BBC BITESIZE

Reflection of waves

Dr George Dransfield: Thanks to the reflection of waves, I can see myself in this mirror.

All waves, including light and sound, follow the law of reflection,

which states that the angle of incidence equals the angle of reflection.

The ray of light travelling from an object, in this case, my face towards the mirror, is called the Incident Ray.

Imagine a straight line that's perpendicular to the mirror's surface, drawn at the exact point where the incident ray hits.

This is called the Normal.

The ray of light that bounces off the mirror and travels to your eye is called the Reflected Ray.

The angle of incidence, (the angle between the incident ray and the normal) is always equal to the angle of reflection, (the angle between the reflected ray and the normal).

However, reflections can be diffuse or specular.

Specular reflections happen when light bounces off a smooth surface.

All the rays bounce off in the same direction, creating a clear, continuous image, like with a mirror.

Diffuse reflections occur on rough surfaces and create irregular, unclear reflections.

Because of that rough surface, the normal lines point in all different directions, and so do the reflected rays, so you don't see a clear image.

Remember, when measuring the angles of incidence and of reflection, always measure from the normal.

(MUSIC)