



SCIENCE
CHAPTER 7- ENERGY
LESSON 3- LIGHT LAB
PART 1

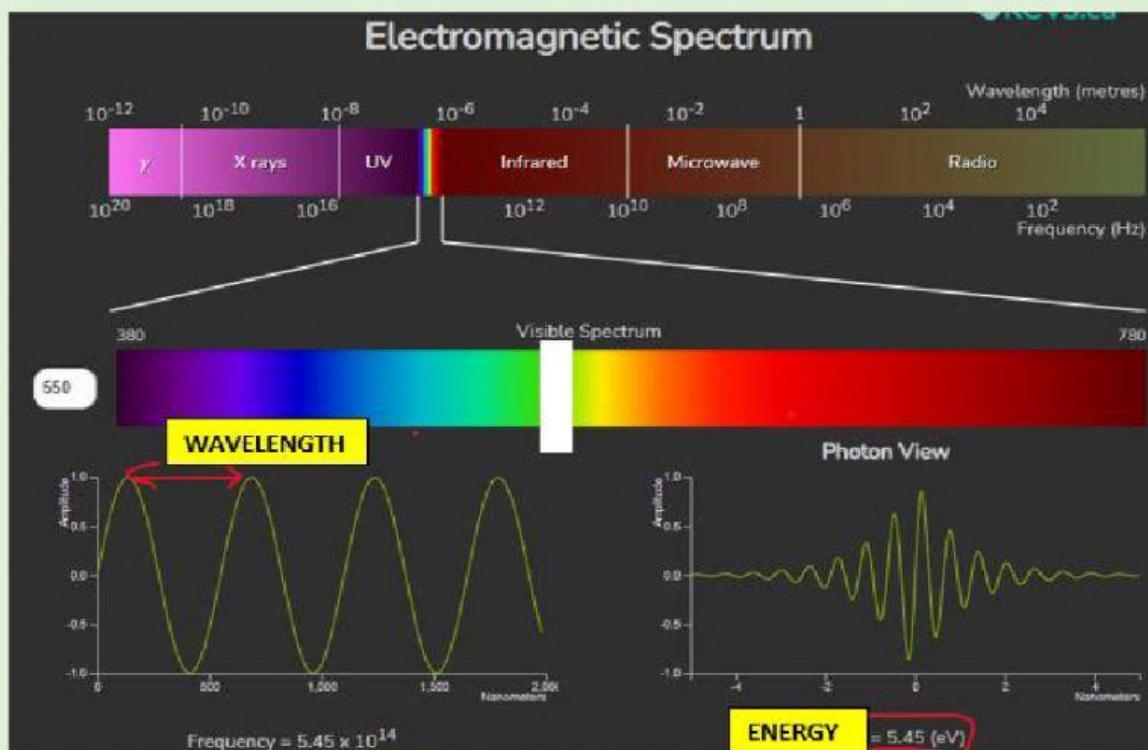
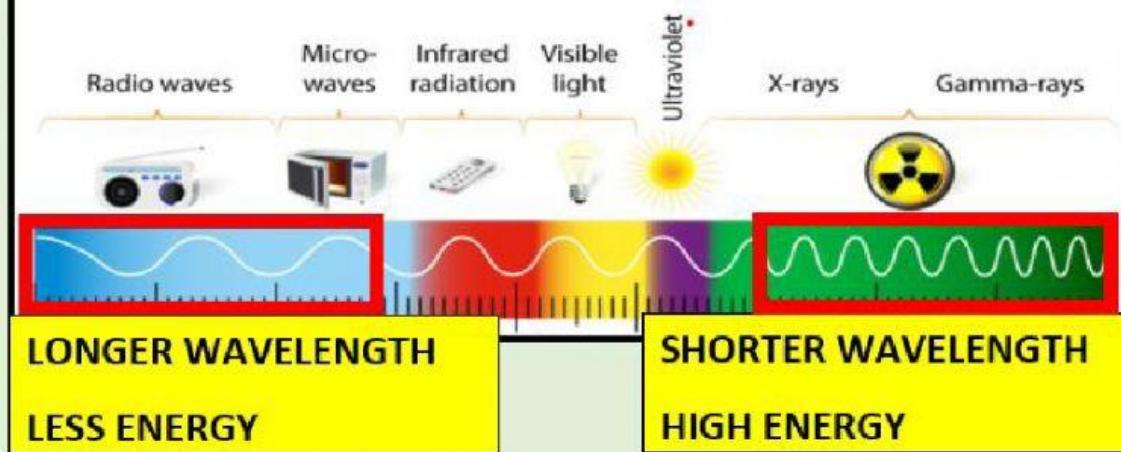


