Roofing That Reflects

Study how an informational writer explains a practical design choice.

8.T.T.2 "Expository Techniques: Analyze and apply expository techniques."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the sentence in each paragraph that gives its main point, circle details that serve as evidence or examples, and number transition words that signal comparison, cause and effect, or contrast. These marks show how the writer builds an explanation.

How Cool Roofs Work

1. On a sunny day, a dark roof can become much hotter than the air around it. A cool roof is built or coated with materials that reflect more sunlight and release heat more easily than traditional dark roofing. The name does not mean the roof feels cold in every season. Instead, it describes a surface designed to absorb less solar energy. White coatings are common, but some colored shingles and tiles can also be made to reflect a large share of sunlight.

2. Comparing roofs shows why the coating matters. Under the same strong sunlight, a light-colored reflective roof can be more than 50 degrees Fahrenheit cooler than a conventional dark roof. Because it sends more solar energy away, less heat moves into the rooms below. In a building with air conditioning, that change can lower the amount of electricity needed for cooling. The effect depends on the building's insulation, local weather, roof shape, and how much roof is shaded during the hottest hours.

3. Cool roofs are not a perfect solution for every building. In cold climates, a reflective roof may reduce useful winter sunlight that could warm a building. However, many cities still promote cool roofs because dense neighborhoods trap heat and because summer cooling demand can be high. Roof choices also involve cost, durability, and local rules. By presenting both benefits and limits, planners can decide whether a cool roof fits a particular building rather than treating one design as best everywhere.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do the definition and clarification in paragraph 1 help explain the term cool roof?

2. Which two types of roofs does paragraph 2 compare, and what cause-and-effect relationship does the writer explain?

3. Why does the writer list insulation, weather, roof shape, and shade at the end of paragraph 2?

4. How does paragraph 3's discussion of limits affect the overall explanation?

3 YOUR TURN

Your own words

Write exactly three sentences explaining an energy-saving design. Use a definition in the first sentence, a comparison and cause-and-effect relationship in the second sentence, and a limitation in the third sentence.

ANSWER KEY

Roofing That Reflects

GRADE 8 · 8.T.T.2

PART 1 · READ AND MARK

Underline the sentence in each paragraph that gives its main point, circle details that serve as evidence or examples, and number transition words that signal comparison, cause and effect, or contrast. These marks show how the writer builds an explanation. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do the definition and clarification in paragraph 1 help explain the term cool roof?	**The definition explains that the roof reflects sunlight and releases heat, while the clarification shows that cool does not mean cold in every season.**
2	Which two types of roofs does paragraph 2 compare, and what cause-and-effect relationship does the writer explain?	**It compares a light-colored reflective roof with a conventional dark roof. Reflecting more solar energy causes less heat to move into the building, which can reduce electricity used for cooling.**
3	Why does the writer list insulation, weather, roof shape, and shade at the end of paragraph 2?	**The list qualifies the claim by showing that a cool roof's effect varies with building and local conditions.**
4	How does paragraph 3's discussion of limits affect the overall explanation?	**It creates a balanced explanation by showing that cool roofs have benefits but may not be the best choice for every building.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

A low-flow showerhead is a fixture designed to deliver water at a lower flow rate. Unlike a standard showerhead, it uses less hot water, so a home may need less energy to heat water. However, some users may find that its spray feels less forceful.

Accept responses that accurately use all three required expository techniques in exactly three sentences. The design and details may vary, but the comparison, cause-and-effect relationship, and limitation must be clear.