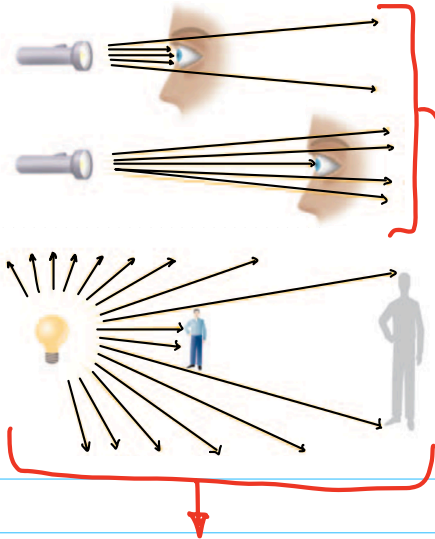


# REFLECTION

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.

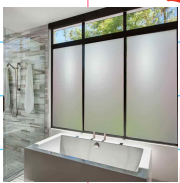
→ THIS IMAGE SHOWS THE SAME # OF RAYS FROM LIGHT SOURCE W/ FEWER HITTING THE EYE AS DISTANCE INCREASES.

CAN ALSO EXPLAIN SHADOWS

## LIGHT & MATERIALS

### TRANSLUCENT MATERIALS

→ allow SOME, NOT ALL LIGHT CAN PASS THROUGH.



→ EX: FROSTED GLASS

### TRANSPARENT MATERIALS

→ CAN TRANSMIT LIGHT, MEANING LIGHT TRAVELS THROUGH THEM.

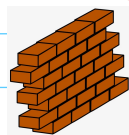


→ EX: A WINDOW

### 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

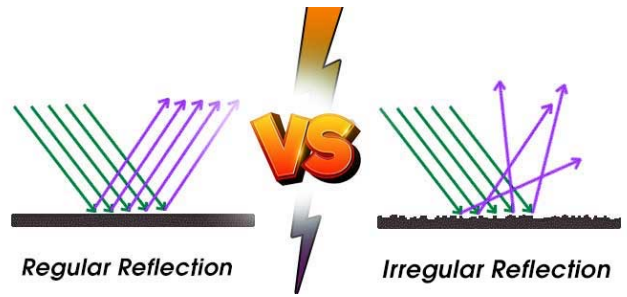
EX: A MIRROR

## 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 REFLECTED.  
SEEN from any position

EX: KITCHEN COUNTER

Might LOOK smooth BUT is ACTUALLY UNEVEN.



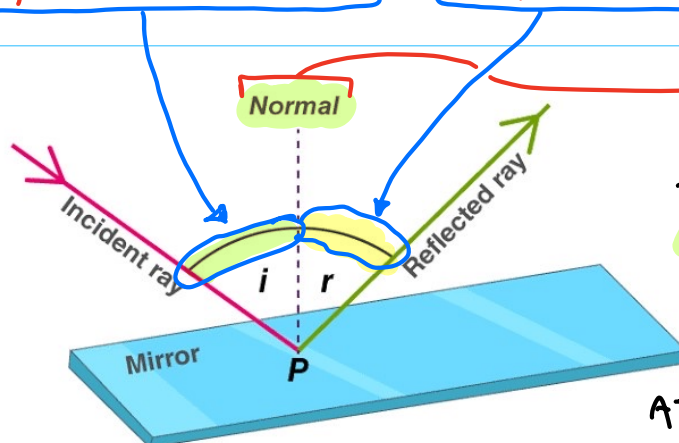
# LAW OF REFLECTION



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.

**NOTE:** THE ANGLES of INCIDENCE & REFLECTION ARE MEASURED TO THE NORMAL  
→ NOT the surface



This is called the NORMAL. This is a line PERPENDICULAR to the mirror at the point of reflection.