Physics CW Week 5
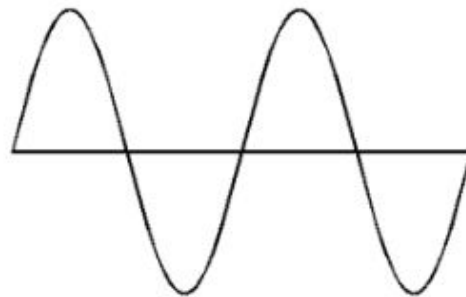
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Denny High School - Physics Department

Physics CW Week 5

Handout 1 – Wave structure and properties

## Section 1: Wave structure

Add the following labels to the diagram:

- Crest/Peak
- Trough
- Amplitude
- Wavelength

1) Match up the keyword to the definition:

Frequency	The maximum distance of a point of the wave away from its rest position. Measure in metres
Period	The speed of a wave in the direction it is travelling
Wavelength	The length of time it takes one wave to pass a given point
Amplitude	The number of waves passing a point each second. Measured in Hz
Velocity	The distance from a point on one wave to a point in the same position of the next wave. Measured in metres
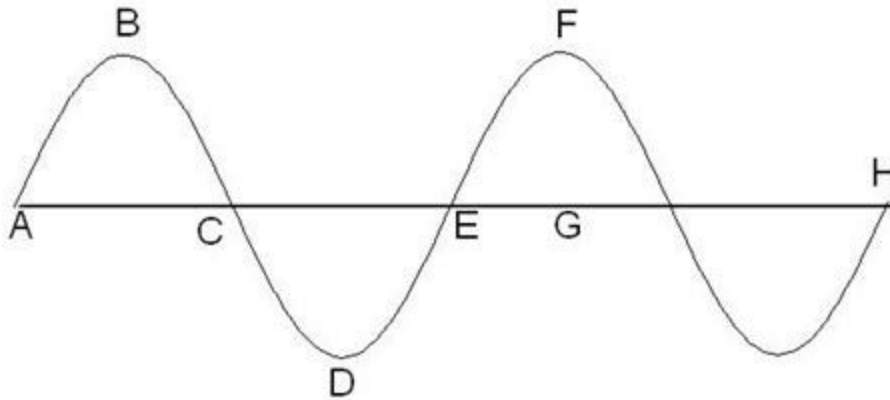
B - Crest

D - Trough

F | G - Amplitude

A | C - Wavelength

Frequency is the Number of waves passing through a point each second measured in Hz.

Period is The length of time it takes for a wave to pass through a given point.

Wavelength is the distance from one crest to the next measured in Meters.

Amplitude is the maximum height of a point from its resting position measured in meters

Velocity is the Speed of a wave in the direction of its travel

|	Longitudinal	Transverse
a transfer energy		
b transfer matter		
c transfer information		
d particles move in the same direction as the wave travels		
e particles move at right angles to the direction that the wave travels		
f amplitude is half the distance the particles move from their peak to their trough		
g examples are sound waves and some seismic waves		
h examples are waves on water and some seismic waves.		

A. ✔✔

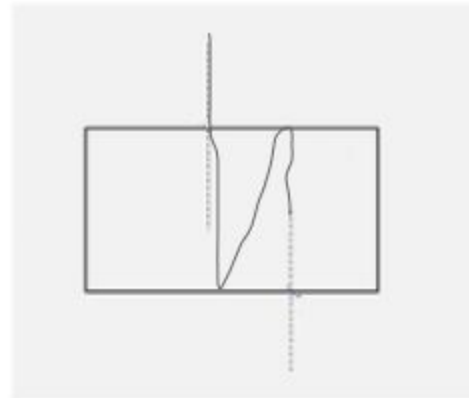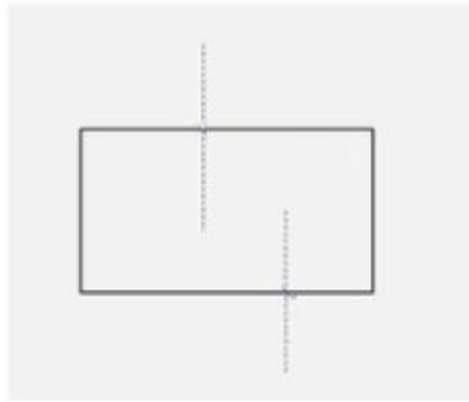B. ✗✗

