Edexcel GCSE Physics

Topic 5.1P-5.3P - Light and Colour

Flashcards

What is total internal reflection?

What is total internal reflection?

- When light is completely reflected back at a boundary between two mediums
- It occurs when light meets a less dense medium at an angle of incidence larger than the critical angle

What is the critical angle?

What is the critical angle?

The angle of incidence which causes the angle of reflection to be 90 degrees.

What determines the colour of visible light waves?

What determines the colour of visible light waves?

The wavelength and frequency of the light waves.

What colour of visible light has the highest frequency?

What colour of visible light has the highest frequency?

Blue.

What colour of visible light has the largest wavelength?

What colour of visible light has the largest wavelength?

Red.

What is meant by the term ‘specular reflection’?

What is meant by the term ‘specular reflection’?

Rays are reflected from a smooth surface in a single direction.

What is meant by the term ‘diffuse reflection’?

What is meant by the term ‘diffuse reflection’?

Reflection from a rough surface which causes scattering.

How does a red colour filter work?

How does a red colour filter work?

- A red filter absorbs all wavelengths of light other than those in the red range of the spectrum
- This means only red light passes through the filter

What is meant by “opaque?”

What is meant by “opaque?”

Not see-through.

What governs the colour of an opaque object?

What governs the colour of an opaque object?

- Different objects reflect different wavelengths of light by different amounts
- The wavelengths that are most strongly reflected determine the colour

What happens to the wavelengths of light that aren’t reflected by an opaque object?

What happens to the wavelengths of light that aren't reflected by an opaque object?

Any wavelengths that aren't reflected are absorbed by the object.

What colour does an object appear if all wavelengths are reflected by equal amounts?

What colour does an object appear if all wavelengths are reflected by equal amounts?

White.

What colour does an object appear if all wavelengths are absorbed?

What colour does an object appear if all wavelengths are absorbed?

Black.