Lesson 1 - What Are Waves

A wave is a disturbance that transfers energy.

Energy is the ability to do work.

Mechanical waves travel through a medium, which is a material such as air, water or rope.

Mechanical waves form when a source of energy causes a medium to vibrate.

There are three types of Mechanical waves.

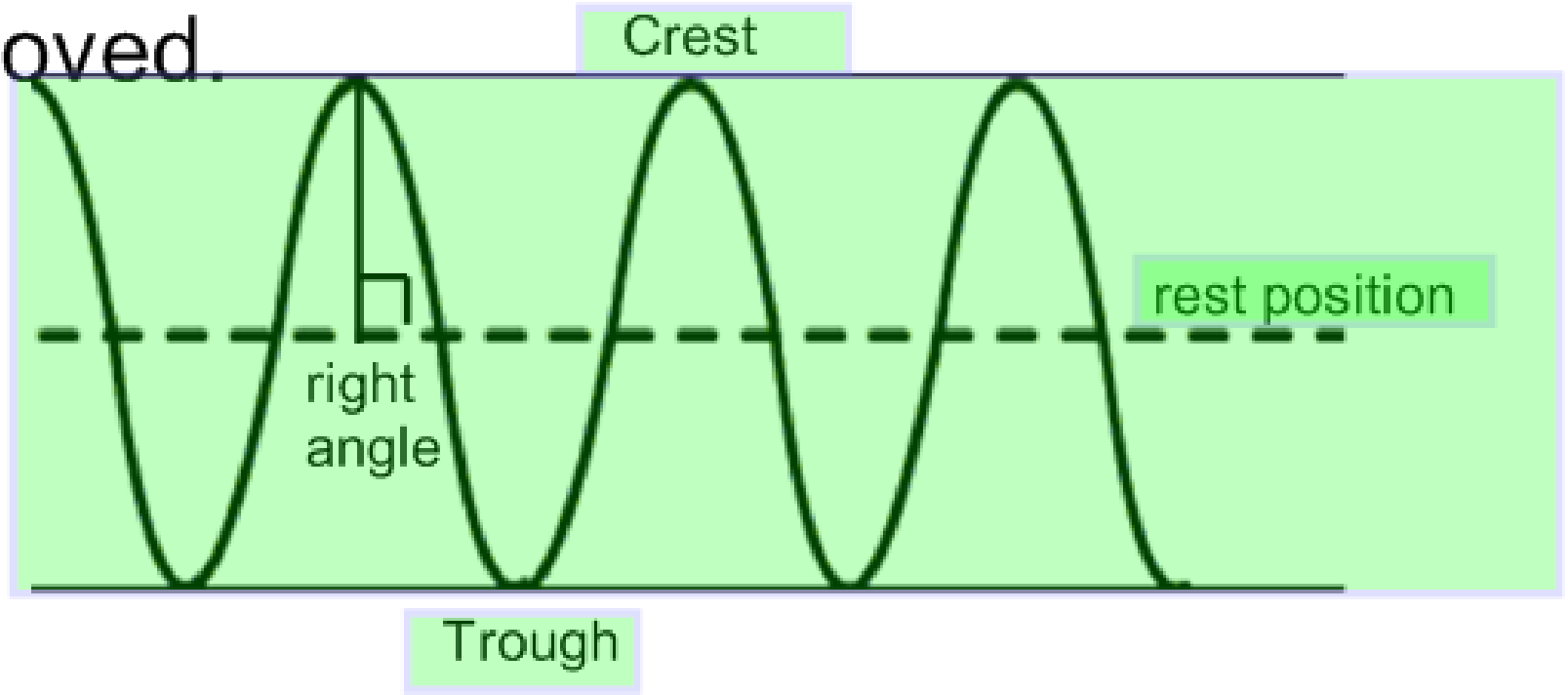
Transverse Waves:

A wave that vibrates the medium at **right angles** (or **perpendicular**) to the direction of the wave.

Crest is the high point of a transverse wave.

Trough is the low point on a transverse wave.

rest position - position of rope before it was moved.

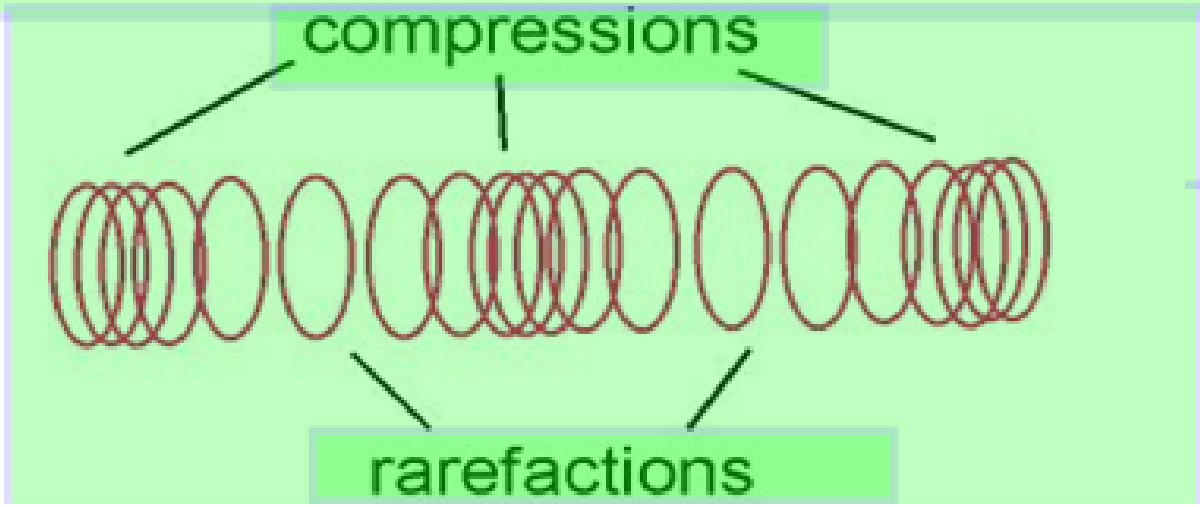


Longitudinal Wave:

A wave that vibrates the medium in the **same direction** (or **parallel**) to the direction that the wave travels.

Compression is the area where the coils are close together

Rarefaction is where the coils are spread out.



Surface wave:

A combination of transverse and longitudinal waves. Travels along a surface that seperates two mediums. An ocean wave is the most common surface wave that occurs between water and air.

The up and down and back and forth movement causes each particle of water **to move in a circle.**