

Whitest Paint

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IN News: Recently, Engineers from Purdue University in the US have created whitest paint yet.

About Whitest Paint

- The team of researchers at the university created an ultra-white paint in October pushing the limits of how white paint can be.
- This older formulation was made of calcium carbonate, while the new one is made up of barium sulphate, which makes it more white.
- This paint is closest equivalent to the blackest black paint called “Vantablack ” that is able to absorb up to 99.9 percent of visible light.

What makes the paint so white?

- There are two features
 - One is the paint’s high concentration of a chemical compound called barium sulfate, which is also used to make photo paper and cosmetics white.
 - Second feature is that the team has used different sized particles of this chemical compound, which means different sizes scatter different amounts of light.
- In this way, a varying size of particles of the compound make sure that the paint can scatter more of the light spectrum from the sun.
- There is a little bit of room to make the paint whiter, but not much without compromising the paint.
- This is because while a higher particle concentration can be used to make something whiter, tweaking this concentration or making it higher too much makes it easier for the paint to break or peel off.

Significance of Whitest Paint

- The newer paint is whiter and keeps the surface areas it is painted on cooler than the formulation before this could.
- If this new paint was used to cover a roof area of 1,000 square feet, it may be able to get a cooling power of 10 kilowatts.
- Most ovens use up about 2.3 kilowatts to run for an hour and a 3 ton 12 Seasonal Energy Efficiency Ratio (SEER) air conditioner uses up about 3 kilowatts to run for an hour.
- Paint is so white, that the paint can keep surfaces 19 degrees Fahrenheit cooler than their ambient surroundings at night.
- It can also cool surfaces 8 degrees Fahrenheit below their surroundings under strong sunlight during noon hours.