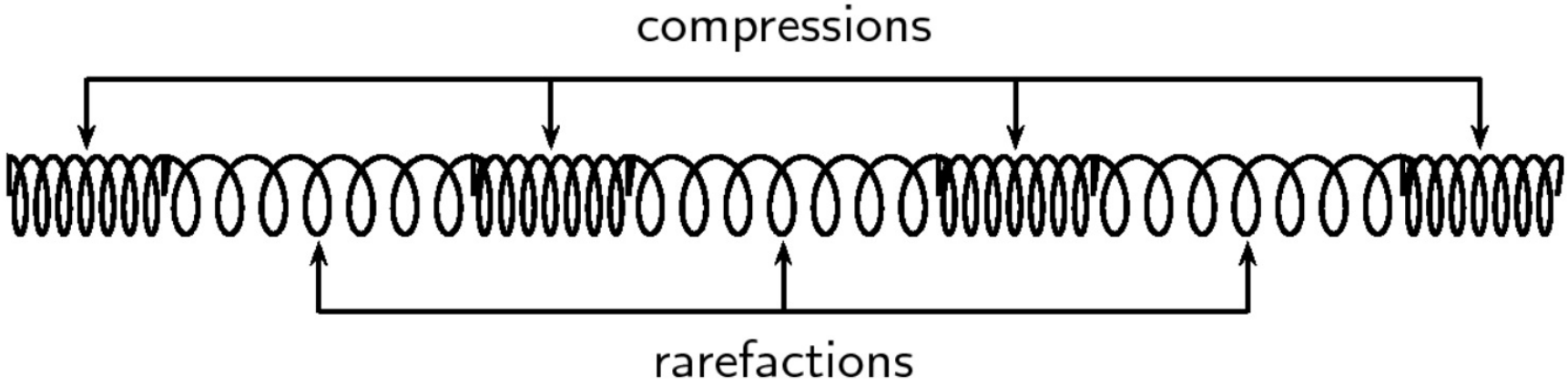
Waves, waves, waves...

STUDY GAME

Every team needs a whiteboard and marker. Rotate writing EVERY question.



What type of wave is this,

Transverse or Longitudinal?

Which is one way sound waves are different from light waves?

a. Sound waves travel through space but light waves cannot.

b. Sound waves travel at a slower speed than light waves.

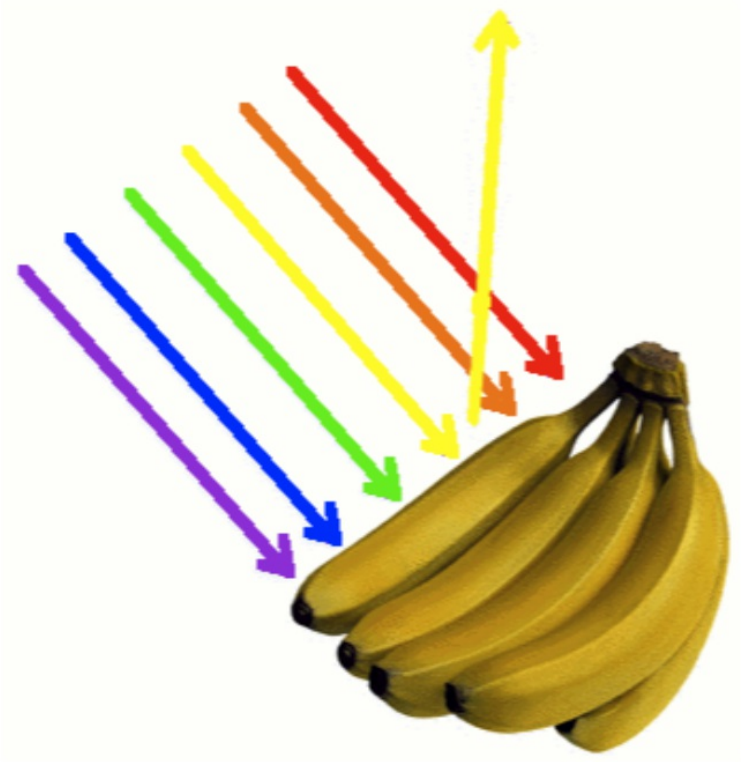
c. Sound waves have shorter wavelengths than light waves.

d. Sound waves are a source of energy but light waves are not.

