Y7 Waves Homework Grids

Name: _____

Science Teacher: _____

	Comment
Grid 1.1	
Grid 1.2	
Grid 1.3	
Grid 1.4	
Grid 1.5	
Grid 1.6	
Grid 1.7	
Grid 1.8	

Grid 1.1: Use KO 20 – 24 Due: _____

Water waves are transverse waves. Sound waves are longitudinal waves.
Explain the difference between a transverse wave and a longitudinal wave.
You may include labelled diagrams in your answer.

.....

.....

.....

.....

Complete the sentence about longitudinal waves.

The vibrations of the air particles are

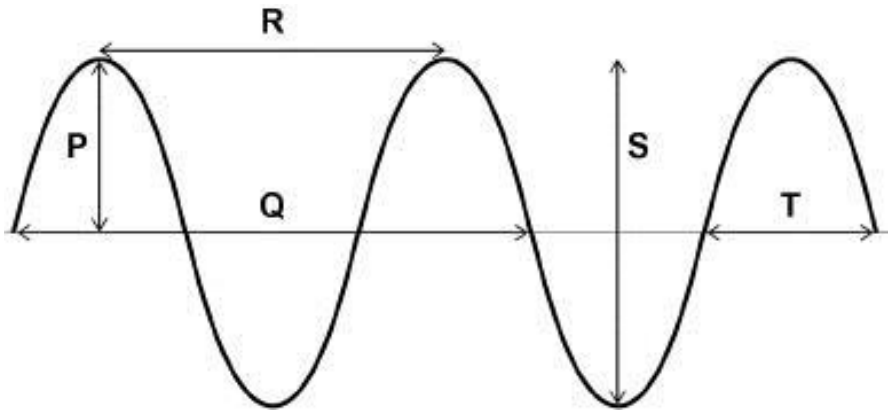
_____ to the direction of

energy transfer.

Draw **one** line from each quantity associated with a wave to the unit the quantity is measured in.

Quantity	Unit
frequency	Hz
	m
period	m^3
	m^2
wavelength	
	s

Grid 1.3: Use KO 21 Due: _____



Using the diagram on the left, which arrow shows the amplitude of the wave?
Choose the correct letter

…….

Using the diagram above, which arrow shows the wavelength of a wave?
Choose the correct letter

…….

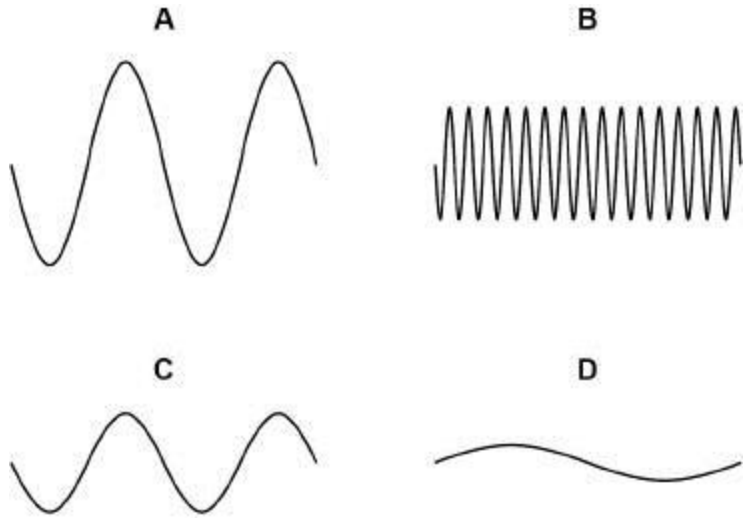
Explain how the appearance of the wave would changed if the frequency was increased.

…….

…….

…….

Grid 1.2: Use KO 20 – 24 Due: _____



Which wave has the greatest amplitude?
Choose the correct letter

.....

