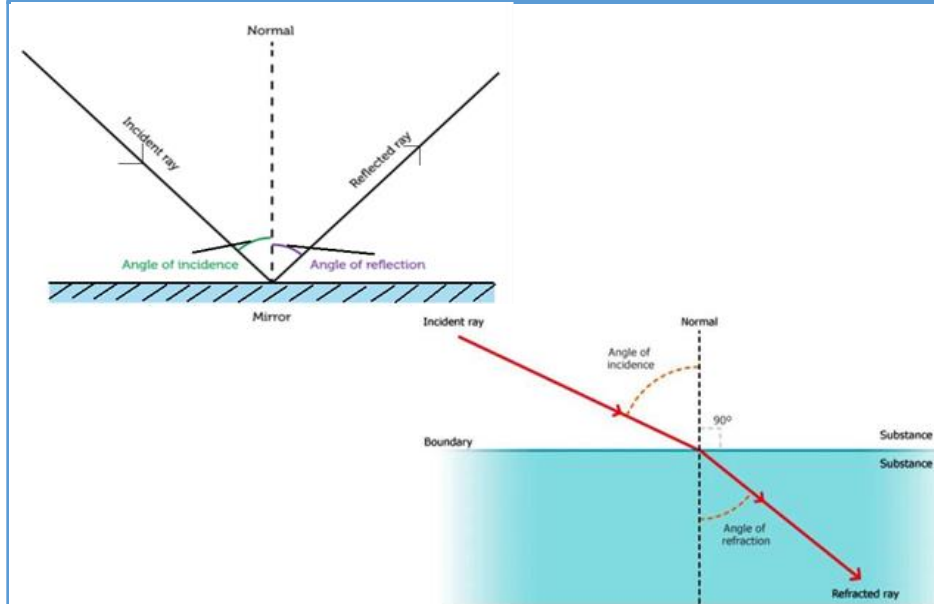


Light

Key words

| | |
|------------------------------|---|
| Luminous | An object that emits (gives out) light. |
| Non- luminous | An object that does not emit light but can reflect it. |
| The law of reflection | When a ray of light bounces off a surface, the angle of reflection is always equal to the angle of incidence. |
| Incident ray | The incoming ray. |
| Reflected ray | The outgoing ray. |
| Normal | The line from which angles are measured, at right angles to the surface. |
| Angle of incidence | The angle between the normal and the incident ray. |
| Angle of reflection | The angle between the normal and the reflected ray. |
| Refraction | Change in the direction of light when going from one material into another. |
| Absorption | When energy is transferred from light to a material. |
| Scattering | When light reflects off an object in all directions. |
| Transparent | A material that allows all light to pass through it. A clear image can be seen through it. |
| Translucent | A material that allows light to pass through it, but scatters it. An unclear image can be seen through it. |
| Opaque | A material that allows no light to pass through it. Nothing can be seen through it. |

Ray Diagrams - Reflection and Refraction



Key knowledge

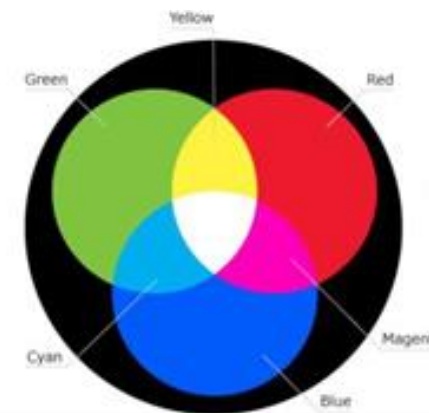
- Light always travels in straight lines
- For a mirror, the angle of incidence equals the angle of reflection
- When a light ray meets a different medium, some of it is absorbed and some reflected
- The ray model can describe the formation of an image in a mirror and how objects appear different colours
- Light can also change direction when it enters a different medium (substance) at an angle – e.g. when light travels from air to water
- The light changes speed at the boundary and this causes the light to change direction, this is called refraction.

Transparent – these are materials which let all of the light straight through.

Translucent – these materials let light through but it is randomly scattered.

Opaque – these materials let no light through.

Seeing Colour



Because light is a wave, it can have different wavelengths. We perceive different wavelengths of light as different colours.

Light of different wavelengths can be combined to make other colours. For example, red and green light combined makes yellow light. White light is all the colours combined.