Created by- Nisha Tanwar

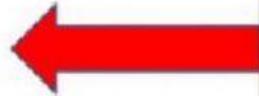
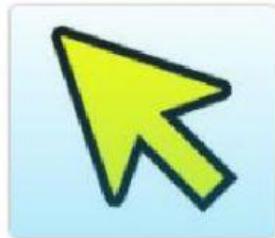
WAVELENGTH AND ENERGY

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

THE ELECTROMAGNETIC SPECTRUM



LAB BASED QUESTIONS



**CLICK ON
YELLOW ICON
TO OPEN
VIRTUAL LAB**

1.

Which color has the longest wavelength?

2.

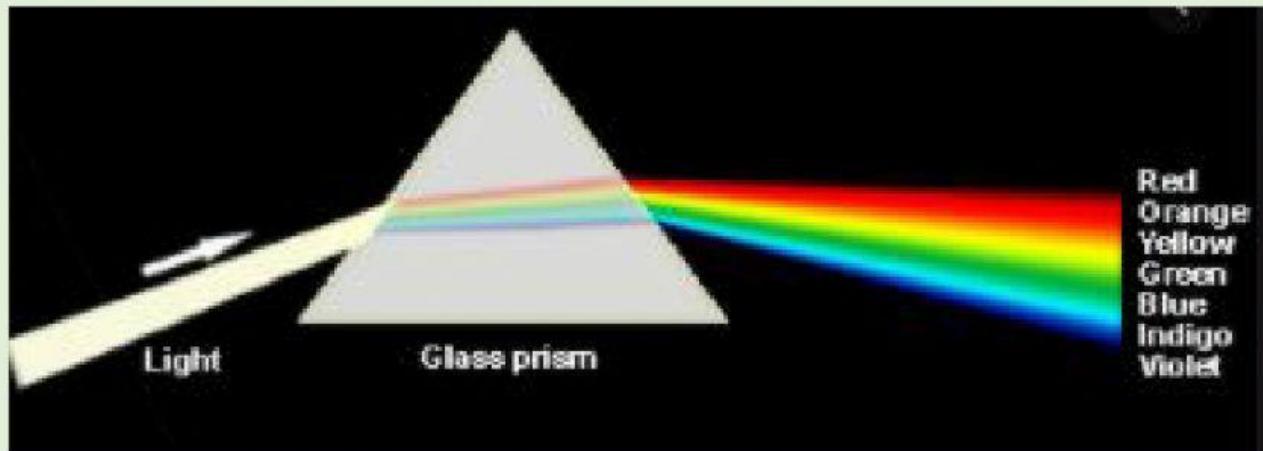
Which color has the **smallest** wavelength?

