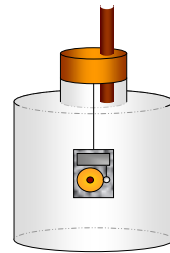


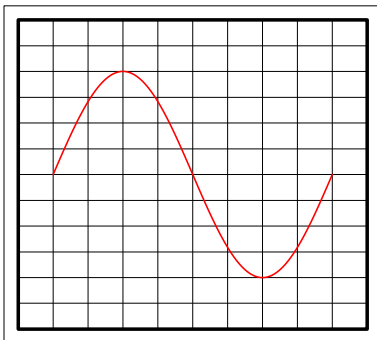
Dalkeith High School
S3 Physics Home learning
Sound Waves

1.
 - (a) How is sound produced?
 - (b) What do we call the number of vibrations per second?
 - (c) What do we call sound frequencies greater than 20 000 Hz?
2. In each of the following situations, state whether the sound is travelling through a solid, a liquid or a gas.
 - (a) Native Americans could hear horses a long way off by putting their ear to the ground.
 - (b) Dolphins use high-pitched sounds to locate fish for food.
 - (c) A teacher shouts at you for not attempting your homework!
3. A teacher puts a bell inside a large jar, and switches it on. His pupils can hear the bell clearly. The teacher then pumps the air out of the jar using a vacuum pump.

- (a) What would happen to the sound?
- (b) Why would this happen?



4. Write the main energy changes in:
 - (a) a loudspeaker.
 - (b) a microphone.
5. Look at this diagram of a sound signal pattern displayed on a CRO. Describe what would happen to its **frequency and amplitude** in each of the following situations:



The volume is increased

The pitch is increased, but the volume isn't changed.

The pitch is decreased and the volume is increased.