C. ✗✔

D. ✗✔

E. ✔✗

F. ✗✔

G. ✔✗

H. ✔✗

Light

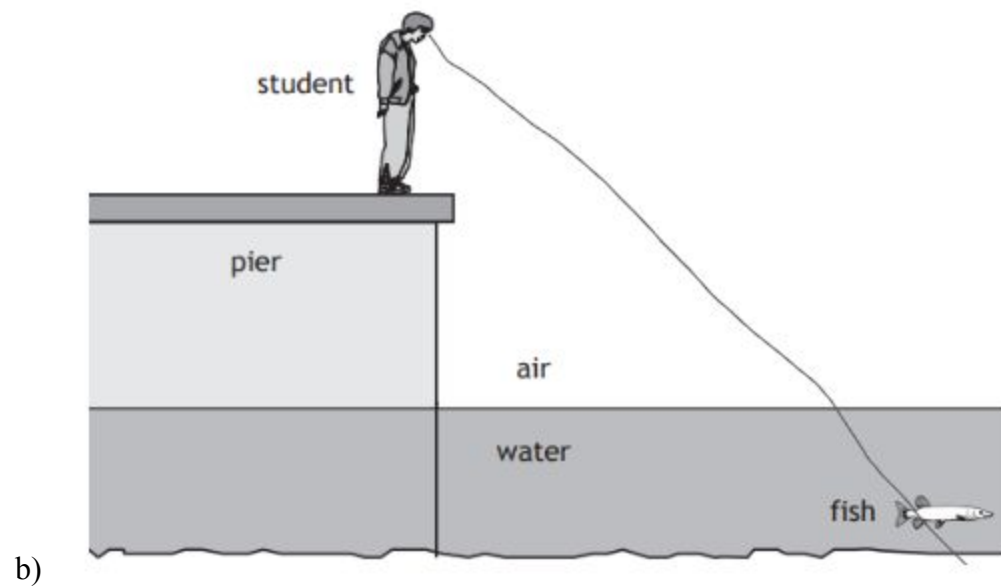1.   Refraction, Reflection and diffraction
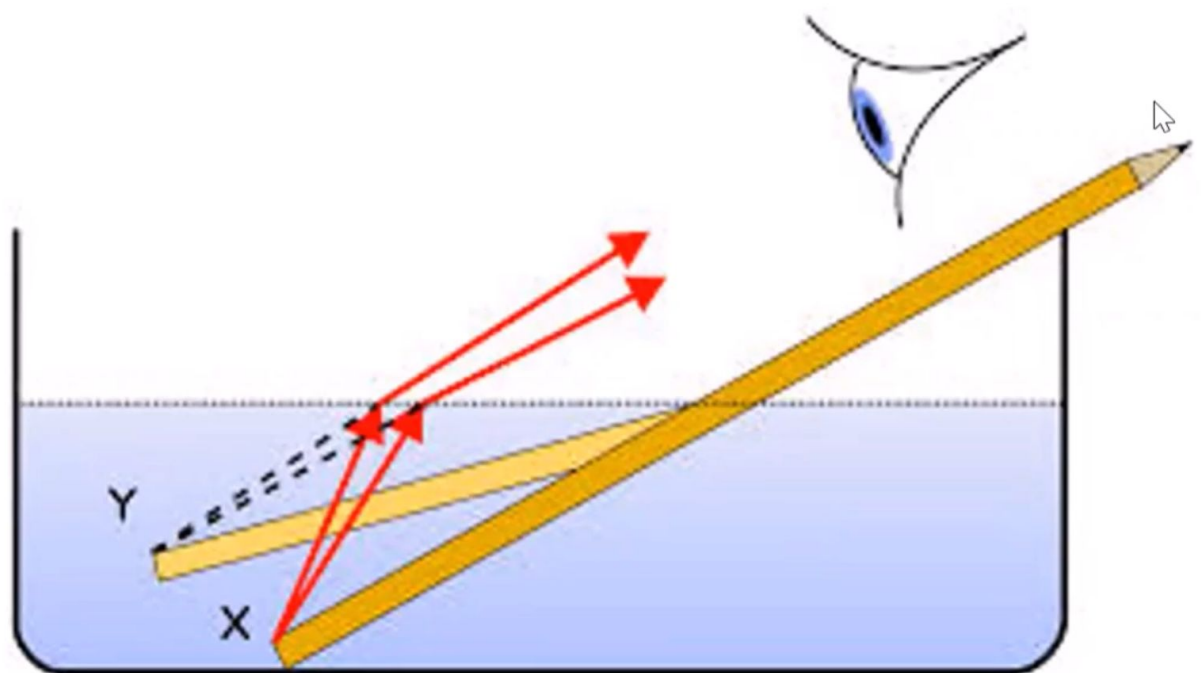
2.

3.

4.

    a.   They move and form into one ray

    b.   The cross point

    c.   Because it helps focus the light

Past paper problems

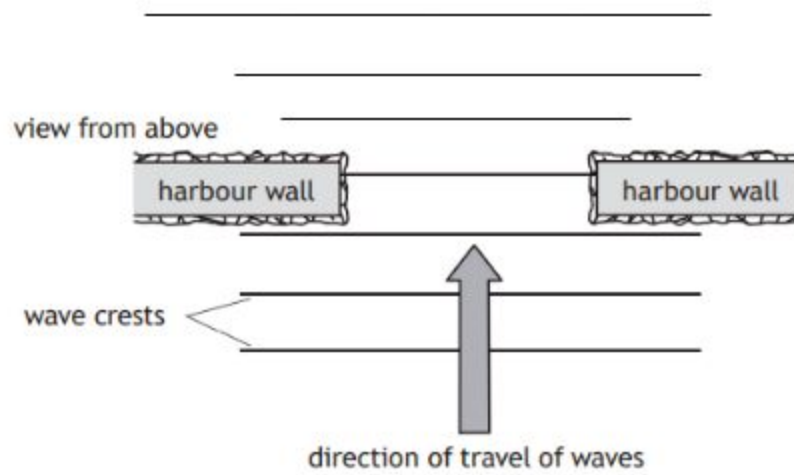1. $V = f \lambda$

   $v = 80 \times 12$

   $v = 1600 \ m/s^{-1}$

b)

1. 10 Hz

2. The student could also count the number of waves passing the harbour

1. 8.0 m/s-1

view from above

harbour wall

harbour wall

wave crests

direction of travel of waves

2.

3. The two walls make the waves shorter but then they get longer again after they pass the

walls.