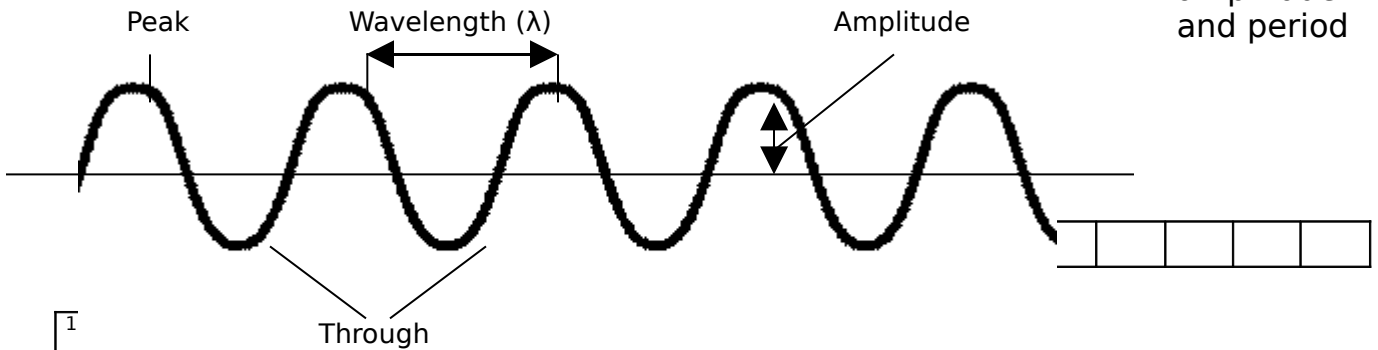


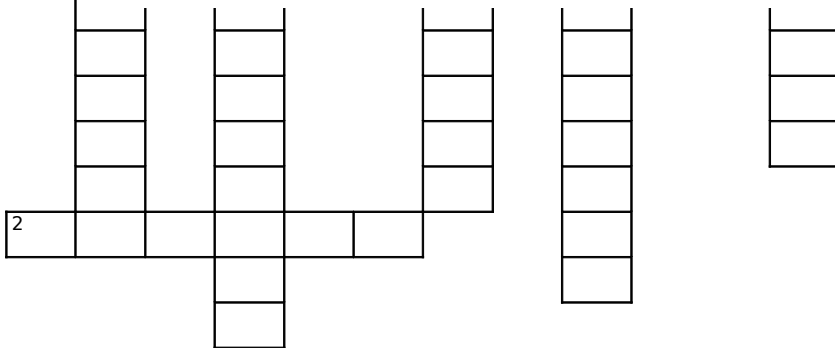
**CHAPTER 8 :  
ELECTRONICS AND INFORMATION AND COMMUNICATION SYSTEM**

**8.1 Understanding Radiowave**

- Energy can continuously move from one place to another.
- Wave : a disturbance that is produced repeatedly and transfers energy (example light and sound energy)
- Can be described using a number of standard variables including frequency, wavelength, amplitude and period



**Complete the following:**



**Across:**

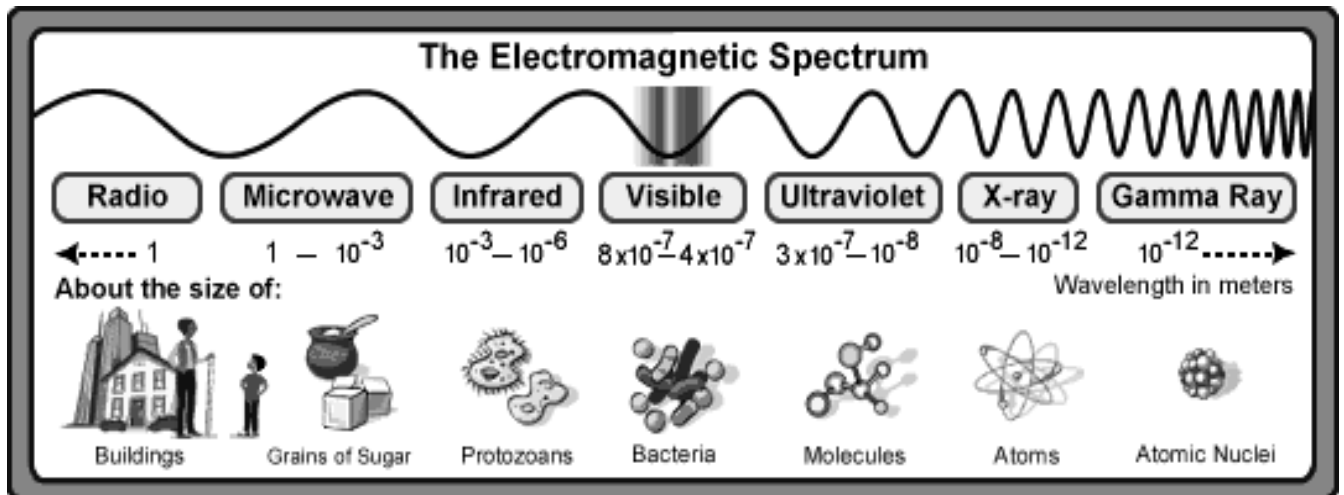
2. Time needed for each particle to complete one full wave movement
4. The superposition of two or more waves from successive point, which are in the coherent sources
8. The change of direction of wave when it enters waves passing a given point a new medium second of waves due to hitting reflective

