

Key Stage 3 Precise Learning Points



Unit Number	P3
Unit Title	Waves
Chapter	Energy Transfers by light waves

Key Scientific Points

1. Light travels as a wave in straight lines, called a ray. Rays are represented by an arrow.
2. The wave vibrates at 90 degrees to the direction of energy travel.
3. Light waves do not need a medium to travel through.
4. A line at 90 degrees to the surface of a medium, where the light ray hit it is called the normal.
5. Light waves can be reflected. The angle of reflected light ray = the angle of incident light ray, when measured from the normal
6. The speed of light is constant in a vacuum and nothing can go faster than this.
7. When it enters a denser medium, such as glass, it slows down a little.
8. Refraction occurs when light goes through a different density medium, at an angle, to the normal.
9. Ray diagrams can used to show the effects of reflection and refraction.
10. Different frequencies of light are different colours.
11. White light is a mixture of different frequencies of light waves.
12. Prisms can split white light into the spectrum.
13. Lenses can focus light as a result of refraction (e.g. the human eye).
14. The lens in a eye changes shape to focus the light rays onto the retina