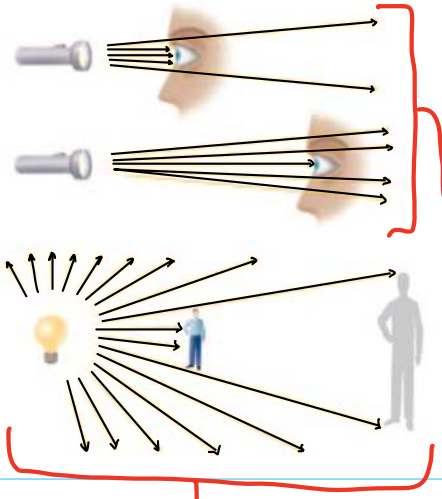
Reflection

Light travels from a source in a straight line → called rays
→ Ray diagrams help to demonstrate how light behaves.



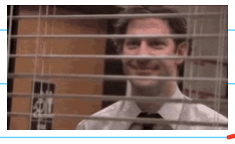
→ Incoming rays are called **incident rays.**

→ Ray diagrams can help explain why the brightness or intensity of light changes with distance.
→ This image shows the same # of rays from light source w/ fewer hitting the eye as distance increases.

Can also explain shadows

Light & Materials

Transparent materials
→ can transmit light, meaning light travels through them.



→ Ex: a window

Translucent materials
→ allow some, not all light can pass through.



→ Ex: frosted glass

Opaque materials
→ allows NO light through them
→ fully absorb or reflect all light that hits them



→ Ex: brick wall

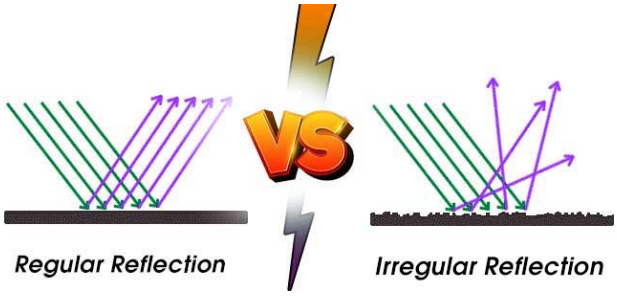
→ means shadow created behind.

Luminous vs. Non-Luminous

- Produce light (or are a light source)
- Light from these objects can bounce off non-luminous things and into your eye

- Do not produce light.
- Light reflects off them & into your eye.

Types of Reflection



Regular/Specular Reflection

- Light rays hitting a smooth surface
- Incident rays are parallel & will stay parallel once reflected.
- This produces clear images but eye must be in direct path of reflected rays in order to see image

Ex: A mirror

Irregular/Diffuse Reflection

- When light rays hit a rough or uneven surface
- Incident rays are parallel but are not parallel once reflected.
- Since reflected all over, these can be seen from any position

→ Might look smooth but is actually uneven.

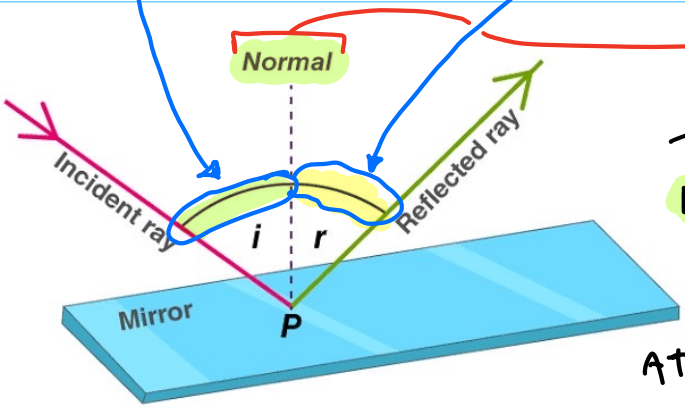
Ex: Kitchen counter

Law of Reflection



Euclid discovered when light is bounced off a smooth surface, the angle of the incident ray will be equal to the angle of the reflected ray.

Angle of Incidence = Angle of Reflection.



This is called the **Normal**. This is a line perpendicular to the mirror at the point of reflection.

Note: The angles of incidence & reflection are measured to the **Normal**
→ NOT the surface