Why are rainbows always in a certain color order (red outside and violet inside)?

Is amplitude (volume) or frequency (pitch) increasing?

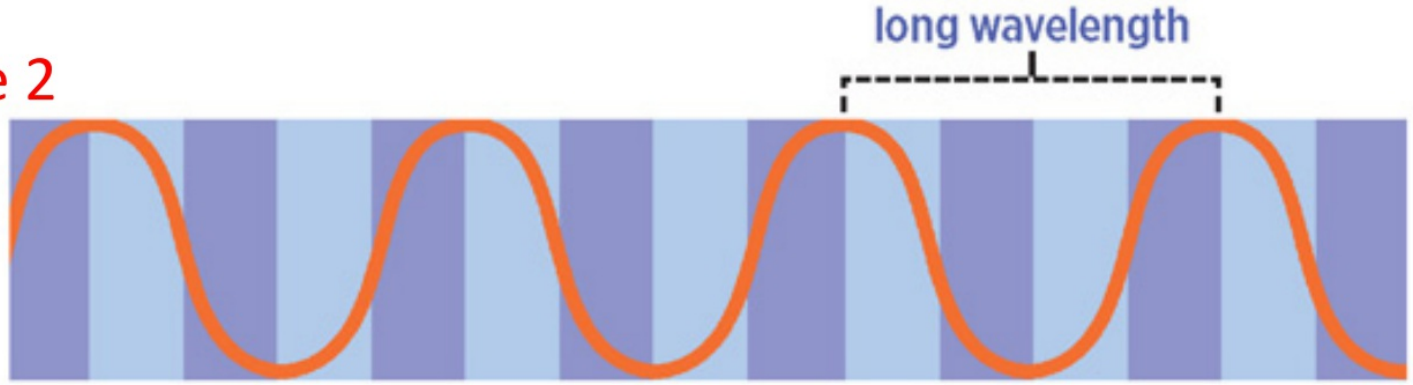
Explain...



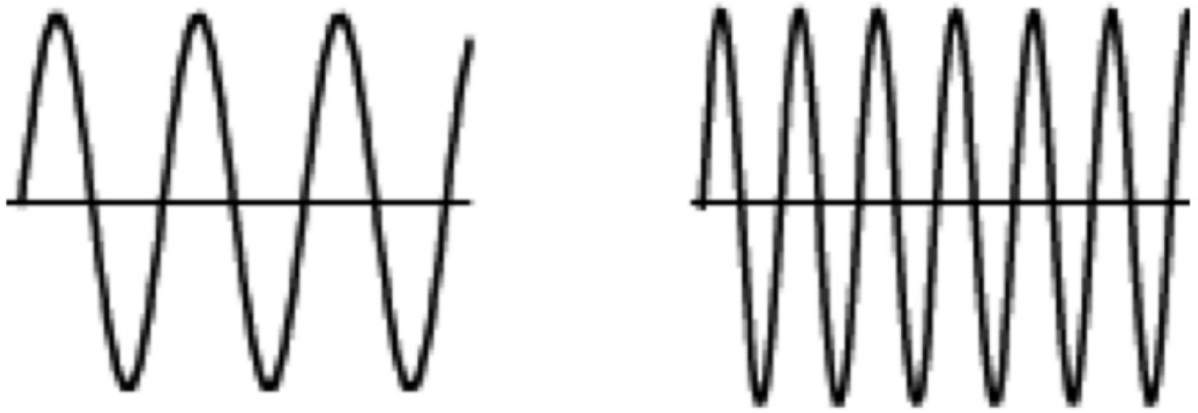
Which colors are being absorbed and which are reflected when you look at a yellow banana?

