Words That Cool

Read how precise vocabulary explains a city problem and possible solutions.

8.RV.1.A "Develop and accurately use general and academic language and content-specific vocabulary by listening to, reading, and discussing a variety of grade-eight texts and topics."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle five academic or content-specific words or phrases, and underline the nearby words that explain each one. Use your marks to notice how precise vocabulary carries the text's ideas.

Why Cities Stay Hot

1 On a summer afternoon, city blocks can feel hotter than nearby parks. This difference is called the urban heat island effect. Dark roofs and asphalt have low albedo, meaning they reflect little sunlight and absorb much of its energy. The stored energy is later released as heat. Trees change this pattern. Their leaves provide shade, and water evaporating from leaves cools the surrounding air. A tree canopy, the layer of branches and leaves overhead, can make a sidewalk more comfortable for people walking home.

2 Heat islands are not only uncomfortable. Higher temperatures can increase demand for air conditioning, which strains an electrical grid, the network that delivers electricity. They can also worsen health risks during heat waves, especially for people without cool indoor spaces. City planners use data to identify the hottest neighborhoods and choose strategies to mitigate, or lessen, the problem. For example, cool roofs use light-colored materials with higher albedo. Some cities also replace unused pavement with planted areas, where shade and evaporation cool the site and rainwater can soak into the ground.

3 Vocabulary helps residents discuss choices clearly. Saying that a roof is "better" is general language, but saying that its high albedo reflects more sunlight is precise academic language. Similarly, infrastructure refers to built systems that serve a community, such as roads, pipes, and power lines. When planners add trees, shade structures, and cooler surfaces, they improve infrastructure while reducing heat exposure. Residents can use this vocabulary in public meetings to ask how a proposal will affect their block. Precise words help speakers explain evidence, compare options, and take part in decisions.

2 ANSWER WITH EVIDENCE

Use the passage

1. In paragraph 1, what does albedo mean in this text? Use the context clue in the sentence.

2. Which words in paragraph 2 define mitigate? What does mitigate mean?

3. Why is the phrase "its high albedo reflects more sunlight" more precise than saying that a roof is "better"?

4. What does infrastructure refer to in paragraph 3? Name two examples from the passage.

3 YOUR TURN

Your own words

Write two or three sentences suggesting one way your school could reduce heat outdoors. Use at least two content-specific or academic words from the passage, and make each word's meaning clear through your explanation.

ANSWER KEY

Words That Cool

GRADE 8 · 8.RV.1.A

PART 1 · READ AND MARK

Circle five academic or content-specific words or phrases, and underline the nearby words that explain each one. Use your marks to notice how precise vocabulary carries the text's ideas. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	In paragraph 1, what does albedo mean in this text? Use the context clue in the sentence.	**Albedo is how much sunlight a surface reflects. Low albedo means reflecting little sunlight and absorbing much of its energy.**
2	Which words in paragraph 2 define mitigate? What does mitigate mean?	**The words "or lessen" define it. Mitigate means to lessen or reduce a problem.**
3	Why is the phrase "its high albedo reflects more sunlight" more precise than saying that a roof is "better"?	**It names a specific property, albedo, and explains the effect, reflecting more sunlight.**
4	What does infrastructure refer to in paragraph 3? Name two examples from the passage.	**Infrastructure is built systems that serve a community. Examples include roads, pipes, and power lines.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Our school can reduce heat exposure by planting trees beside the blacktop and choosing a light-colored surface during repairs. A wider tree canopy would shade walkers, and a surface with higher albedo would reflect more sunlight instead of absorbing it.

Accept vocabulary explanations that match the passage context, including reasonable paraphrases. For Part 3, accept varied school-based suggestions if the student uses at least two terms accurately and explains their connection to reducing outdoor heat.