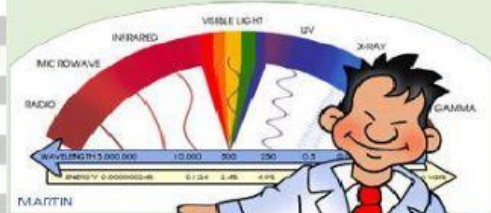




SCIENCE
CHAPTER 7- ENERGY
LESSON 3- LIGHT
PART 1

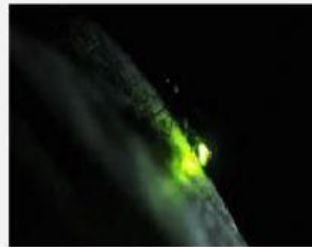


Created by- Nisha Tanwar

WHAT IS LIGHT?

❖ Light is a form of energy which we detect through our eyes.

❖ DIFFERENT SOURCES OF LIGHT



❖ Light comes from the sun, light bulb, fire, and many other sources.

NEWTON PRISM

In the mid-1660s, young Isaac Newton wanted to learn about light and colors. One sunny day, Newton darkened his room. He made a small hole in his window shutter. The hole was just big enough for a beam of sunlight to shine through.

Newton then held a glass prism in the sunbeam. A **prism** is an object that separates white light into bands of colored light. With his prism, Newton saw all the colors of the rainbow!

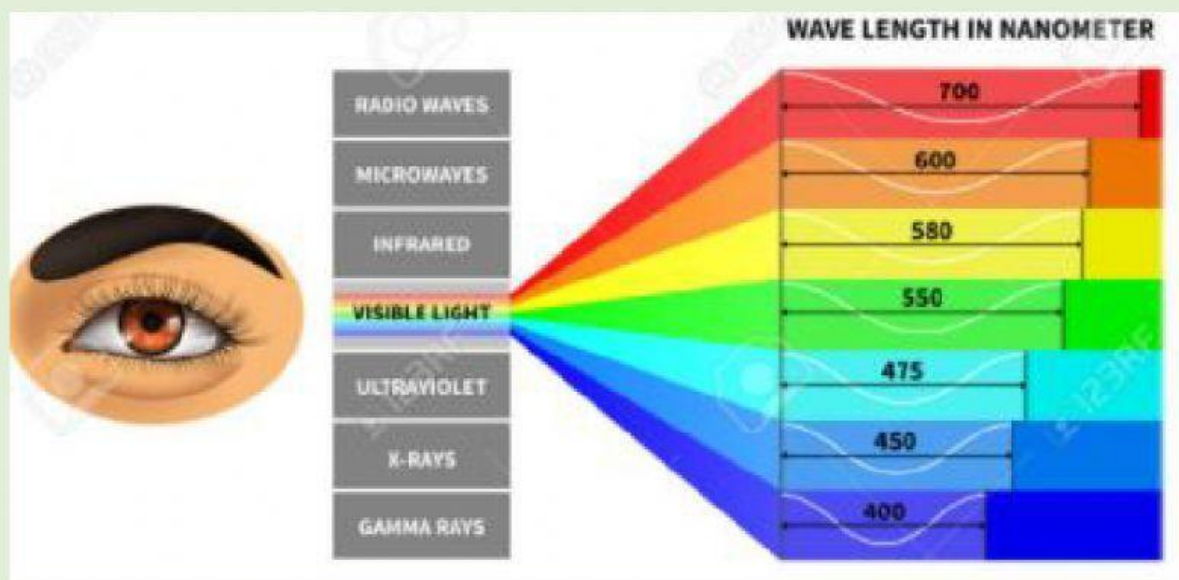


WATCH VIDEO ABOUT NEWTON PRISM



THE VISIBLE SPECTRUM

- White light is a combination of **seven** colors.
- These colors make up the **visible spectrum**.
- Light travel in the form of waves.

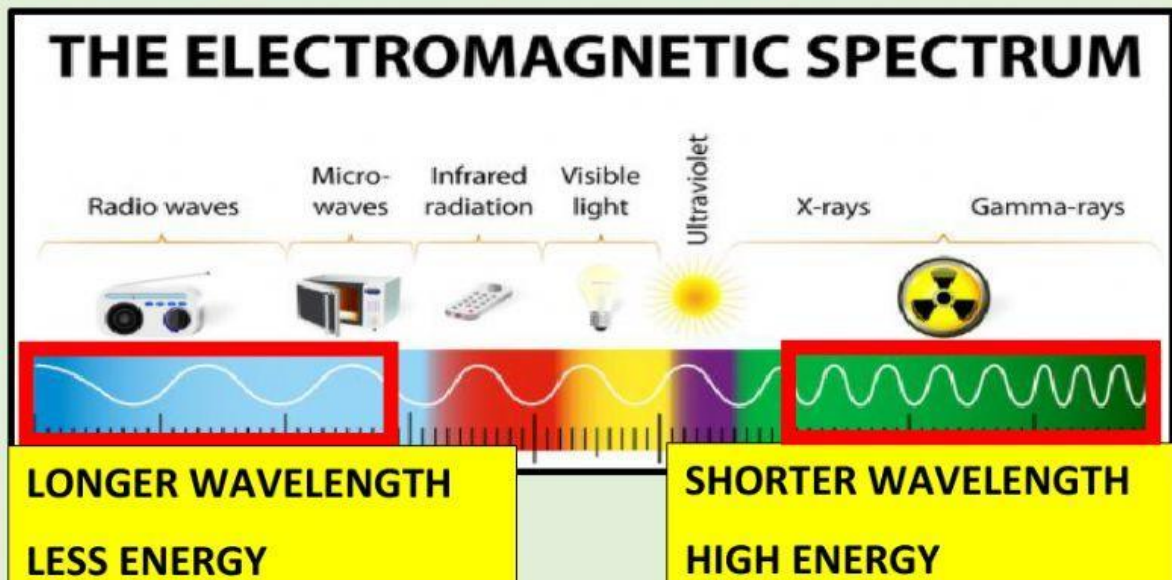


THE ELECTROMAGNETIC SPECTRUM

It is the range of waves that make up light

WAVELENGTH AND ENERGY

- Each wavelength carries a different amount of energy
- The longer the wavelength the less energy it has



HOW DOES LIGHT TRAVEL

REFRACTION

Bending of light when it passes from one medium to another.