**Down:**

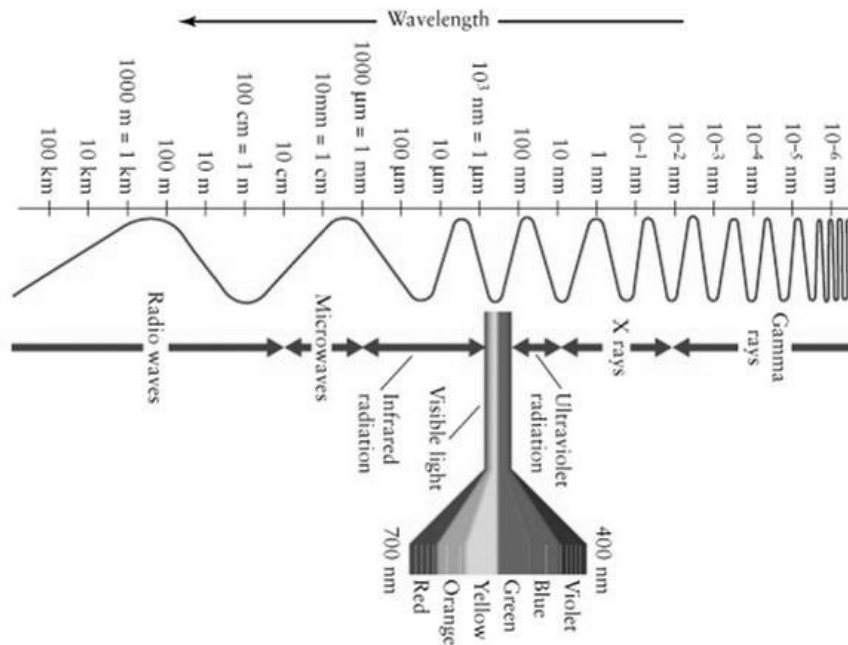
1. Maximum displacement of
3. The spreading out of waves
5. Distance between two same phase
6. The number of complete in the medium for each
7. The change of direction surface

- **Electromagnetic Spectrum**

- Mechanical waves exist in a medium. These waves need a medium to travel. Examples of mechanical waves are \_\_\_\_\_ waves (travels through water) and \_\_\_\_\_ waves (travels through air)
- Non-mechanical waves do not need a medium to travel. They can travel through \_\_\_\_\_. Examples of non-mechanical waves are \_\_\_\_\_ wave and \_\_\_\_\_ wave. These waves belong to a group of waves known as electromagnetic waves.
- Electromagnetic wave is a combination of electric and magnetic wave that can travel through vacuum.



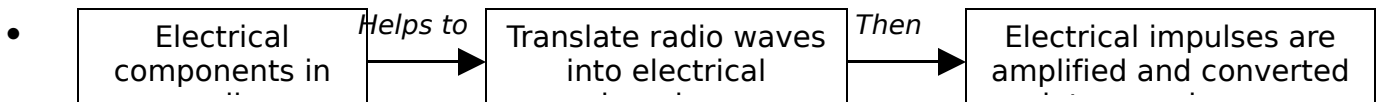
➤



• **Radio Waves in Communication**

- Radio waves are everywhere. They can be use to send messages and broadcast music and television programmes.
- This is possible because radio waves can travel long distance and through vacuum
- Each radio or television stations has a specific frequency that we can tune.

**8.2 Radio Communication**



• **Electrical Components in Radio:**

Components	Function	Symbol
	<ul style="list-style-type: none"> <li>• resist the flow of current</li> </ul>	
	<ul style="list-style-type: none"> <li>• can store energy</li> <li>• electric chargers stored in a pair of conductor</li> <li>• referred as condenser</li> <li>• only allow a.c. pass through</li> </ul>	
	<ul style="list-style-type: none"> <li>• restricts the direction of movement of charge carriers</li> </ul>	

	<ul style="list-style-type: none"> <li>allows electric current to flow in one direction</li> </ul>	
	<ul style="list-style-type: none"> <li>used for amplification, switching, voltage stabilization, signal modulation and etc.</li> </ul>	
	<ul style="list-style-type: none"> <li>used for its property of inductance</li> <li>inductance is an effect that results from the magnetic field that forms around a current carrying conductor</li> </ul>	
	<ul style="list-style-type: none"> <li>transfer energy from one electrical energy to another</li> <li>often use to convert between high and low voltages</li> </ul>	
	<ul style="list-style-type: none"> <li>converts electrical energy to sound waves</li> </ul>	

• **Transmission of Radio Signals:**