Wave 1

Wave 2



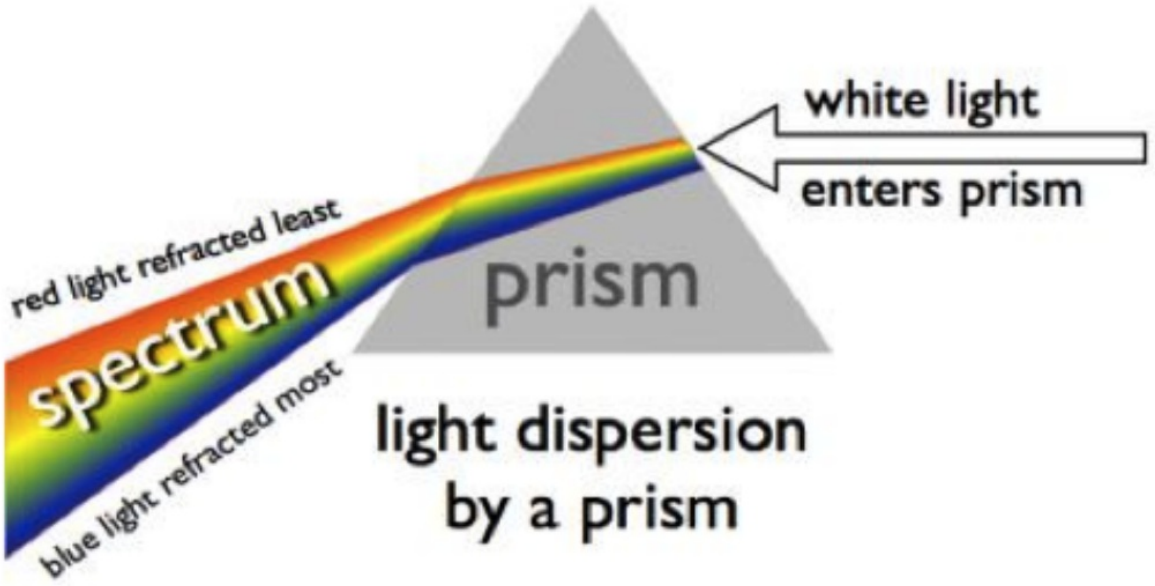
Is volume or pitch decreasing from wave 1 to wave 2?



