

Lesson 17

Thursday, May 20, 2010
11:40 AM

Lesson 2
Thursday, February 11, 2010
12:08 PM

[http:// physicswithherrol.yolasite.com](http://physicswithherrol.yolasite.com)

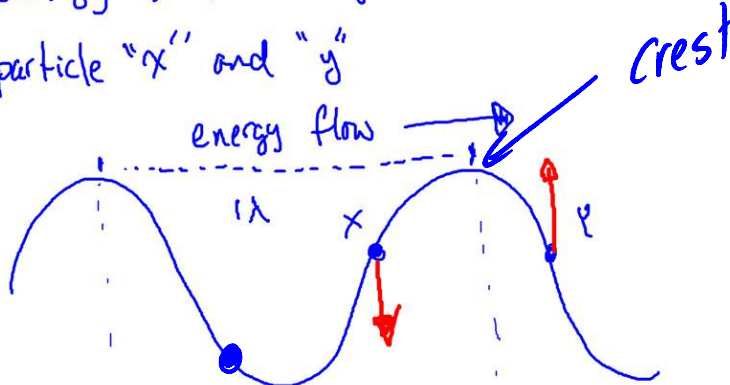
~~Handwritten scribbles in red ink.~~

Recall 2 types of mechanical waves

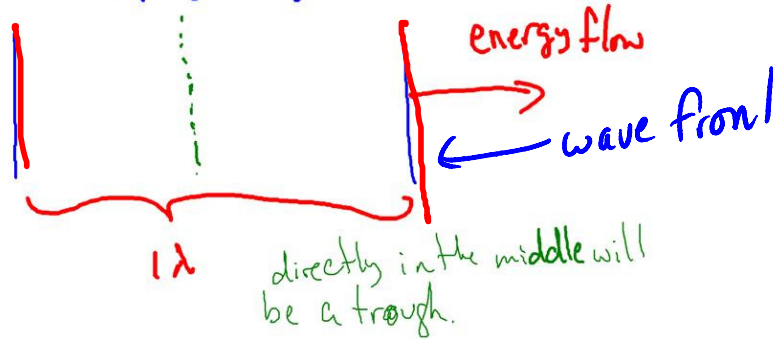
Transverse, longitudinal

The difference in them is the direction of the vibration of the particles

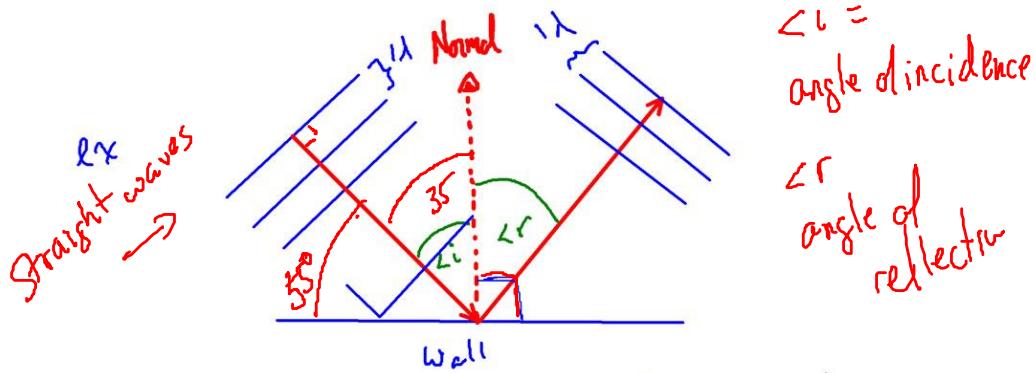
Water waves ^{are} transverse - if the direction of energy is to the right describe the motion of particle "x" and "y"



From a view from the top, we'll say at every crest we can replace the wave with a straight line



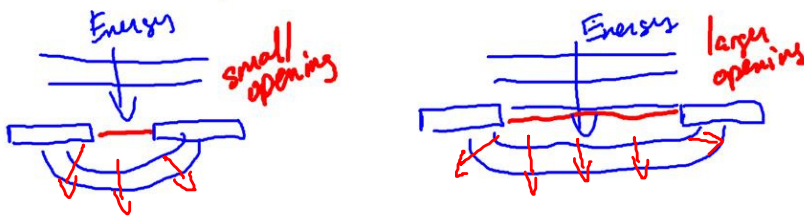
What happens when this wave hits a barrier?

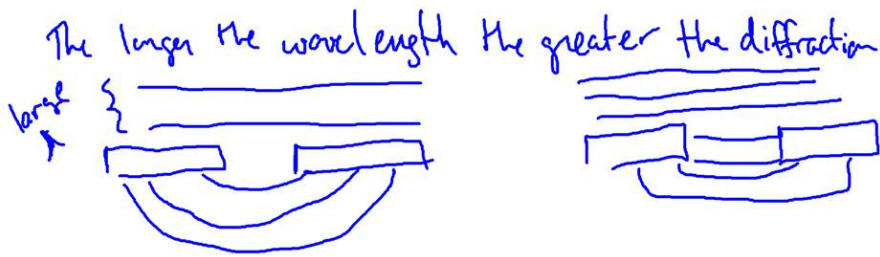


The waves will strike the barrier at an angle "i" which means of incidence, and will bounce back at an angle "r" or angle of reflection where $\angle i = \angle r$ where the Normal is always perpendicular to the barrier.

