Roof Under Review

Use clues, connections, and evidence to understand a green roof.

RI.6.10 "Routinely and flexibly develop and apply background knowledge along with a variety of comprehension strategies to understand and analyze grade-appropriate, complex informational text independently."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two places that explain how a green roof changes heat or rainwater, circle one word you can understand from nearby clues, and write 1 beside a detail that limits the roof's benefits.

What Can a Green Roof Do?

1 On a July afternoon, a flat school roof can feel hotter than the sidewalk below. Dark roofing absorbs sunlight, and rain that lands on its hard surface often rushes into street drains. Some schools add a green roof: a shallow layer of plants growing above a waterproof barrier. Beneath the plants, a special soil mix holds some rainwater. The roof does not become a park; it is a working surface that can change how heat and water move through a building and its neighborhood.

2 After a storm, water caught in the soil may return to the air as it evaporates or is released by plants. That leaves less runoff, the water flowing off a surface, to enter drains at once. On hot days, evaporation also uses heat, which helps cool the roof. Plants shade part of the surface, too. These effects can lower the temperature of the roof, but they do not guarantee that every classroom below will feel cooler. The building's insulation and the weather matter as well.

3 A green roof is not a sponge without limits. During a long storm, its soil can fill with water, and extra rain still flows to the drains. Plants also need care, especially while their roots are getting established. Before adding one, a school must check whether its building can support the extra weight. A green roof can help manage rain and heat, but it is one tool, not a complete fix. To judge its value, a school might compare drain flow and roof temperatures before and after installation.

2 ANSWER WITH EVIDENCE

Use the passage

1. Think about rain falling on pavement and on soil. Use that connection and a detail from the passage to explain why a green roof might change what happens at a street drain.

2. How does the passage help you figure out what *runoff* means? Why does that meaning matter for understanding a green roof?

3. Trace two ways a green roof can cool its surface. Why might a classroom below still not feel cooler?

4. A flyer claims, "A green roof stops all rain from reaching street drains." Use two passage details to evaluate this claim.

3 YOUR TURN

Your own words

Write 4 to 5 sentences proposing how your school could test a green roof over several weeks. Include two measurements, explain when to compare them, and name one condition that could affect the results.

ANSWER KEY

Roof Under Review

GRADE 6 · RI.6.10

PART 1 · READ AND MARK

Underline two places that explain how a green roof changes heat or rainwater, circle one word you can understand from nearby clues, and write 1 beside a detail that limits the roof's benefits. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Think about rain falling on pavement and on soil. Use that connection and a detail from the passage to explain why a green roof might change what happens at a street drain.	**Unlike hard pavement, the green roof's soil holds some rainwater. Less water may reach the street drain at once.**
2	How does the passage help you figure out what *runoff* means? Why does that meaning matter for understanding a green roof?	**The words after *runoff* explain that it is water flowing off a surface. Knowing this shows why holding rain in the soil can reduce the water entering drains at once.**
3	Trace two ways a green roof can cool its surface. Why might a classroom below still not feel cooler?	**Evaporation uses heat, and plants shade part of the roof. Classroom temperature also depends on factors such as insulation and weather.**
4	A flyer claims, "A green roof stops all rain from reaching street drains." Use two passage details to evaluate this claim.	**The claim is false. The soil holds only some rainwater, and during a long storm it can fill up, allowing extra rain to flow to drains.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Our school could measure water entering a roof drain after several storms and record roof temperatures on sunny afternoons. We should collect both kinds of measurements before and after the green roof is installed. To make the comparison fair, we should compare storms with similar amounts of rain and afternoons with similar air temperatures. If less water reaches the drain and the roof stays cooler under similar conditions, the green roof is helping.

Accept other accurate connections and text-supported explanations. For Part 3, accept practical measurements other than drain flow and roof temperature if the student explains when to compare them and identifies a condition that could affect the results.