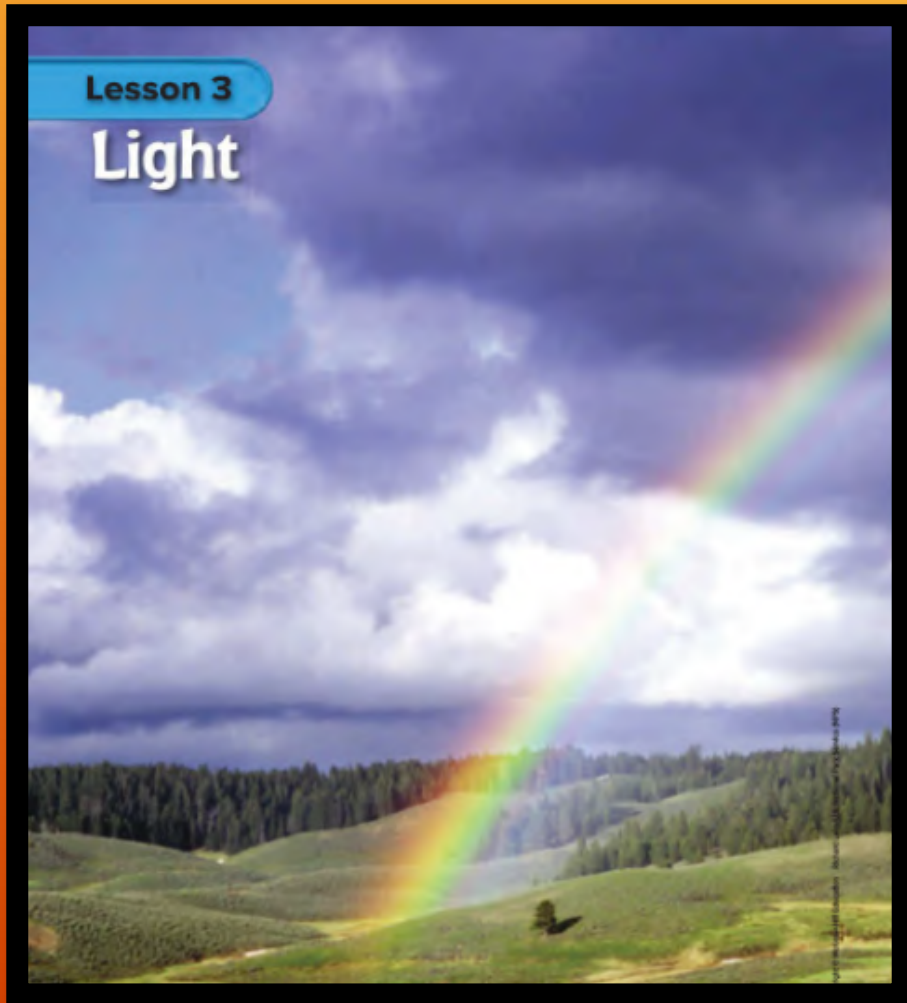
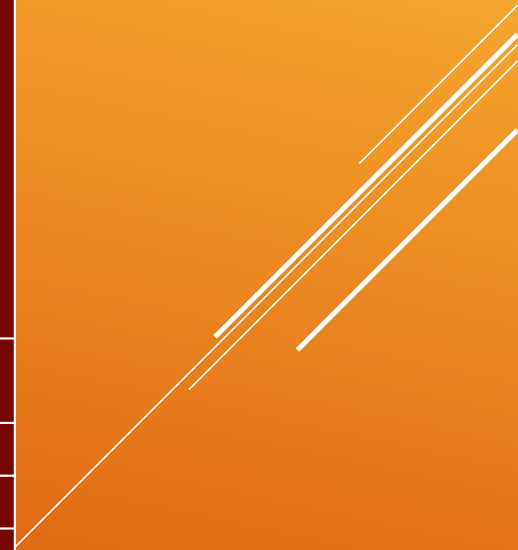


# LIGHT




# We Are Learning About:

- What is light?
- How does light travel?
- How do we see light?- The human eye
- What is reflection?
- What can light pass through?