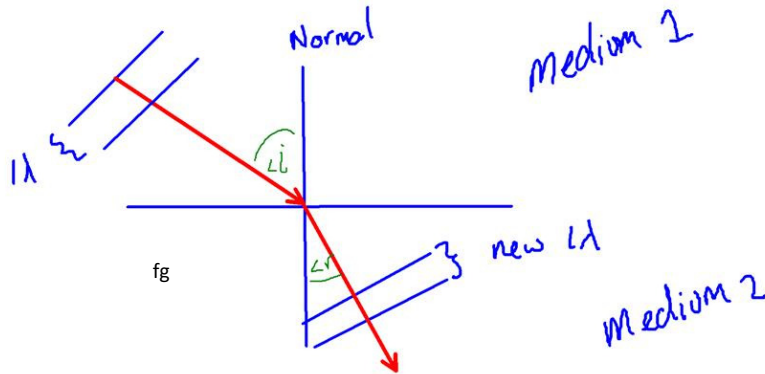
Diffraction is bending of waves when they meet an obstruction, only waves diffract (particles do not)

Diffraction is the spreading out of a wave as it passes through a small opening or around an obstruction
 ex smaller the opening, greater the diffraction



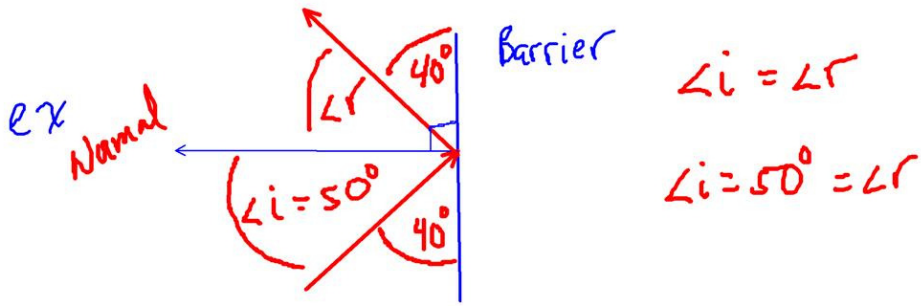


Refraction occurs when a wave changes direction, this is caused by changes in the speed as one wave passes from one medium to another



Lesson 3 pg 283 w/B

lets assume light behaves like waves



What is the angle of reflection.

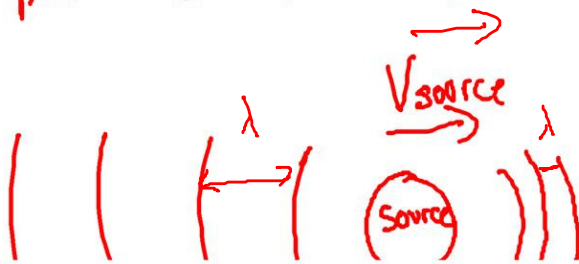
Try Q's pg 283 #1-f WVB

Speed of sound $v = 343$ m/s in
air @ temp 20°C

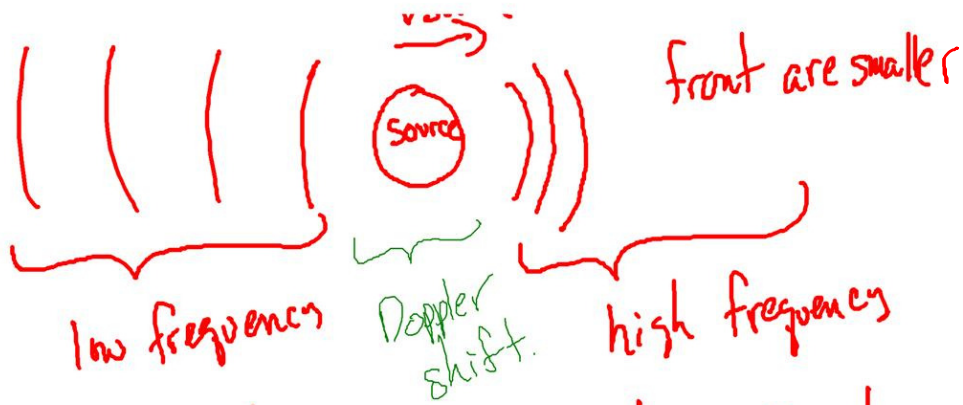
$\rightarrow v$

source of sound)))

Why does the sound of an ambulance
passing by change?



Wave lengths in
front are smaller



Velocity of waves in a medium is always fixed

$$v_{\text{fixed}} = \lambda f$$

Textbook Q's

$$v = \lambda f$$

$$d = vt$$

Universal
Wave Eqⁿ

1-5 pg 326

4-6 pg 325 one word answers

W/s for Period + frequency
odd Q's

~~Q-1 to Q-10~~ Q-1 to Q-10