Words That Measure

Use context to interpret precise language about urban heat.

11-12.L.6 "Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level. Demonstrate independence in gathering a broad, deep..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline four words or phrases whose precise meanings help explain the heat problem or proposed solutions. Circle the nearby clues that help you infer each meaning, and put a question mark beside one term you would verify in a reliable source.

A Hotter Place to Wait

1. At a downtown bus stop, the metal bench feels hot long after the sun has moved behind the buildings. Asphalt and concrete are impervious surfaces: water cannot soak through them, so rain runs toward drains rather than sinking into soil that could later release moisture. Dark pavement also absorbs much of the sunlight that strikes it. These conditions can intensify an urban heat island, an area warmer than its less developed surroundings. The phrase does not mean that the city is surrounded by water. It names a measurable temperature difference that can affect people waiting outside, especially during a heat wave.

2. One proposed remedy is a roof with a high albedo, meaning it reflects a large share of incoming sunlight. A pale coating may keep the roof itself cooler, though its effect on a person's comfort at street level depends on the setting. Trees offer another strategy: their canopy blocks sunlight, and water released by their leaves can cool nearby air. Neither remedy is universal. A roof coating will not shade a pedestrian, and a tree needs space, water, and years to grow. City planners must weigh these trade-offs instead of calling any single feature a complete solution.

3. To judge whether a new shade project works, researchers first establish a baseline: they record conditions before anything changes. They might then compare air temperatures at the same bus stop during similar hours on similar days. Comparing a shady morning with an unshaded afternoon would produce a misleading result, even with accurate thermometers. Planners also ask whether the benefits are equitable. If shade appears only in shopping districts while riders in hotter residential neighborhoods remain exposed, the project may lower some temperatures without distributing protection fairly. Precise words matter here: a cooler surface, cooler air, and a fairer city are related but different claims.

2 ANSWER WITH EVIDENCE

Use the passage

1. What does impervious mean in this passage? Identify the clue that supports your meaning.

2. Why does high albedo describe what a pale roof does, but not promise that people at street level will feel cooler?

3. What is a baseline, and why would comparing a shady morning with an unshaded afternoon make it less useful?

4. In the final paragraph, what does equitable add to the description of the shade project beyond saying that it lowers temperatures?

3 YOUR TURN

Your own words

Write four sentences proposing a change that could reduce heat exposure at a school bus stop. Use at least two words from the passage accurately, including one technical term, and explain how you would verify the meaning of an unfamiliar term before using it.

ANSWER KEY

Words That Measure

HIGH SCHOOL · 11-12.L.6

PART 1 · READ AND MARK

Underline four words or phrases whose precise meanings help explain the heat problem or proposed solutions. Circle the nearby clues that help you infer each meaning, and put a question mark beside one term you would verify in a reliable source. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What does impervious mean in this passage? Identify the clue that supports your meaning.	**Impervious means water cannot soak through. The passage says rain runs toward drains rather than sinking into soil.**
2	Why does high albedo describe what a pale roof does, but not promise that people at street level will feel cooler?	**High albedo means the roof reflects much of the incoming sunlight, which may keep the roof cooler. The passage says a roof coating does not shade pedestrians and its effect at street level depends on the setting.**
3	What is a baseline, and why would comparing a shady morning with an unshaded afternoon make it less useful?	**A baseline is a record of conditions before a change. The comparison would mix the effect of shade with differences between morning and afternoon conditions.**
4	In the final paragraph, what does equitable add to the description of the shade project beyond saying that it lowers temperatures?	**Equitable concerns whether protection is distributed fairly, including to riders in hotter residential neighborhoods, not just whether some temperatures fall.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would propose a pale roof for the school bus shelter because its high albedo would reflect more sunlight than a dark roof. A tree canopy beside the shelter could shade students while they wait. I would check albedo in a university climate glossary, then compare its definition with its use in the passage before including it in my proposal. These changes could reduce heat exposure, but I would measure air temperature at the stop before and after installation to test that claim.

Accept equivalent meanings supported by passage clues. For the open task, look for four sentences, two accurately used passage terms including a technical term, and a specific way to verify a term's meaning.