

كلية العلوم

القسم : الفيزياء

السنة : الثانية



١

المادة : لغة تخصصية ١

المحاضرة : الاولى



مكتبة A to Z Facebook Group

كلية العلوم ، كلية الصيدلة ، الهندسة التقنية

يمكنكم طلب المحاضرات برسالة نصية (SMS) أو عبر (What's app-Telegram) على الرقم 0931497960



## What Are The Waves ?

**A wave** : It Is a disturbance that transfers energy from one place to another .

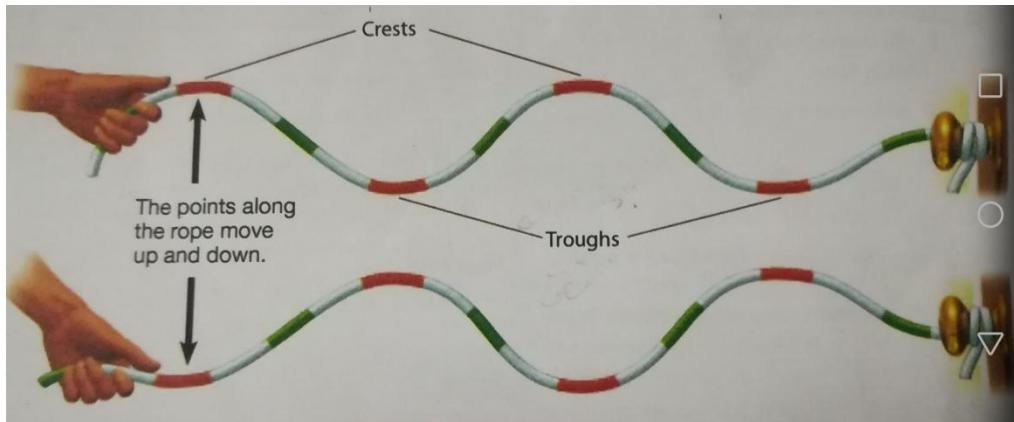
Waves are disturbances .Many waves travels by disturbing a material . The materials then returns to its original place .

**A medium** : It is the material through which a wave travels .

A wave transfers energy from one place to another . It does not transfer matter .

The points where the wave is highest are called **crests** .

The points where the wave is lowest is called **troughs** .

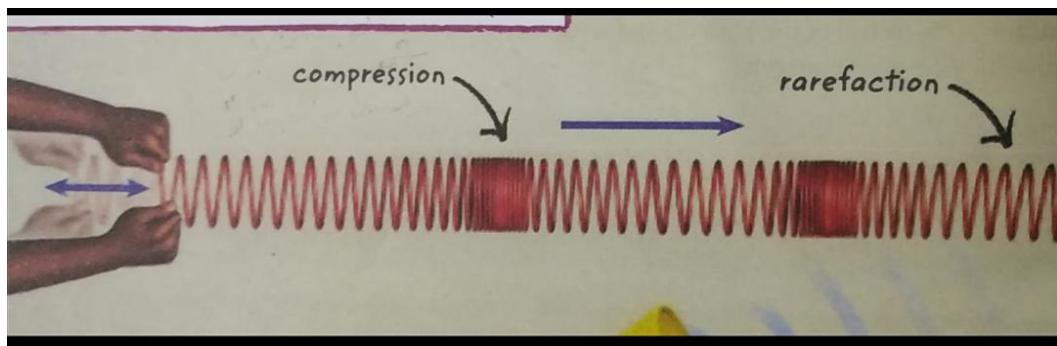


Some waves need a medium to transfer energy , such as sound waves and water waves .

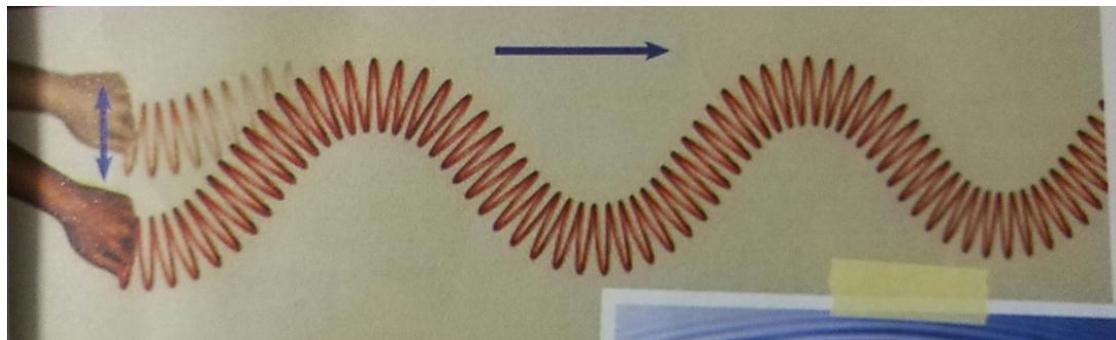
Some waves can transfer energy without a medium , such as light waves .

### ***How does a wave transfer energy ?***

**1 – As a longitudinal wave :** Particles move back and forth in the same direction that the wave travels , or parallel to the wave .



**2 – As a transverse wave :** particles move perpendicularly to the direction the wave travels .



An earthquake sends both longitudinal waves ( called P waves ) and transverse waves ( called S waves ) through earth' s crust .

In this case , the longitudinal waves are faster .

During an earthquake , the faster P waves arrive first . A little while later , the S waves arrive . The S waves are slower but usually more destructive .

A transverse wave and longitudinal wave can combine to form another kind of wave called a surface wave .

**What are some types of wave ?**

**1 – Mechanical waves** : A wave that requires a medium to travel is called a mechanical wave .

**2 – Electromagnetic waves** : It is a disturbance in electric and magnetic fields .

**Examples of EM waves include :**

- **Visible light**
- **Radio waves**
- **Micro waves**
- **Ultraviolet waves**
- **X - rays**