Ch. 27 Color; 11th edition
Review Questions pg. 483

1. What is the relationship between the frequency of light and its color?
Ans. Different frequencies of visible light are different colors. In order of increasing frequency we have:

Red, orange, yellow, green, blue and violet.

Increasing frequency

3. What happens to light that falls on a material that has a natural frequency equal to the frequency of the light?
Ans. The light is absorbed due to resonance.

4. What happen to light that that falls on a material that has a natural frequency above or below the frequency of the light?
Ans. The light is reemitted. If the substance is transparent, the light passes through it. If the substance is opaque, the light is reflected.

5. What color light is transmitted through a piece of red glass?
Ans. Red.

20. Which interacts more with high-frequency light, small particles or large particles?
Ans. Small particles scatter high-frequency light the best.

23. Why does the sun look reddish at sunrise and sunset but not a noon?
Ans. Ask and answer in class for plus 1 point extra credit.

25. What is the evidence for a variety of particle sizes in a cloud?
Ans. The cloud appears white because it is scattering all colors. This only happens because of the presence of different size particles.