# This is what I need you to know:

## I CAN

- Explain what is light
  - Explain what a prism is
  - Explain what is the visible spectrum
  - Explain what is the electromagnetic spectrum
- 

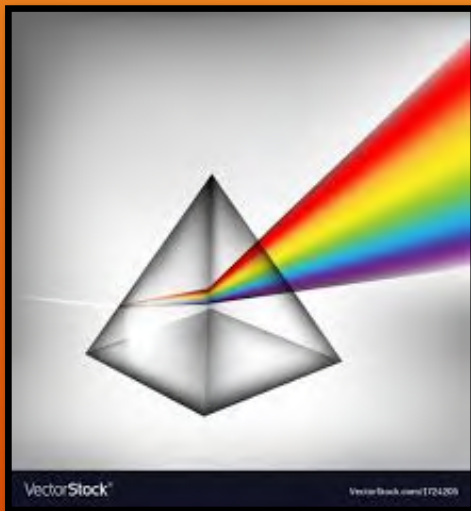
# What is Light?

Light is form of energy that we can see with our eyes



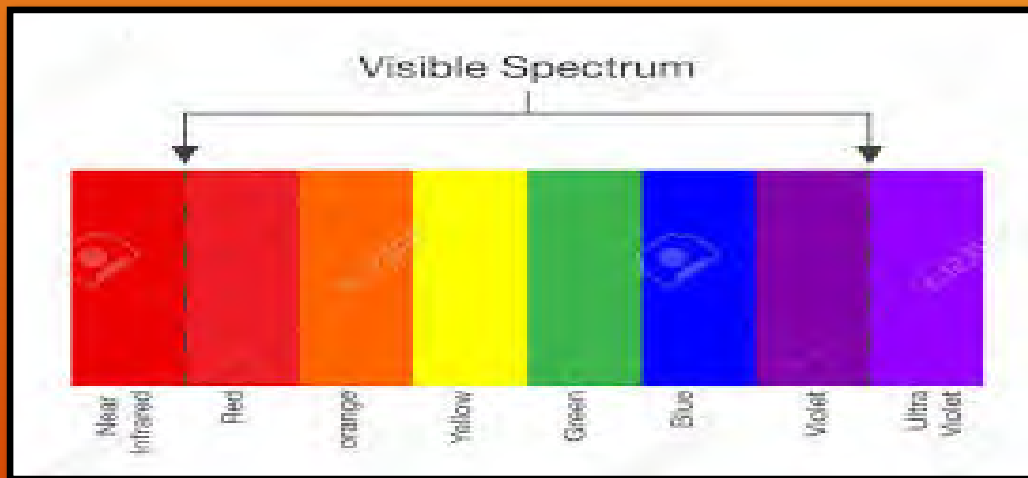
# What is a Prism?

A prism is an object that separates white light into different bands of coloured light



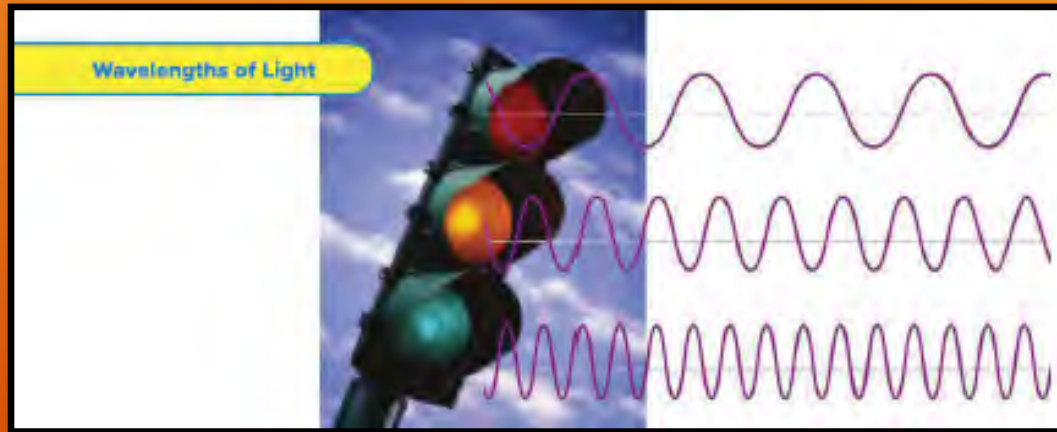
# What is the Visible Spectrum?

