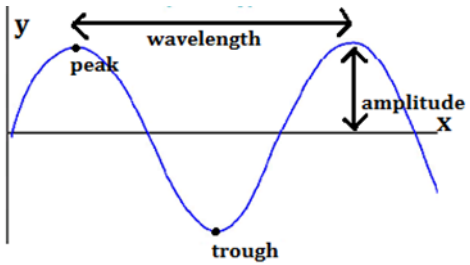
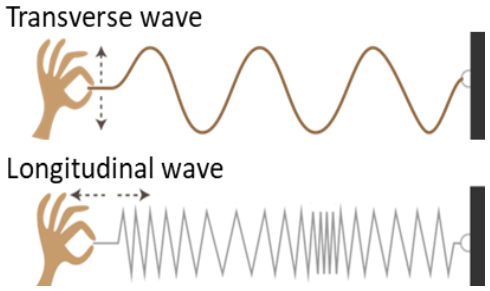
# Year 7 Light and Sound Knowledge Organiser

## 1. Waves




| Key-word | Definition |
|---|---|
| Trans-verse wave | A wave where the vibra-tion is perpendicular to the direction of travel |
| Longi-tudinal wave | A wave where the vibra-tions are parallel to the direction of travel |
| Fre-quency | The number of wave fronts passing a fixed point every second (measured in Hz) |




## 2. Light (transverse wave)

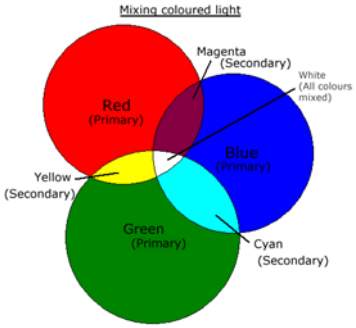
| Keywords | |
|---|---|
| Reflection | Light bounces off sur-face |
| Primary col-ours | Red/Blue/Green makes all colours |
| Eyes | Senses the light we see |
| Filters | Absorbs light of the same colour |
| Transmitted/ Emitted | Light that is given out |
| Absorbed | Light that is taken |
| Scattered | Light that is spread when it reflects |
| Boundary | A place where lights bounces off or bends |

## 3. Law of reflection

| | |
|---|---|
| Incidence angle | The angle made between the incident ray to the normal line |
| Normal line | This line is 90 degrees to the mirror |
| Reflected angle | The angle made between the reflected ray to the normal line |
| Mirror | Light reflective surface |
| Law of reflection | Angle of incident = angle of reflection |

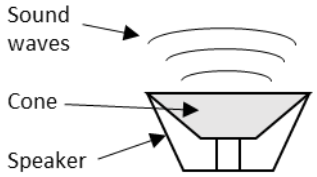
## 4. Colours

| Primary colours | Secondary Colours |
|---|---|
| Red | Magenta |
| Green | Cyan |
| Blue | Yellow |




## 5. Sound

Sound waves are produced by all vi-brating objects. Loudspeakers work by converting electrical energy into kinetic energy. This moves the cone which creates the sound waves.




## 6. More sound

Humans can hear sound in the 20Hz – 20KHz range. Dogs can hear up to 50Hz

Sound travels faster through liquids and solids than it does through a gas because the particles in a gas are fur-ther apart

| Substance | Speed of sound |
|---|---|
| Air | 343 m/s |
| Water | 1493 m/s |
| Steel | 5130 m/s |