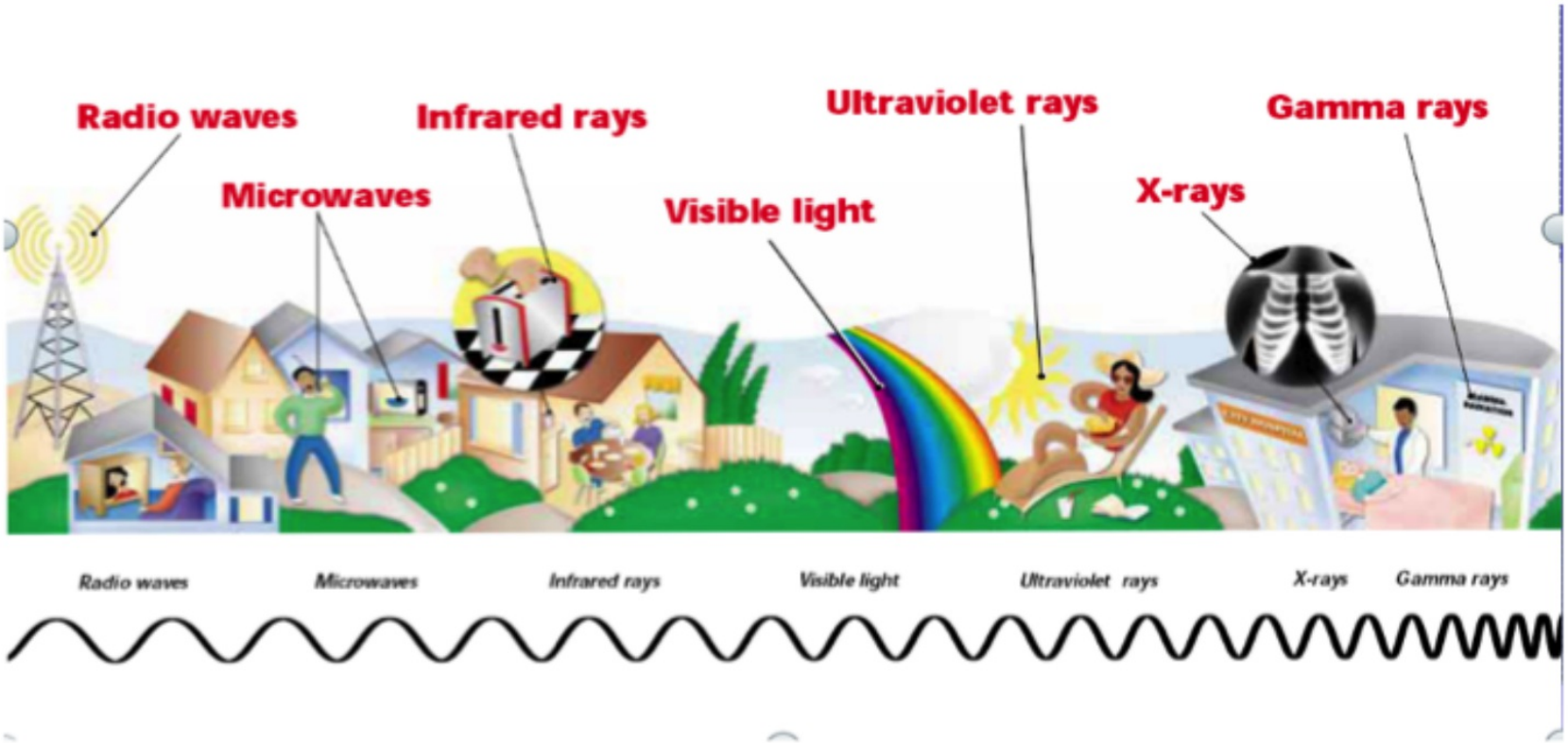
Lower Higher

What type of wave are these,

Transverse or Longitudinal?



When light is refracted (changes from traveling through one medium to another) it _____ and _____, making all the colors of light visible.



Are these electromagnetic or mechanical waves?

Sound is a form of energy produced by the vibration of matter. Sound travels in waves through matter. The table below shows the speed of sound through various substances.

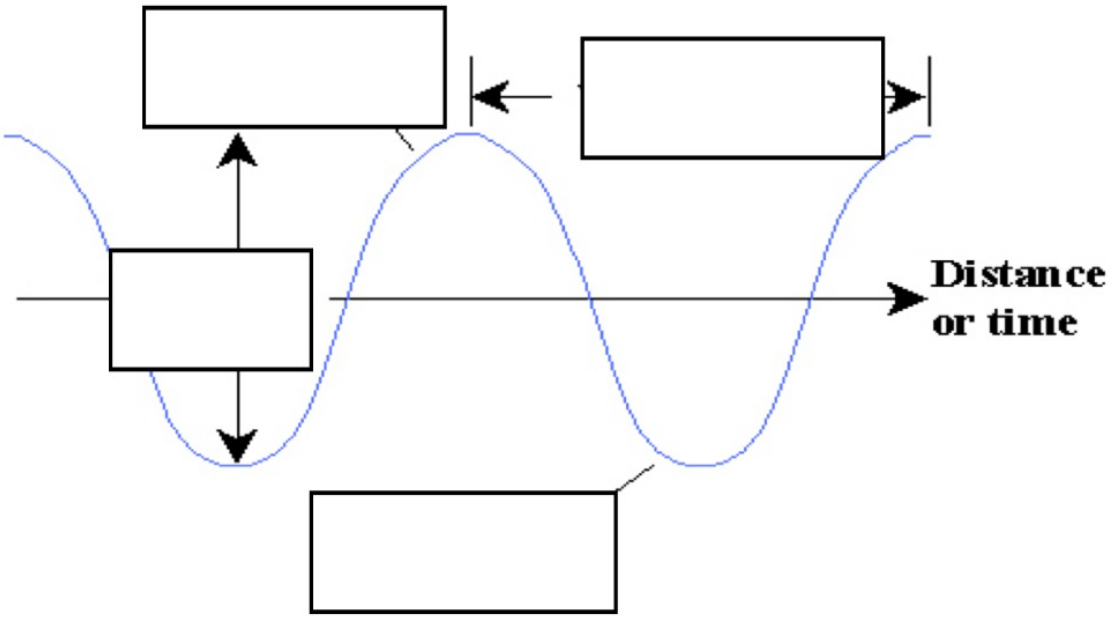
Speed m/sec
Rubber 60
Brick 3650
Cork 500
Stone 5971
Air at 0 degrees Celsius 331
Air at 25 degrees Celsius 346
Water at 25 degrees Celsius 1498