The colours that we can see




# What is Electromagnetic Spectrum

It is the range of waves that make up light



# This is what I need you to know:

## I CAN

- Explain what refraction is
  - Explain what is a lens
  - Explain what reflection is
  - Explain how the human eye sees
  - Explain how light travels
- 



# How does light travel?

Light travels in a straight line  
or rays

Light can travel through air,  
water and space

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

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



# What is refraction?

Refraction is the bending of light as it passes from one material to the other



Refraction makes the thermometer appear to be in two pieces.

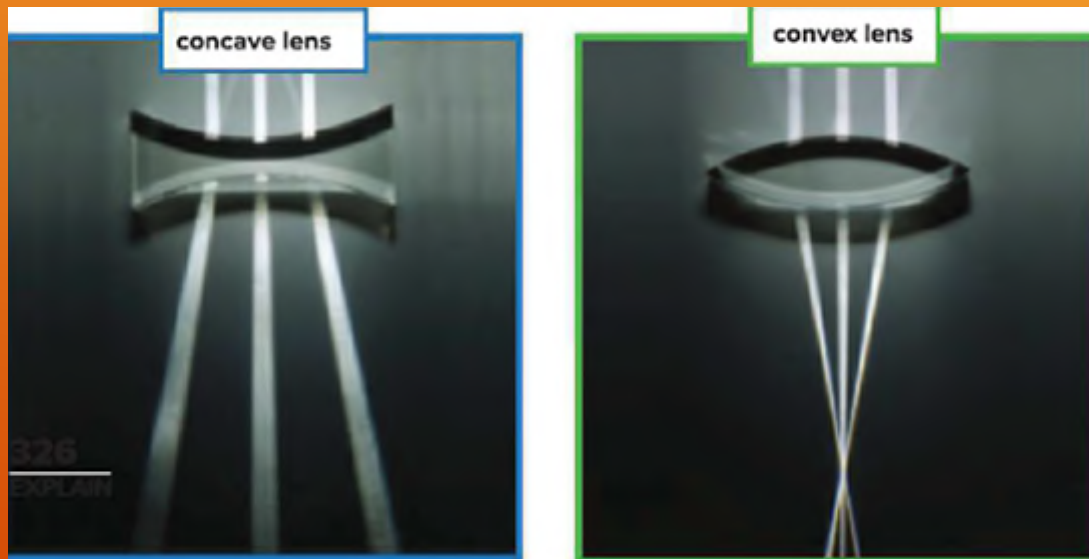


# What is a lens?

A lens is a tool that refracts light

We get a CONCAVE lens

We get a CONVEX lens



# What is a lens?

We get a CONCAVE lens

The lens bends inward but light bends outward from the center of the lens.



Light bends  
outward

# What is a lens?

We get a **CONVEX** lens

The lens bends outward but light bends inward towards the center of the lens.

This makes objects near the lens seem bigger.



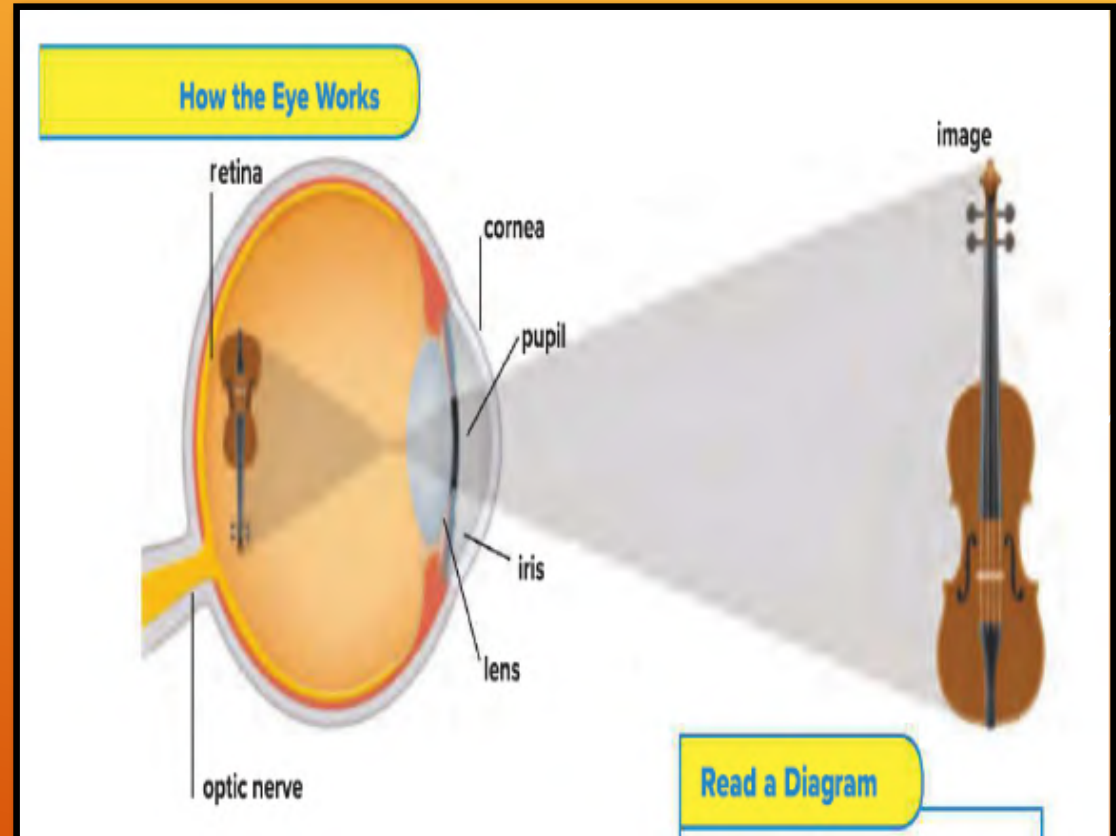
Magnifying Glass is an example of a convex lens.



