Shade for Cities

Study how precise support builds an explanation.

CCSS.ELA-Literacy.W.9-10.2b "Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each fact, definition, or concrete example that explains how urban trees affect a city. Write F, D, or E in the margin to label each one as a fact, definition, or example.

Why City Trees Matter

1 On a hot afternoon, a city block can feel much warmer than a nearby park. This difference is part of the urban heat island effect, a pattern in which pavement, roofs, and other built surfaces absorb sunlight and release heat slowly. Trees can reduce that effect by shading streets and buildings. According to the U.S. Environmental Protection Agency, shaded surfaces can be 20 to 45 degrees Fahrenheit cooler than nearby unshaded surfaces. That cooling matters most to people walking, waiting for buses, or living in homes without air conditioning.

2 Tree planting is not as simple as digging a hole beside a curb. City planners must choose species that can handle limited soil, winter salt, overhead wires, and hotter sidewalks. A young tree needs regular water while its roots spread, especially during dry summers. Its planting pit also needs enough uncompacted soil for roots to take in water and oxygen. For example, a sidewalk tree surrounded by a small square of exposed dirt may struggle more than one planted in a wider soil bed. Good planning helps a tree survive long enough to provide shade for decades.

3 Trees offer benefits beyond cooler pavement. Their leaves intercept rainfall, meaning they catch some rain before it strikes the ground. During a storm, that can slow the flow of water into storm drains, which helps cities manage runoff. Trees also provide habitat: a flowering serviceberry can offer nectar to insects in spring, while its berries feed birds later in the year. These benefits do not make every location suitable for every tree. A poorly placed tree can block a curb ramp or interfere with power lines. Careful species choice and maintenance turn a planting project into useful public infrastructure.

2 ANSWER WITH EVIDENCE

Use the passage

1. What definition does the writer give for the urban heat island effect, and what idea does that definition help readers understand?

2. How does the fact about shaded surfaces being 20 to 45 degrees Fahrenheit cooler strengthen the first paragraph's explanation?

3. Choose two details from paragraph 2 that show why planting a city tree requires planning. Explain what each detail adds to the explanation.

4. How does the serviceberry example develop the claim that trees provide habitat?

3 YOUR TURN

Your own words

Write a 90 to 110 word explanatory paragraph for ninth-grade students about how a school compost system works and why it can reduce cafeteria waste. Include a definition, at least one concrete step, and two relevant facts or examples.

Shade for Cities

PART 1 · READ AND MARK

Underline each fact, definition, or concrete example that explains how urban trees affect a city. Write F, D, or E in the margin to label each one as a fact, definition, or example. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What definition does the writer give for the urban heat island effect, and what idea does that definition help readers understand?	**It is a pattern in which pavement, roofs, and other built surfaces absorb sunlight and release heat slowly. It helps readers understand why city blocks can become hotter than nearby parks.**
2	How does the fact about shaded surfaces being 20 to 45 degrees Fahrenheit cooler strengthen the first paragraph's explanation?	**It gives a specific measurement showing that tree shade can substantially reduce surface heat.**
3	Choose two details from paragraph 2 that show why planting a city tree requires planning. Explain what each detail adds to the explanation.	**Answers may include limited soil, winter salt, overhead wires, hotter sidewalks, regular watering, or uncompacted soil. Each detail shows a condition that can affect whether a tree survives and grows.**
4	How does the serviceberry example develop the claim that trees provide habitat?	**It gives concrete evidence that one tree can provide nectar for insects in spring and berries for birds later in the year.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Composting is a controlled process in which microorganisms break down food scraps and other organic materials into a soil-like product called compost. In a school cafeteria, students could place fruit peels, vegetable trimmings, and coffee grounds in a labeled bin, but not plastic wrappers or metal cans. A compost manager adds dry leaves or shredded paper to balance the moist scraps and turns the pile so oxygen reaches the microbes. Over time, finished compost can improve garden soil by adding organic matter. Sending these scraps to composting also keeps them out of trash bins.

Accept equivalent wording when students accurately identify and explain relevant support from the passage. For the open response, look for a clear explanation suited to ninth-grade readers, a definition, a concrete step, and at least two accurate supporting facts or examples.