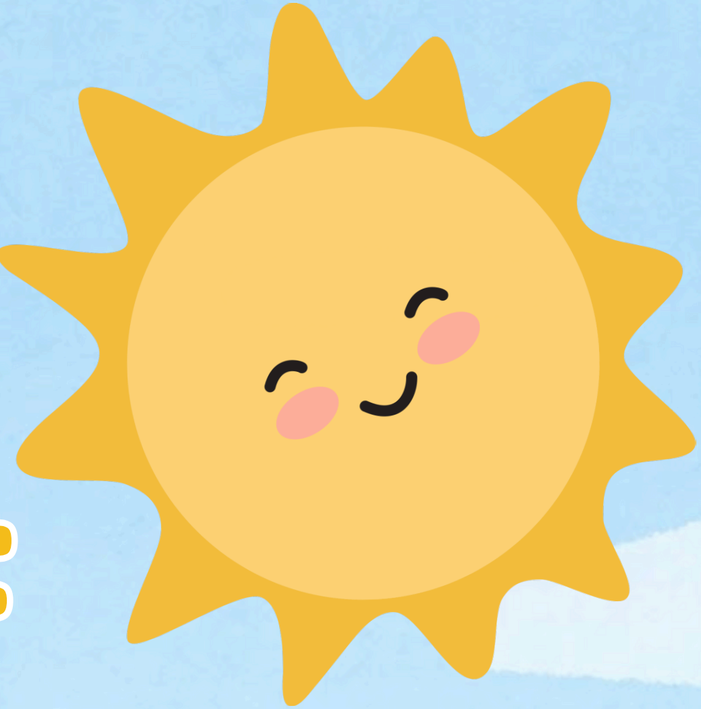
LESSON 25:

Color and Heat Absorption





LET'S TRY!

Posted on the board are illustrations of a boy and girl who are about to go outside to play. The sun is high up in the sky and the weather is warm. What clothes should the children wear when playing outside? Choose from the section of clothes, then paste them over the children to "dress" them up properly. Explain why your chosen clothes are appropriate in such kind of weather.





Important Question?

How do we see colors and how do colors affect the heat absorption of an object?

When the weather is warm, do you prefer wearing light-colored clothes or dark-colored ones? During summer, clothes is light colors like white, beige, pink, and yellow are more popular. Meanwhile, clothes in dark colors such as blue, black, gray, and maroon are preferred during color weather. Why is this so?

How We See the Visible Colors

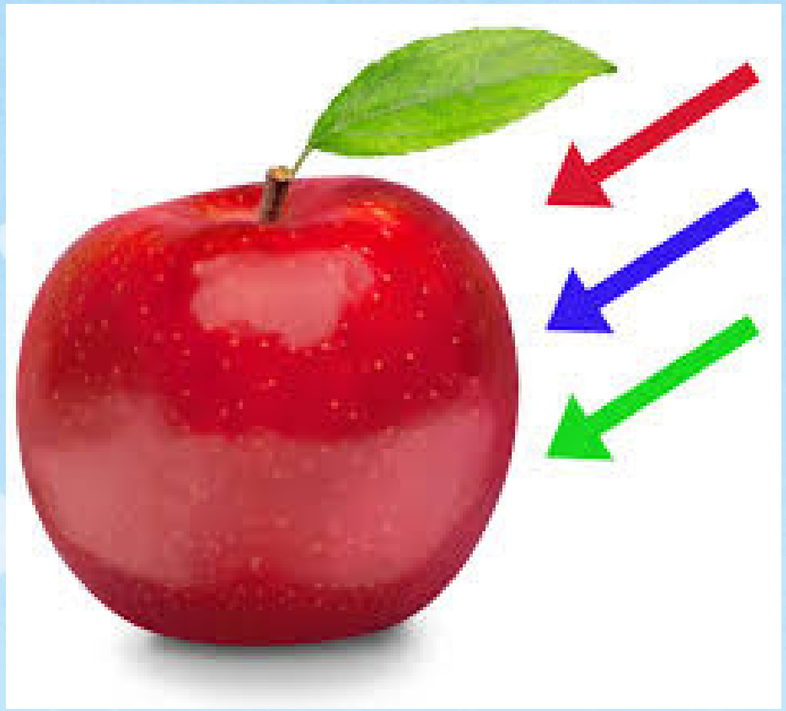
When light hits on a object, some parts of the light object and some are reflected back. Absorption happens when light gets thought the object. Reflection happens when the light hits an object is bounced back by the object. When you see an object, what we are seeing is the reflected light.

So how do we see different colors? When we see an object, it means that only the color red is being reflected by the object. A red shirt absorbs all the colors of light except for the red color. All the other colors are absorbed by the red shirt.

Black and white colors are different from other colors. White is a combination of all colors. When you see a white object, it means that the object are reflecting all the colors of the light at the same time. Polar bears, for example, look white but their fur is actually colorless or transparent. Their colorless or transparent hair scatters or reflects all the colors of light, thereby making us see white.

Black, on the other hand is the absence of reflected color. When we see a black object, it means that the object is absorbing almost all the colors of light and none of the visible colors are reflected.

A prism is a transparent optical object with flat surfaces. It can be used to refract light, breaking it into different colors (colors of the rainbow).



You see the red apple as red because red is reflected by the apple.

You see a green leaf because all the other colors of light are absorbed and green is reflected by the leaf

How colors Affect Heat Absorption

Do you know that the amount of heat an object absorbs or reflects depends on its colors? The more colors an object absorbs, the more heat is absorbed. The more colors an object reflects, the more heat is reflected. Thus, objects that absorb more colors also absorb more heat, making them hotter than the things that absorb less color or reflect more colors.


Thank you