Light bends inward towards the center

# How does the human eye see?

1. First light passes through a thin clear tissue covering the eye. This is the **CORNEA**
2. It passes through the **PUPIL**. This is the black dot in your eye
3. Next we get the **IRIS**. This is the coloured part of your eye.
4. From the pupil light moves to the **LENS** of your eyes
5. The lens refracts the light of the image.
6. It focuses the image onto the back of your eye
7. The tissue on the back of your eye is called the **RETINA**
8. The image on the retina is upside down. The retina changes the image into a signal
9. The **OPTIC NERVE** brings these signals to the brain.
10. The **BRAIN** sees the image as right side up





# What is reflection?

Reflection is when light bounces off an object.

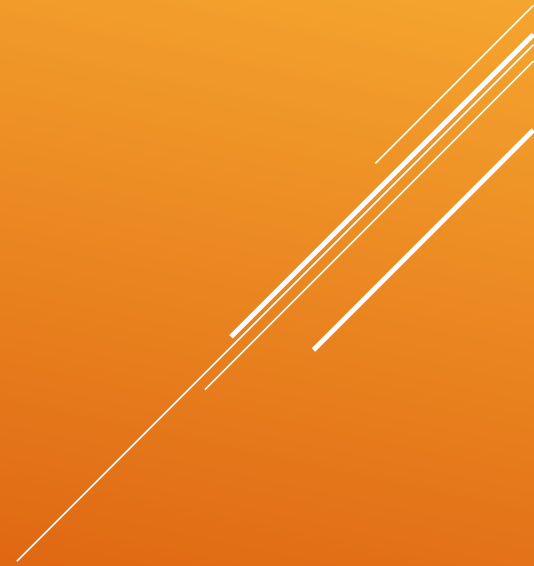
Smooth shiny surfaces reflect almost all light Example a mirror



# What can light pass through?

Three important words to learn  
here:

