal written in exactly two sentences with at least two terms used accurately.