According to the table above, the speed of sound through air increases as the:

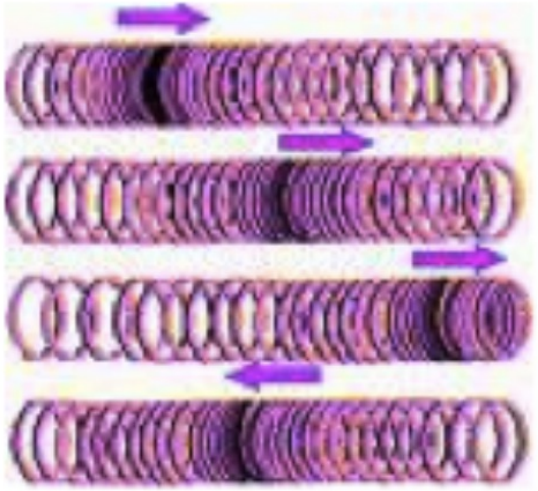
a. density of the air increases
b. temperature of the air increases
c. loudness of the sound increases
d. pitch of the sound increases

Through which medium does sound travel the fastest?

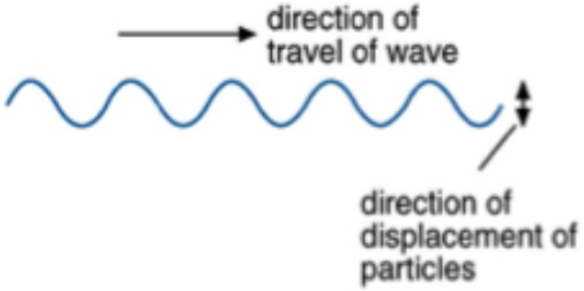
a. air
b. steel
c. steam
d. water



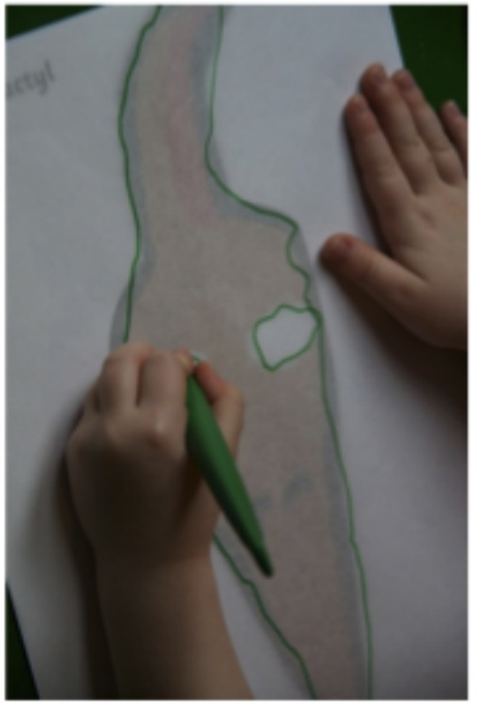
A. Amplitude
B. Wavelength
C. Crest
D. Trough



Which is a longitudinal wave? Transverse?



Which items is transparent? Translucent?



As the frequency of a wave increases, the wavelength _____.

