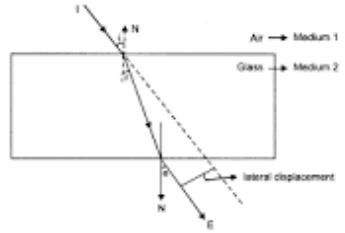
What is the name of the source that gives off light?

Luminous

Opaque items are also

non luminous.

Q: What path does light travel in? Draw a diagram of light coming from: a) a lamp
b) the sun reflected onto a book from a window



Describe the following materials in terms of their interaction with light: a) Transparent material b) Opaque material c) Translucent material

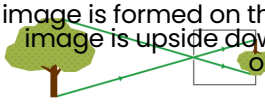
a) A transparent material is clear, light passes through them. Examples are glasses, windows. b) An opaque material doesn't let any light through and absorbs it all. Hence shadows.
c) A translucent material is fuzzy and only lets some light (not all) through.

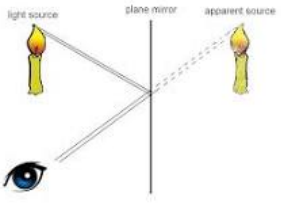
When light hits an object, what happens to it? Provide examples of objects for each scenario:
a) Light is absorbed by the object
b) Light is transmitted through the object c) Light is reflected by the object

a) The light is absorbed and will not deflect to any other objects. A black bookshelf could do this. This is also why rooms with black furniture seem smaller .
b) When light transmits through the object, it just goes through it. A piece of glass allows all the light to pass through
c) when light is reflected by the object, it bounces onto another object. A reflective object could be a mirror

Explain what a pinhole camera is and how it works. Also draw a diagram

A pinhole camera consists of a box or tube with a translucent screen at one end and a tiny hole (the pinhole) made in the other end. Light enters the box through the pinhole and an image is formed on the translucent screen. The image is upside down and smaller than the object.



define reflection	Reflection is the bouncing back of light when it hits a surface.
How can you investigate the law of reflection?	To test the law of reflection, you can shine a light beam onto a mirror and measure the angle of incidence and angle of reflection.
What is the purpose of a ray diagram? Give 2 reasons	a) To illustrate the path of light rays b)See how they interact with objects
What is notable about a plane mirror?	For light rays striking a plane mirror, the angle of reflection equals the angle of incidence. _____
What is the nature of the image formed on the plane mirror?	The image formed in a plane mirror is virtual, upright, and of the same size as the object.
Draw a diagram explaining the plane mirror, labelling necessary parts, especially the light source and apparent source.	

Refraction a)What is Refraction b) why does it occur?	This occurs when one transparent substance passes light to another medium (normally more optically dense), causing the light to bend.
State the law of reflection	(on reflection from a smooth surface) the angle of the reflected ray is equal to the angle of the incident ray
What happens when light travels from one medium to another?	When light travels from one medium to another, it generally bends, or refracts
Answer the questions... 1) Name two common things that can cause refraction 2) What two factors change when refraction occurs? 3) What happens when light moves from a more optically dense medium to one which is less optically dense?	1) air and glass 2) speed and direction 3) the opposite of refraction.
Name an item used in mundane everyday life that uses refraction?	glasses spectacles etc.
Answer the questions about light. 1) What is white light made up of? 2) If there is black light on a surface what does it mean?	1) White light is made up of all 7 colours of the rainbow. 2) It means all colours have been absorbed by the surface. No colours are left

What is wrong with this album cover (3) -
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The colours don't disperse evenly from where they leave the prism

Why is white light eventually dispersed?

different colours of light travel at different speeds in glass.

I have an orange shoebox. Why do I see it orange, and not as violet?

All other colours (including violet) have been absorbed by the shoebox, it only transmits the colour orange.

Answer the following questions about filters.
1) What is the function of filters?
2) If you put a green filter over a red towel what colour would you see?
3) I put a lime green filter over a dark green biology book. What happens?
4) What happens if a filter goes over white light?

1) To only transmit a certain colour out of an item.
2) No colour would be transmitted (so black)
3) The lime filter only transmits parts of lighter shades of green on that book so the book would appear brighter and more vibrant
4) It only shows the designated colour of that filter

There was red writing on a piece of paper. What happens if I put a red filter on the paper

The paper and writing would basically be indistinguishable , the paper has white light (appears red) and red writing stays the same. It depends on the tones.

Light green writing is better on red material than orange. Why?

The wavelengths contrast more