Cool Roof Claims

Evaluate evidence, limits, and conclusions across sources.

9.RI.3.B "Evaluate the clarity and accuracy of information found in informational texts, corroborating or challenging conclusions with other sources of information."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each claim about what cool roofs can change. Circle details that show a source's limits or missing information, then number the three sources 1, 2, and 3.

Can White Roofs Cool a City?

(1) At a city council meeting, a contractor said that painting every roof white would lower Riverton's summer air temperature by 10 degrees Fahrenheit. His slide showed an infrared photo of one dark roof and one white roof taken at noon. The photo clearly showed that the dark roof surface was hotter. However, the slide gave no date, location, measurement method, or information about nearby shade and wind. It also did not explain whether "air temperature" meant the air above one roof, inside a building, or across the whole city. The image supports a limited claim about roof surfaces, not the contractor's citywide prediction.

(2) To check the statement, a student examined a 2023 report from the U.S. Department of Energy. The report explains that cool roofs reflect more sunlight than conventional dark roofs and can reduce a building's heat gain. It does not promise a fixed decrease in a city's air temperature. The report is clearer than the slide because it identifies its topic, distinguishes roof temperature from building heat, and describes limits. Still, it is a general report, not a study of Riverton. It corroborates the idea that lighter roofs can affect heat while challenging the precise claim of a 10-degree citywide change.

(3) A local university environmental science class later placed sensors on twelve Riverton buildings during one July week. White roofs were cooler at the surface than dark roofs at the same time of day, but the class did not measure citywide air temperature. Its online summary listed dates and sensor locations, yet it omitted roof materials, building heights, and data tables. This local investigation adds relevant evidence, but its small sample and missing details limit certainty. Together, the three sources support a cautious conclusion: cool roofs may reduce heat absorbed by buildings. They do not establish that every roof should be painted white or that Riverton's air temperature would fall by 10 degrees.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the contractor's infrared photo support a limited claim, but fail to support the citywide prediction?

2. Name two details that make the U.S. Department of Energy report clearer than the contractor's slide.

3. How does the local university investigation corroborate the idea about cool roofs, and what limits its usefulness?

4. What cautious conclusion is supported when all three sources are considered together?

3 YOUR TURN

Your own words

Write exactly three sentences evaluating whether the council should act on the 10-degree prediction. Cite one strength and one limitation from two different sources, then name one additional piece of evidence the council should seek.

ANSWER KEY

Cool Roof Claims

GRADE 9 · 9.RI.3.B

PART 1 · READ AND MARK

Underline each claim about what cool roofs can change. Circle details that show a source's limits or missing information, then number the three sources 1, 2, and 3. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the contractor's infrared photo support a limited claim, but fail to support the citywide prediction?	**It shows that the dark roof surface was hotter than the white roof surface, but it does not measure citywide air temperature and lacks key method and context details.**
2	Name two details that make the U.S. Department of Energy report clearer than the contractor's slide.	**It identifies its topic, distinguishes roof temperature from building heat, and describes limits. Any two are correct.**
3	How does the local university investigation corroborate the idea about cool roofs, and what limits its usefulness?	**It found that white roofs were cooler at the surface than dark roofs. Its small sample, one-week time frame, lack of citywide air measurements, and missing details limit it.**
4	What cautious conclusion is supported when all three sources are considered together?	**Cool roofs may reduce heat absorbed by buildings, but the sources do not prove that painting every roof white would lower Riverton's air temperature by 10 degrees.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

The council should not rely on the 10-degree prediction because the contractor's slide lacks measurement details and does not show citywide air temperature. The Department of Energy report supports the smaller idea that cool roofs can reduce building heat gain, but it is not specific to Riverton. Before deciding, the council should seek a larger local study that measures city air temperature and reports methods and data.

Accept accurate evaluations that distinguish roof-surface or building-heat evidence from evidence about citywide air temperature. For Part 3, students must use evidence from two sources, identify both a strength and a limitation, and request relevant additional evidence.