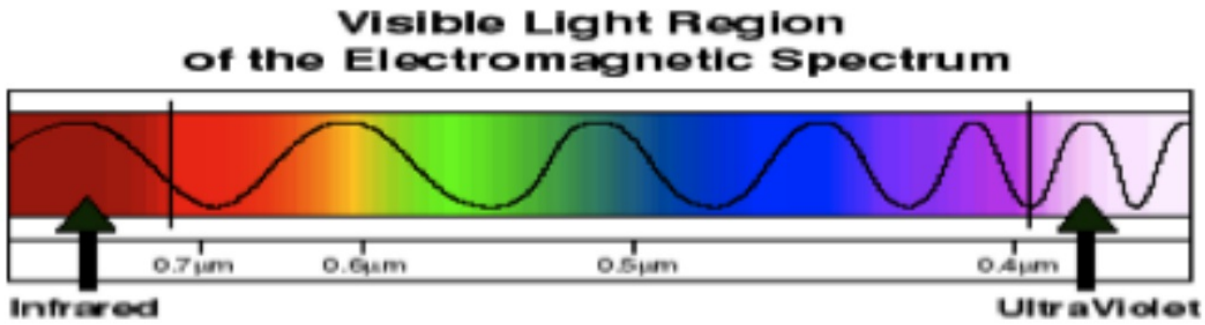
(increases/decreases)

As the frequency of a wave increases, the pitch gets _____.

(higher/lower)

As the amplitude of a wave increases, the volume _____.

(increases/decreases)



Which color of light has the longest wavelength?

ROY G. BIV

Which is true about the relationship between light and the electromagnetic spectrum?

a. Visible light travels slower than the rest of the electromagnetic spectrum.

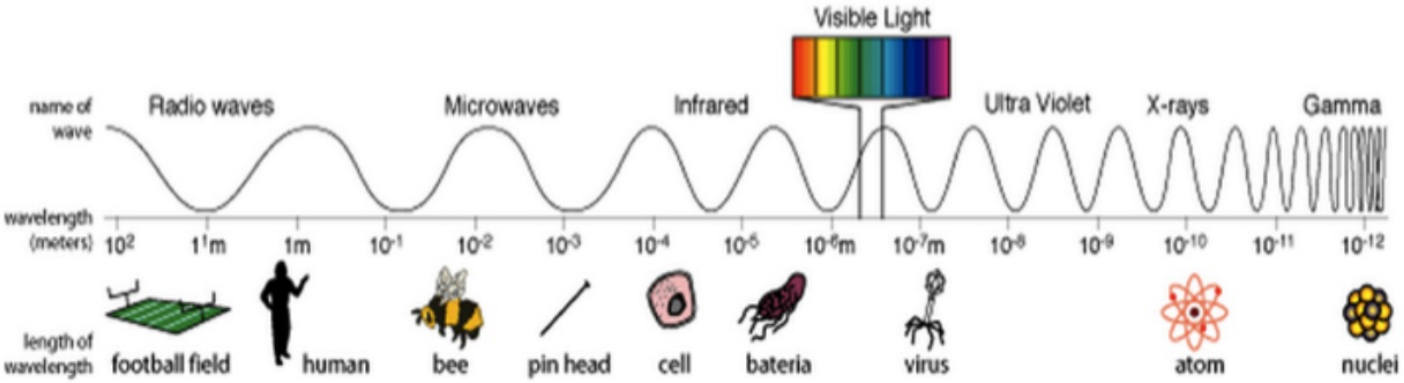
b. Visible light has more energy than the rest of the electromagnetic spectrum.

c. Visible light is only part of the electromagnetic spectrum that can be detected by the human eye.