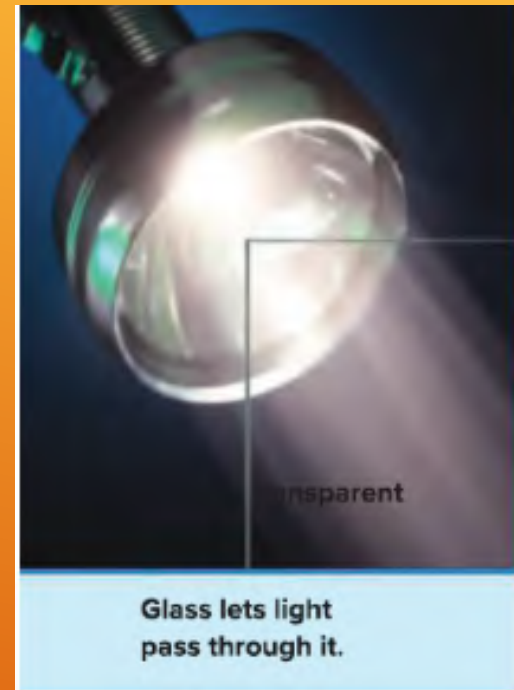
TRANSPARENT  
TRANSLUCENT  
OPAQUE





# What can light pass through?

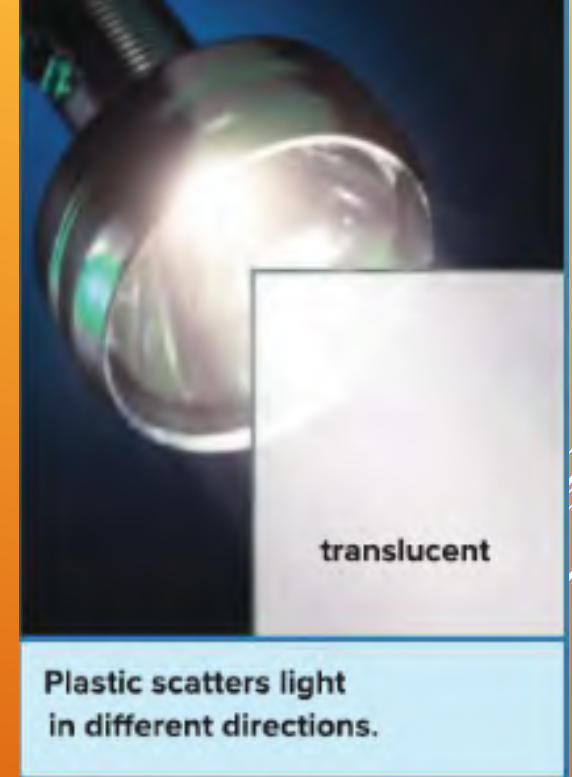
**TRANSPARENT** - Light can pass through in a straight line



# What can light pass through?

## TRANSLUCENT

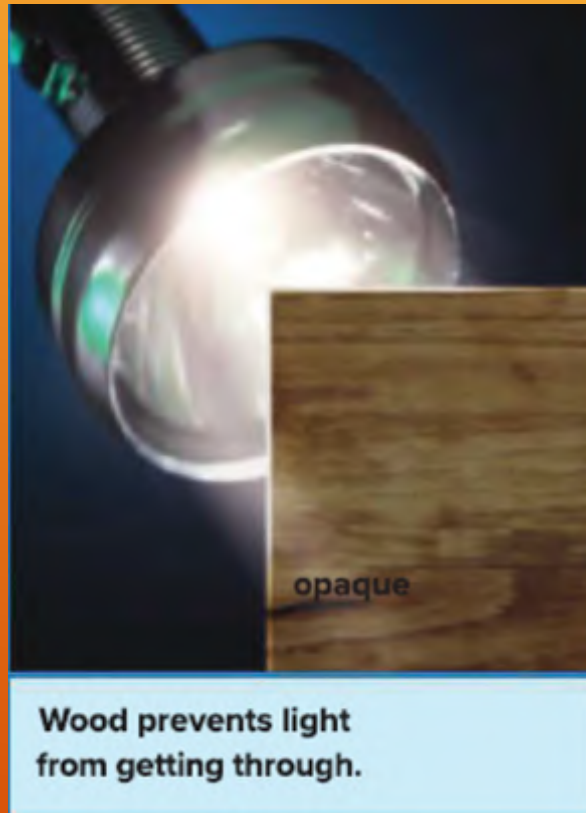
These materials allow light to scatter. You cannot see light very clearly



# What can light pass through?

## OPAQUE-

Does not  
allow light to  
come  
through at all



# LET'S REVIEW:

## What is light?

Light is form of energy that we can see with our eyes

## How does light travel?

Light travels in a straight line or rays

Light can travel through air, water and space

## What is reflection?

Reflection is when light bounces off an object.

## What can light pass through?

Transparent- allows all light through

Translucent- allows some light through

Opaque- Allows NO light through

## What is refraction?

Refraction is the bending of light as it passes from one material to another.

## How do we see light?- The human eye

First light passes through a thin clear tissue covering the eye. This is the CORNEA

It passes through the PUPIL. This is the black dot in your eye

Next we get the IRIS. This is the coloured part of your eye.

From the pupil light moves to the LENS of your eyes

The lens refracts the light of the image.

It focuses the image onto the back of your eye

The tissue on the back of your eye is called the RETINA

The image on the retina is upside down. The retina changes the image into a signal

The OPTIC NERVE brings these signals to the brain.

The BRAIN sees the image as right side up