

LIGHT AND COLOR

KEY IDEAS

- White light is a combination of all the colors in the visible spectrum
- White light can be split into the component colors of the visible light spectrum (rainbow colors)
- Different colors have different wavelengths of light
- Colored objects reflect the wavelength of that color and absorb all other color wavelengths

EXAMPLE QUESTIONS

- What different colors can you see?
- Have you seen a rainbow?
- Have you seen rainbow colors in other ways or places?
- When have you seen light that was not white?

WHITE LIGHT CAN BE SPLIT INTO SEPARATE COLORS

- White light can be split into the colors of the visible light spectrum when it is passed through a prism.
- As it passes through the prism, the light is bent.
- This is called refraction.
- Different colors are bent to different extents, so different colors of light are spread out and the 'rainbow' effect can be seen.
- White light can be created by mixing all the colors of the visible light spectrum.
- In color television sets, red, green and blue, the primary colors of light, combine to make white (unlike paint pigments where the primary colors are red, blue and yellow).

MATERIALS REFLECT DIFFERENT COLORS AND ABSORB OTHER

COLORS

- We see different colors in different materials and objects.
- For example, a ripe banana is seen as yellow and grass is seen as green.
- In fact, what we see is the color of the light reflecting off those items, while the other colors of light are absorbed by them.

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