

Chapter 27

Color

Color depends mostly on light' s



- a. frequency.
- b. speed.
- c. transmission.
- d. amplitude.

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To say that rose petals are red is
to say that they



- a. absorb red.
- b. reflect red.
- c. emit red.
- d. transmit red.

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The colored light that passes through a piece of transparent blue glass is 

- a. blue.
- b. yellow, the opposite color of blue.
- c. actually green.
- d. red minus magenta.

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- c. actually green.
- d. red minus magenta.

Comment: Why do children correctly answer this while some overly cautious adults don't?

The solar radiation curve is



- a. the path the Sun takes at nighttime.
- b. the path the Sun takes at all times of day.
- c. a plot of brightness versus frequency of sunlight.
- d. a plot of wavelength versus frequency of sunlight.

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Comment: Such a curve is shown in Figure 27.7.

The color of newer fire engines and tennis balls



- a. is consistent with the solar radiation curve.
- b. is not consistent with the solar radiation curve.
- c. has nothing to do with the solar radiation curve.
- d. led to the formulation of the solar radiation curve.

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The color to which our eyes are most sensitive is



- a. red.
- b. yellow.
- c. yellowish green.
- d. blue.

The color to which our eyes are most sensitive is

- a. red.
- b. yellow.
- c. yellowish green.
- d. blue.


When red and blue light are overlapped, the color produced is



- a. magenta.
- b. yellow.
- c. cyan.
- d. white.

When red and blue light are overlapped, the color produced is

- a. magenta.
- b. yellow.
- c. cyan.
- d. white.

A mixture of tiny magenta and yellow dots on a printed page appears 

- a. red.
- b. yellow.
- c. blue.
- d. green.

A mixture of tiny magenta and yellow dots on a printed page appears

- a. red.
- b. yellow.
- c. blue.
- d. green.

The colors on the cover of your physics book are due to



- a. color addition.
- b. color subtraction.
- c. color interference.
- d. scattering.

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When transparent yellow, magenta, and cyan filters are overlapped, the result is



- a. white.
- b. red.
- c. infrared.
- d. black.

When transparent yellow, magenta, and cyan filters are overlapped, the result is

- a. white.
- b. red.
- c. infrared.
- d. black.

Comment: See Figure 27.12.

The complementary color of blue is



- a. magenta.
- b. yellow.
- c. cyan.
- d. white.

The complementary color of blue is

- a. magenta.
- b. yellow.
- c. cyan.
- d. white.

How many colors of ink were used to
print the colored photos in your
textbook?



- a. One plus black
- b. Two plus black
- c. Three plus black
- d. Four plus black

How many colors of ink were used to print the colored photos in your textbook?

- a. One plus black
- b. Two plus black
- c. Three plus black
- d. Four plus black

For mixing pigments or dyes, the primary colors are magenta, cyan, and



- a. red.
- b. green.
- c. yellow.
- d. blue.

For mixing pigments or dyes, the primary colors are magenta, cyan, and

- a. red.
- b. green.
- c. yellow.
- d. blue.



The redness of a sunup or sunset is due mostly to light that hasn't been

- a. absorbed.
- b. transmitted.
- c. scattered.
- d. polarized.

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- d. polarized.

The blueness of the daytime sky is
due mostly to light



- a. scattering.
- b. absorption.
- c. transmission.
- d. reflection.

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- a. scattering.
- b. absorption.
- c. transmission.
- d. reflection.

The color of light that passes most readily through a thick atmosphere is



- a. red.
- b. white.
- c. blue.
- d. violet.

The color of light that passes most readily through a thick atmosphere is

- a. red.
- b. white.
- c. blue.
- d. violet.



When relatively large particles contribute to the mix of particles in the atmosphere, the sky is

- a. bluish.
- b. reddish.
- c. whitish.
- d. greenish.

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- a. bluish.
- b. reddish.
- c. whitish.
- d. greenish.



If molecules in the sky scattered low-frequency light more than high-frequency light, the color of the sky at noon would be

- a. red.
- b. green.
- c. blue.
- d. white.

If molecules in the sky scattered low-frequency light more than high-frequency light, the color of the sky at noon would be

- a. red.
- b. green.
- c. blue.
- d. white.



The greenish blue of ocean water is due mostly to the absorption of

- a. scattered light.
- b. infrared light.
- c. ultraviolet light.
- d. reflected light.

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- a. scattered light.
- b. infrared light.
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Clouds are white because of scattering from



- a. a large variety of particle sizes.
- b. tiny particles.
- c. medium-size particles
- d. large particles.

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