- Light travels at different materials in different medium.
- When light travel from lighter medium to denser medium, it slows down.

REFLECTION

Bouncing back of light after hitting any hard surface.

- Shiny surface reflects almost all the light.
- Dull and rough surface reflect the least amount of light.
- If the desk doesn't reflect light, you cannot see it.

THE HUMAN EYE

Light will move through the eye as follows:

1. Cornea- thin tissue in the eye
2. Pupil- the black dot in the eye
3. Iris- Coloured part of the eye
4. Retina-a tissue at the back of the eye. The retina shows the image upside down
5. The retina changes the image into a signal
6. The Optic Nerve brings the signals to the brain
7. The brain sees the image right side up

WHAT CAN LIGHT PASS THROUGH?

TRANSPARENT OBJECTS- ALL light can pass through

TRANSLUCENT OBJECTS -Some light can pass through

OPAQUE OBJECTS- NO light can pass through



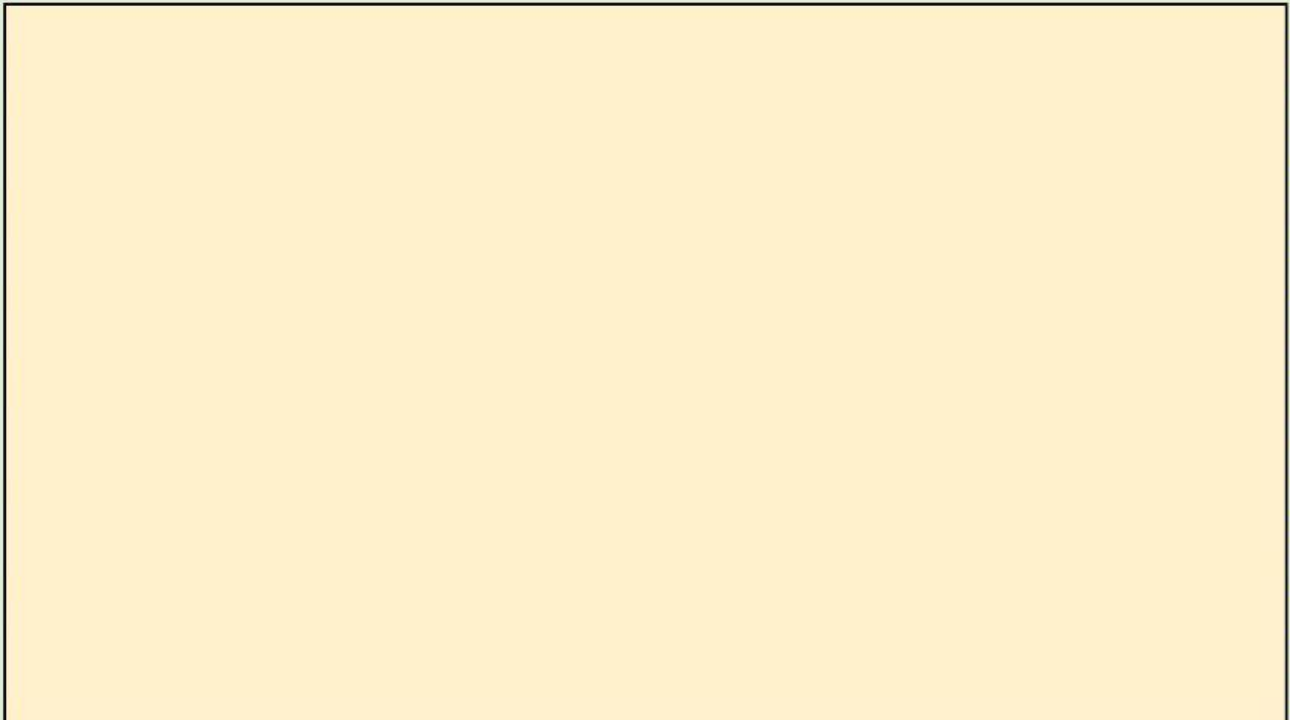
Glass lets light pass through it.



Plastic scatters light in different directions.



Wood prevents light from getting through.



IMPORTANT LINKS FOR PRACTICE

- [Click](#) here to practice more about light
- [Click](#) here to practice more about reflection



QUESTIONS FROM BOOK

1. What is the electromagnetic spectrum?

2. Which color has the longest wavelength?

3. You are designing a window that protects people's privacy. What material would you use? Explain why.

TYPE YOUR ANSWER

4. **Vocabulary.** When light rays bounce off a surface, it is called _____.

5. **Test Prep.** Light cannot pass through a(n) _____ object.
A transparent C translucent
B opaque D convex

6. **Test Prep.** Which light has the most energy?
A radio waves C gamma waves
B x-rays D microwaves

7. White light can be separated into different colors by a(n) _____.

8. What happens to the beam of a flashlight when it hits a mirror?
A It disappears.
B It becomes a new form of energy.
C It is reflected off the mirror.
D It goes into the mirror.

9. A window curtain blocks light.
The curtain is
A translucent.
B transparent.
C opaque.
D convex.