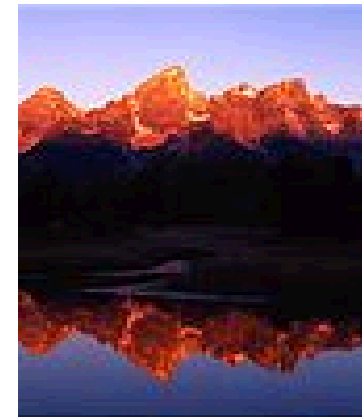




The glory of
God's creation
shows in the
reflection of light



Wave Interactions

reflection- bounces off object

free boundary- SAME

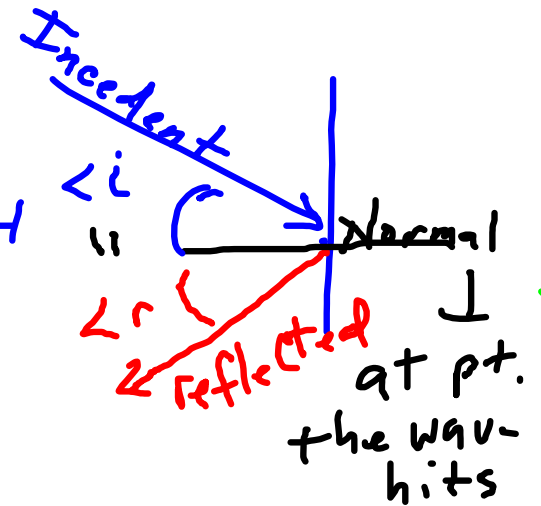
stationary boundary- opposite

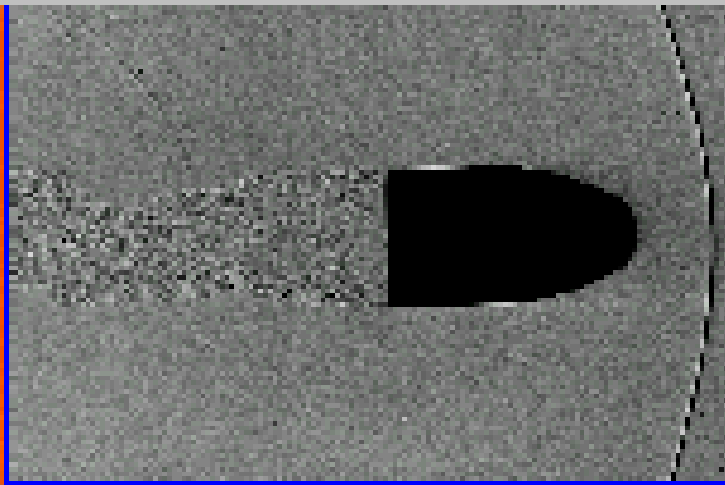
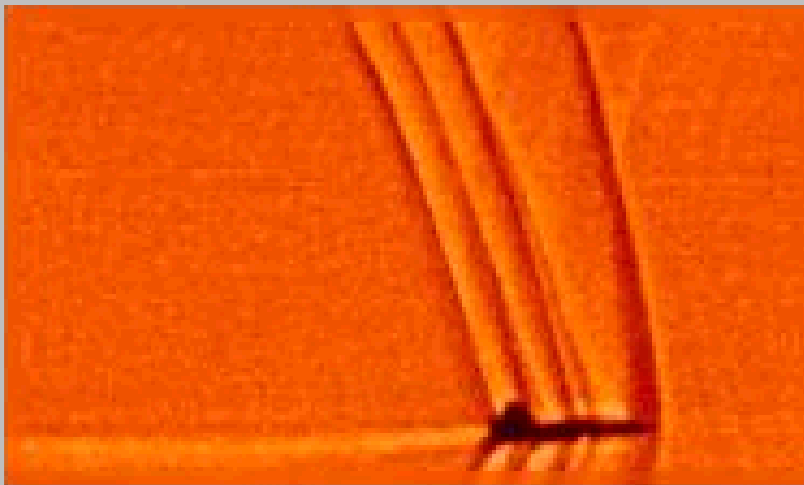
diffraction- bending around an object

refraction- bending because of a change in velocity

Slows bends toward normal!

doppler effect- source moving pitch higher toward you





<http://www.kettering.edu/~drussell/Demos/doppler/doppler.html>

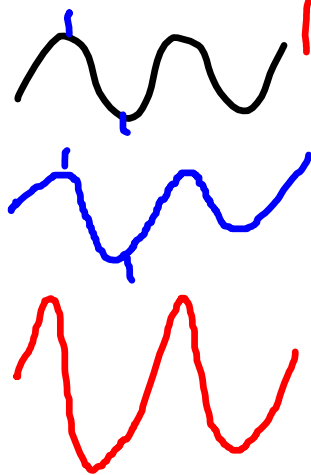


Interference

def- 2 or more waves collide

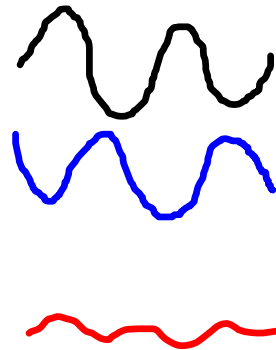
constructive

def- crest hits
crest - gets
larger



destructive

def- crest hits
trough - cancel
out



beats

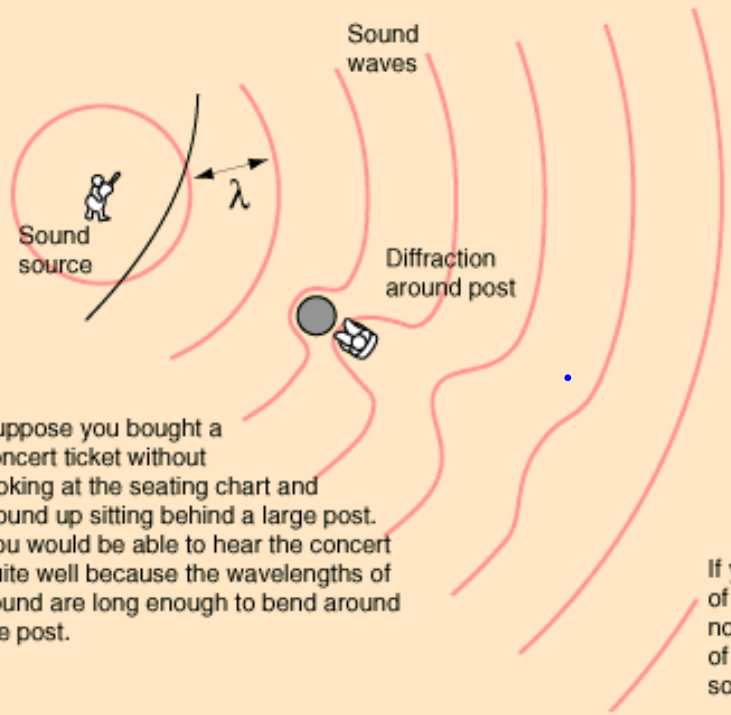
def- different
f -
pulsing waves

Standing waves

def- pattern of vibration
simulates a wave standing still

node- point where string comes together

antinode- point where string is farthest apart



Suppose you bought a concert ticket without looking at the seating chart and wound up sitting behind a large post. You would be able to hear the concert quite well because the wavelengths of sound are long enough to bend around the post.

If you were outside an open door, you could still hear because the sound would spread out from the small opening as if it were a localized source of sound.

If you were several wavelengths of sound past the post, you would not be able to detect the presence of the post from the nature of the sound.

Refraction is responsible for image formation by [lenses](#) and the [eye](#).

