

The Whitest Paint

In 2021, scientists at Perdue University created the whitest paint in the world. It was so white that it set a Guinness World Record. Did they set out to break a world record? No. Their goal was better than that. They wanted to fight climate change.

The scientists wanted to make a paint that could reflect sunlight away from a building. The more sunlight the paint reflected, the cooler the building would stay. If they could keep the building cool, people would not have to turn on the air conditioning. This simple act could save a lot of energy.

In order to be really reflective, the paint had to be really white. The scientists used a large amount of a chemical called barium-sulfate to get the ultra-white color. They also used different particle sizes of the barium-sulfate to increase the white effect. Using this chemical, they were able to make a paint that would reflect 98.1% of the sun's rays.

Regular white paint warms buildings rather than cooling them. Even paint that is specially designed to be cooling only reflects 80-90% of sunlight and doesn't have a cooling effect. But this new paint is a game changer. Painting 1,000 square feet of a roof with the new paint could produce a cooling power of 10 kilowatts. According to the scientists, that is more powerful than the air conditioning used in most homes.



The hope is that once the paint is widely used, it could reduce the need for air conditioning. No longer needing air condition would save a lot of energy as the world gets warmer. Technology like the whitest paint in the world may be a lifesaver as we face climate change. Go science!



This page has been intentionally left blank.

NAME: _____ DATE: _____

1. Why did the scientists want to create the whitest paint?
 - a. To set a world record
 - b. To make houses look better
 - c. To save energy
 - d. To use barium-sulfate

2. How much sunlight does the new paint reflect?
 - a. 80-90%
 - b. 98.1%
 - c. 100%
 - d. 10%

3. How does the new paint save energy?
 - a. By reducing the need for air conditioning
 - b. By making the buildings cooler
 - c. By reflecting the sunlight
 - d. All of the above

4. What does the author mean by the phrase “game changer”?
 - a. The new paint is better than what came before
 - b. The new paint is worse than previous paints
 - c. Creating the new paint was as easy as playing a game
 - d. Using the new paint is like a game

Instructions for teachers:

These questions can be used to assess understanding of the reading passage.

The item in bold is the correct answer for each question.

1. Why did the scientists want to create the whitest paint?
 - a. To set a world record
 - b. To make houses look better
 - c. To save energy**
 - d. To use barium-sulfate
2. How much sunlight does the new paint reflect?
 - a. 80-90%
 - b. 98.1%**
 - c. 100%
 - d. 10%
3. How does the new paint save energy?
 - a. By reducing the need for air conditioning
 - b. By making the buildings cooler
 - c. By reflecting the sunlight
 - d. All of the above**
4. What does the author mean by the phrase “game changer”?
 - a. The new paint is better than what came before**
 - b. The new paint is worse than previous paints
 - c. Creating the new paint was as easy as playing a game
 - d. Using the new paint is like a game