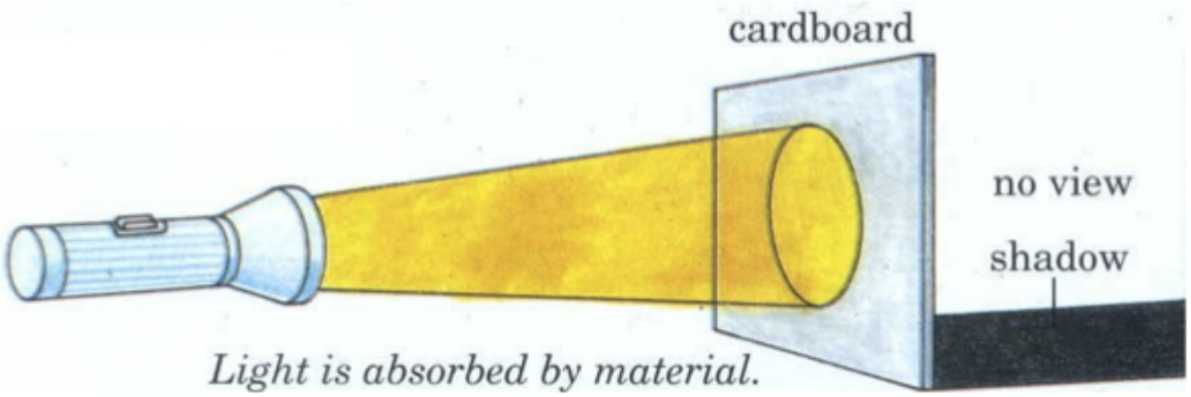
d. Visible light is the only part of the electromagnetic spectrum that can travel through space.

Light Travels as a
TRANSVERSE wave

True or False?



What type of electromagnetic wave has the shortest wavelength?



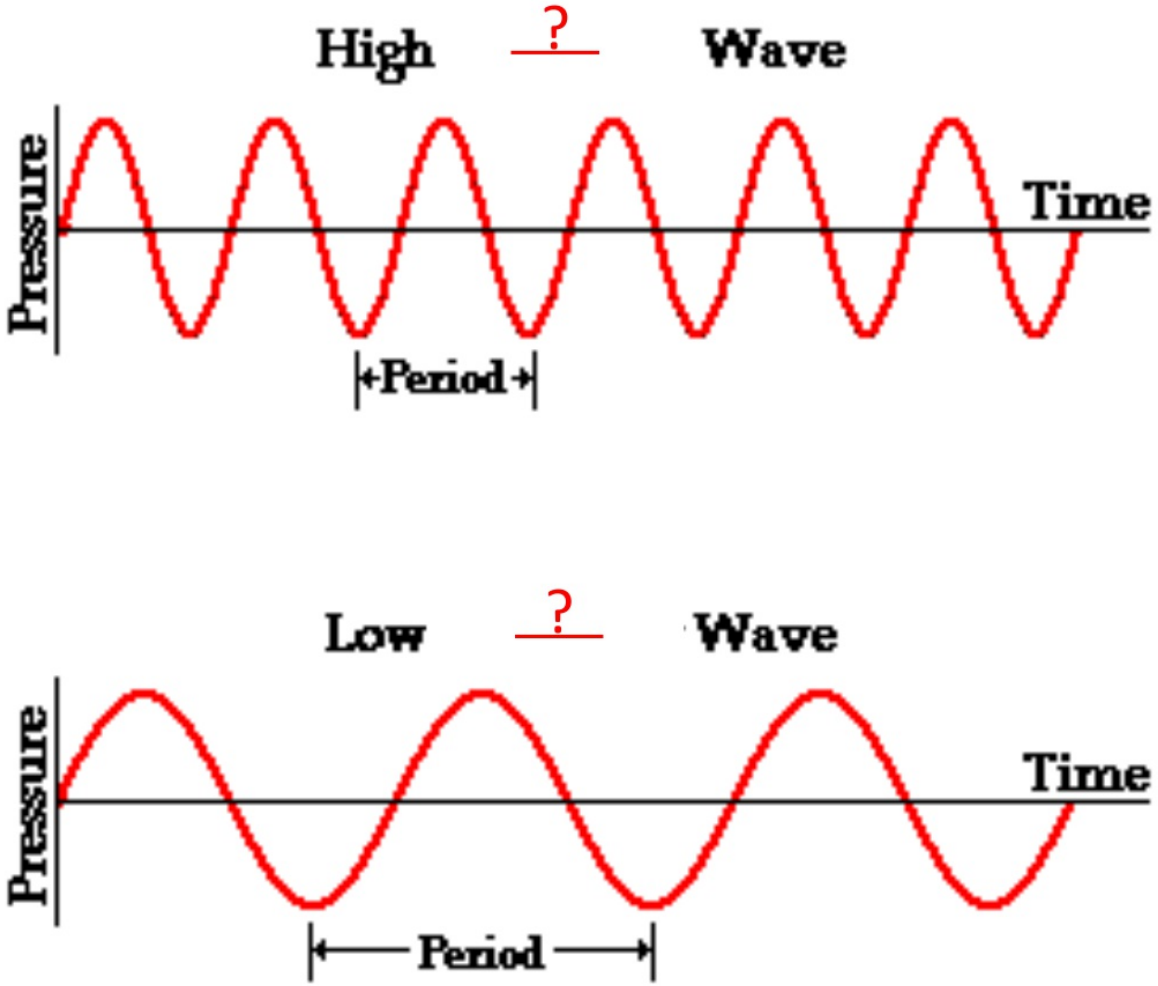
Opaque?

