

Properties of Light

Property # 1

Light travels in straight lines:



Light travels VERY FAST - around 300,000 kilometres per second.

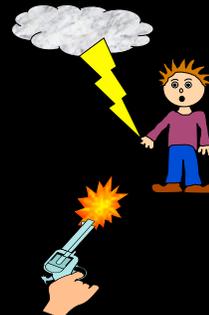
At this speed it can go around the world 8 times in one second.



Light travels much faster than sound. Light energy can travel through empty space, where sound cannot!

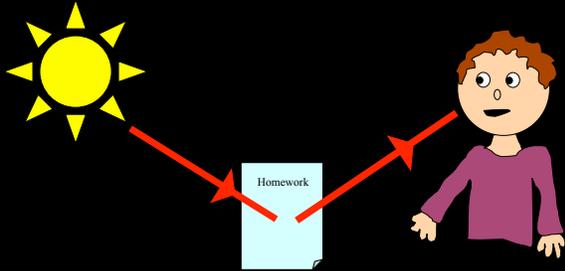
For example:

- 1) Thunder and lightning start at the same time, but we will see the lightning first.
- 2) When a starting pistol is fired we see the smoke first and then hear the bang.



Property # 2

Light can be reflected.

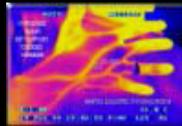


Property # 3

Light can be refracted (bent)
This occurs when travelling through different media – light from air to water.

Property # 4

Light is a form of energy (photons)
When it reaches a surface, it can be absorbed and transformed into other forms of energy.



Luminous and non-luminous objects

A luminous object is one that produces light.

A non-luminous object is one that reflects light.

Luminous objects

Reflectors

Properties of Light Summary

- 1) *Light travels in straight lines*
- 2) *Light can be reflected*
- 3) *Light can be refracted (bent)*
- 4) *Light is a form of energy*

Property # 5

Light interacts differently with different types of materials

- 1) When light goes through an object it is said to be transmitted



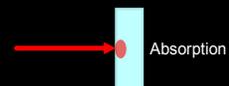
Property # 5

- 2) When light bounces off an object it is said to be reflected



Property # 5

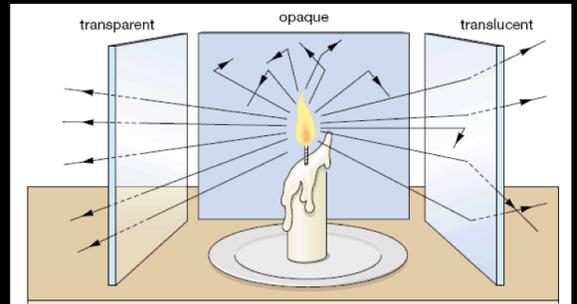
- 3) When light passes into (not through) an object, it is said to be absorbed (its energy is transferred to the object).



Property # 5

- > Transparent: light rays go through it (mostly)
- > Translucent: some light rays go through it, some get reflected or absorbed
- > Opaque: light rays get reflected or absorbed

Light Interacts Differently With Different Types of Materials



What type of light?



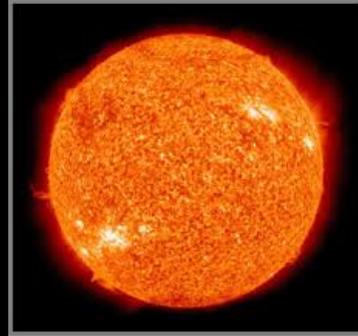
What type of light?



What type of light?



What type of light?



What type of light?