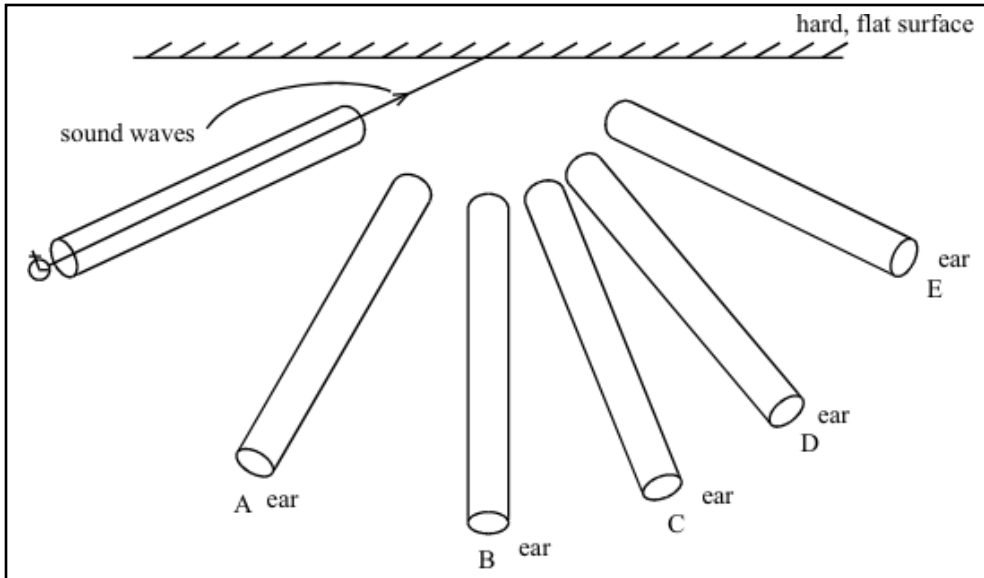
Which wave has the greatest frequency?
Choose the correct letter

.....

Which wave has the greatest wavelength?
Choose the correct letter

.....

Grid 1.4: Use KO X -X Due: _____ Tassomai Daily Goals:_____



A hard, flat surface reflects sound just like a plane (flat) mirror reflects light.

You want to hear the reflection (echo) of the ticking watch through a tube.
Which is the best position to put the tube?
Choose from positions A-E on the diagram
(You may draw on the diagram if you want to.)

On the diagram above, add the following labels

The angle of incident
The angle of reflection
The normal

Sound waves can be reflected from a wall.

What name is given to reflected sound waves?

.....

…….....

…….....

…….....

Grid 1.5: Use KO 20 – 24 Due: _____

Match the keyword to the definition

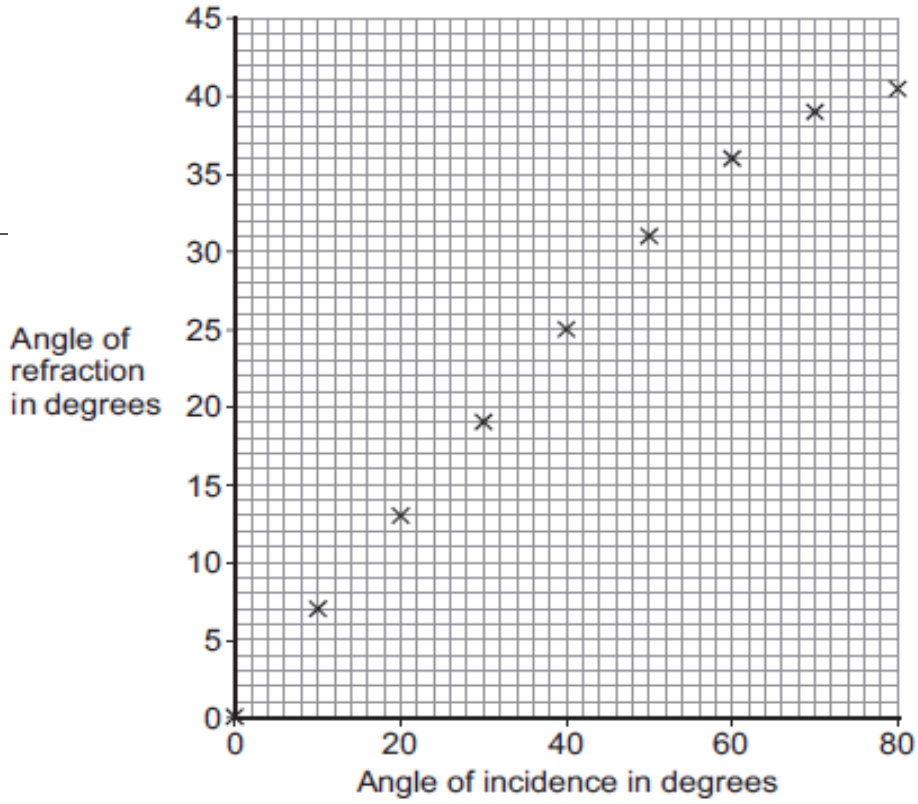
Keyword	Definition
Amplitude	Distance between two corresponding points on a wave, in metres.
Frequency	Vibrations that transport energy from place to place through particles.
Pitch	The maximum amount of vibration, measured from the middle position of the wave, in metres.
Vacuum	How low or high a sound is. A high pitch sound has a high frequency.
Waves	A space with no particles of matter in it
Wavelength	The number of waves produced in one second, in hertz.