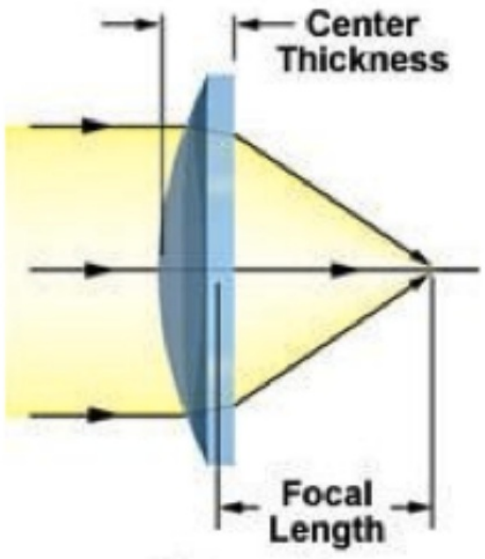
Translucent?

Transparent?

What term is used for when light bounces off a surface?

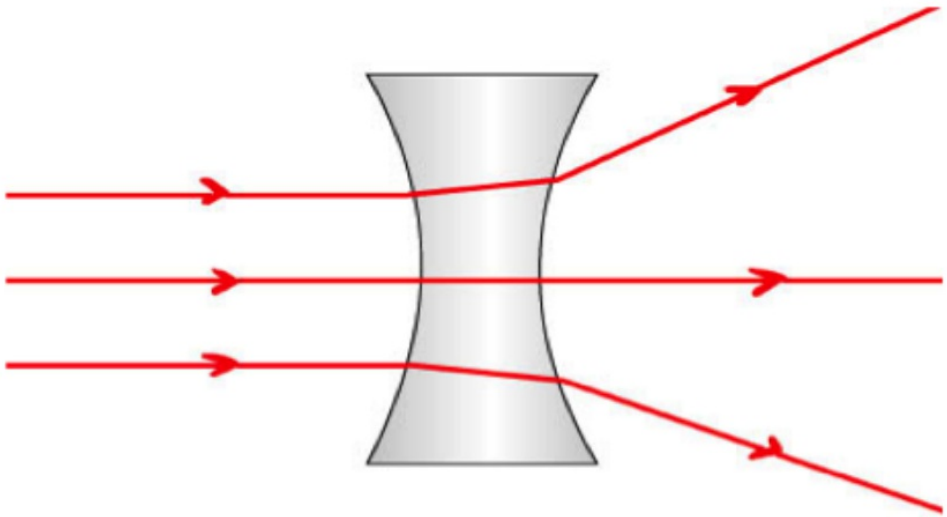
What term is used for when light changes mediums, slows down, and bends?


High ? Wave
Pressure
Time
Period
Low ? Wave
Pressure
Time
Period



Lens:

Thicker in middle,
brings light to a
focal point.



Lens:

Thicker on the edges,
sends light in different directions.