Cooling the Sidewalk

Study how an explanation develops a topic with transitions, precise terms, and a credible source.

7.CL.7.b "Write informative or explanatory texts with an organized structure and a formal style to examine ideas or processes effectively while developing the topic and utilizing appropriate transitions, precise vocabulary..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the passage's main claim about planting trees, circle three transitions that connect ideas, and write 1 and 2 beside the sentences that first explain the two cooling processes.

How Trees Cool a City Block

1 On a hot afternoon, two sidewalks can feel different even when they are only a block apart. One runs beneath tree branches, while the other crosses an open parking lot. Pavement absorbs sunlight and releases heat, so unshaded surfaces can become especially warm. Planting trees offers a practical way to cool places where people walk. First, leaves block some sunlight before it reaches the ground. This shade reduces the energy absorbed by pavement and helps keep nearby surfaces cooler. The effect matters most where people gather, wait, or travel on foot.

2 Trees also cool the air through a process called transpiration. Roots take in water from the soil, and some of that water moves through the tree and leaves as water vapor. As liquid water changes to vapor, it takes in heat from its surroundings. Consequently, the air near a group of trees may be cooler than air above a wide stretch of bare pavement. This process does not replace shade; the two effects work together. A tree with healthy leaves can provide both a shaded walkway and a source of evaporative cooling.

3 However, planting a tree anywhere will not produce the same result. A tree needs enough soil, water, and room for its roots and branches to grow. Planners can place trees beside bus stops or along walking routes, where shade can serve many people. The U.S. Environmental Protection Agency identifies shade and transpiration as ways trees help reduce urban heat. This information supports the choice to plant and care for trees, rather than treating planting as a one-day project. In short, effective cooling depends on both the tree's location and its long-term health.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the first paragraph move from an everyday observation to the passage's main claim?

2. Why is "transpiration" a useful term in the second paragraph instead of simply saying that trees cool the air?

3. What relationship does "Consequently" show between the sentences around it?

4. Which source supports the final paragraph's explanation, and what claim does it support?

3 YOUR TURN

Your own words

Using this fact from the Centers for Disease Control and Prevention, scrub hands with soap for at least 20 seconds, write one paragraph of five or six sentences explaining how to wash your hands before eating. Include an opening and closing, at least two transitions, precise terms, a formal tone, and credit the source.

ANSWER KEY

Cooling the Sidewalk

PART 1 · READ AND MARK

Underline the passage's main claim about planting trees, circle three transitions that connect ideas, and write 1 and 2 beside the sentences that first explain the two cooling processes. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the first paragraph move from an everyday observation to the passage's main claim?	**It contrasts a shaded sidewalk with an open paved area, explains that pavement absorbs sunlight, and then claims that planting trees can cool walking areas.**
2	Why is "transpiration" a useful term in the second paragraph instead of simply saying that trees cool the air?	**It names the specific process in which water moves through a tree and leaves as vapor, helping explain how the cooling occurs.**
3	What relationship does "Consequently" show between the sentences around it?	**It shows that cooler air near trees can result from water taking in heat as it changes to vapor.**
4	Which source supports the final paragraph's explanation, and what claim does it support?	**The U.S. Environmental Protection Agency supports the claim that shade and transpiration help trees reduce urban heat.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Washing hands before eating helps remove substances picked up during the day. First, wet your hands with clean, running water and apply soap. Next, rub your palms, the backs of your hands, and between your fingers. The Centers for Disease Control and Prevention recommends scrubbing with soap for at least 20 seconds. Then rinse thoroughly under running water and dry your hands with a clean towel. Following these steps prepares your hands for handling food.

Accept other accurate explanations that identify the passage's claim, explain the named process and transition, and connect the cited agency to the claim it supports. For the writing task, check for five or six organized sentences, a formal style, two transitions, precise terms, and accurate credit for the supplied fact.