Grid 1.6: Use KO 20 – 24 Due: _____

A student investigated the relationship between the angle of incidence and the angle of refraction as light passes from air into glass. Her results are shown in **Figure 3**.

Draw a line of best fit on Figure 3.

Figure 3



CHALLENGE

Use **Figure 3** to describe the relationship between the angle of incidence and the angle of refraction.

……

……

……

……

State the law of reflection

……

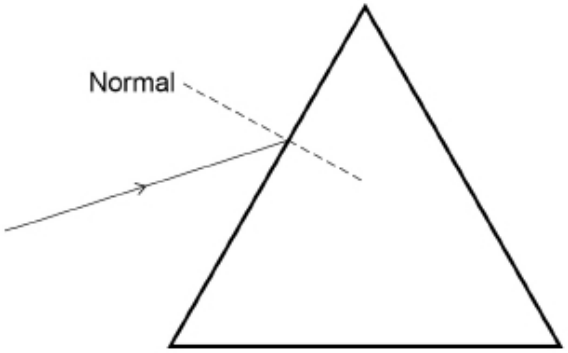
……

……

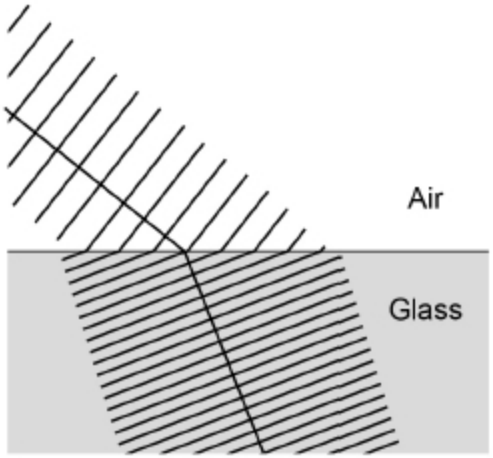
……

……

Grid 1.7: Use KO 20 – 24 Due: _____



Complete the ray diagram **on the right** to show how white light is dispersed as it emerges from the glass prism.



Explain why the light refracts as it passes from air into glass. Use the **diagram on the right** to help with your explanation

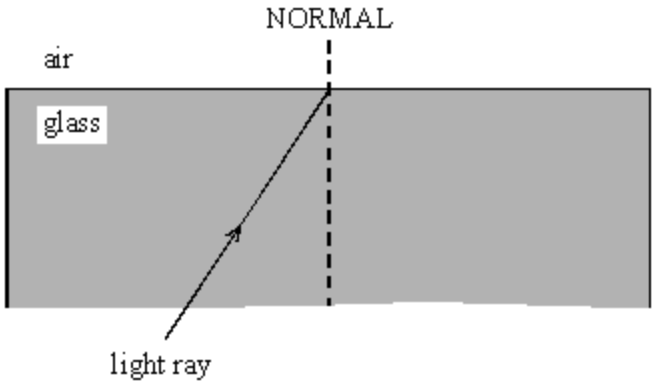
…….

…….

…….

…….

Grid 1.8: Use KO 20 – 24 Due: _____



The diagram shows a ray of light travelling through a glass block

Complete the diagram on the right to show what happens to the ray of light when it comes out of the glass.

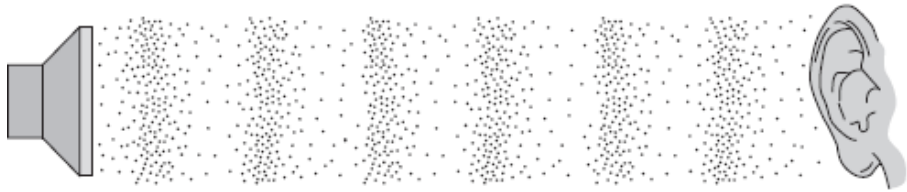
Waves can be longitudinal or transverse. Which of the following is an example of a longitudinal wave?
Tick the correct answer.

Sound

Visible light

Wave on a string

Figure 1



A sound wave is an example of a longitudinal wave. **Figure 1** shows the air particles in a sound wave as the wave travels from a loudspeaker to an ear.

Write a letter **R** on **Figure 1** to show an area of rarefaction.