3. Which color has the highest energy?

4. Which color has the lowest energy?

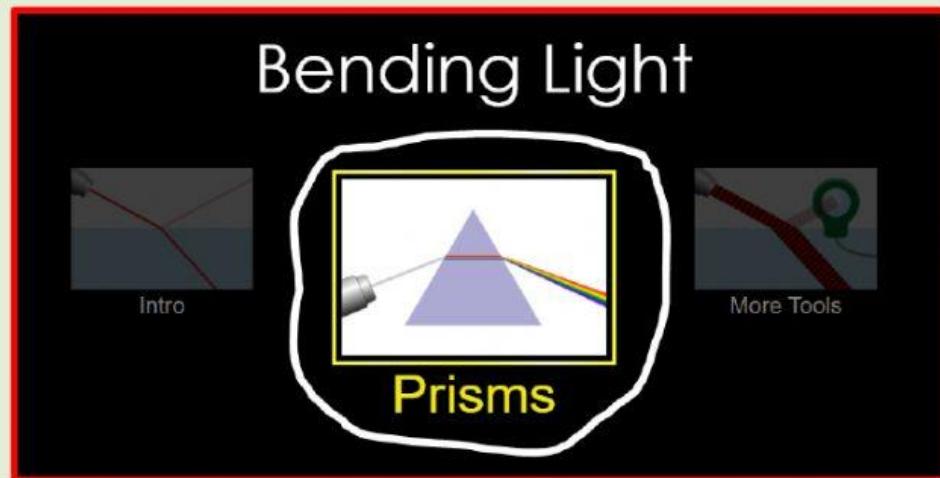
NEWTON PRISM

White light splits into 7 colors when passed through prism.

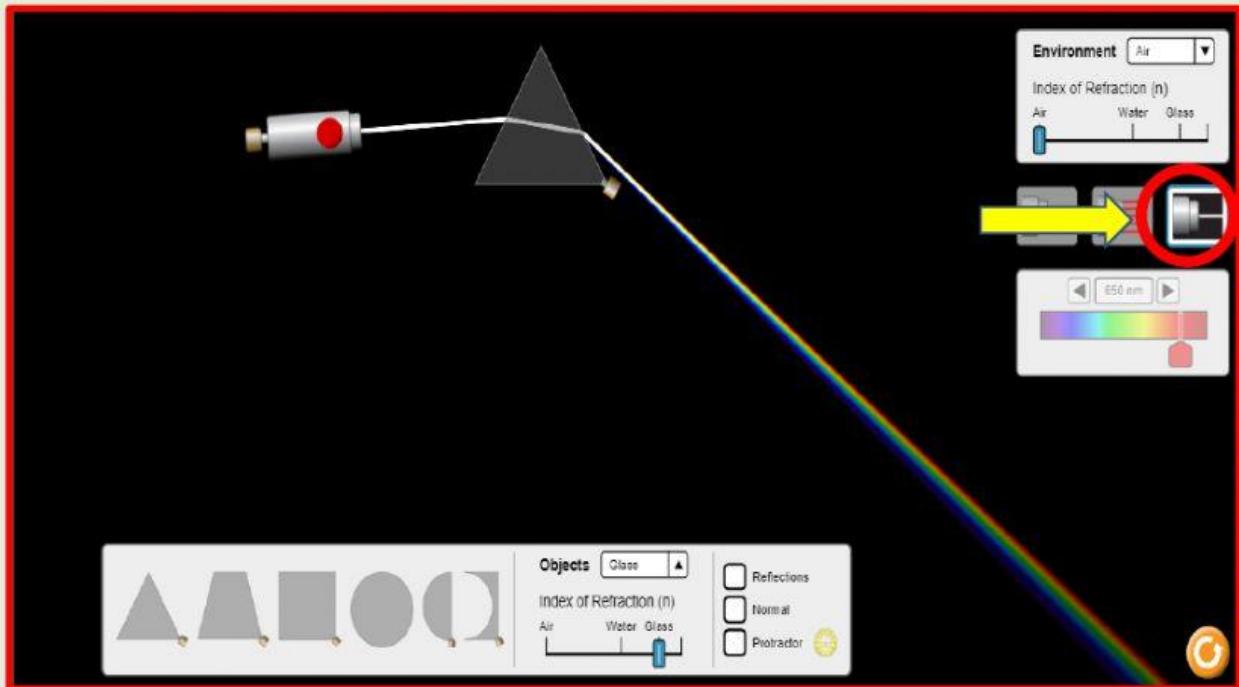


STEPS ABOUT HOW TO USE LAB:

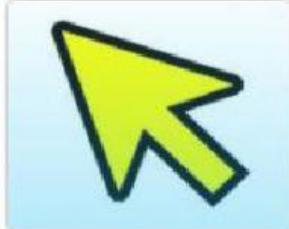
1. OPEN PRISMS IN THE PHET LAB



2. USE WHITE FLASHLIGHT AND PASS IT THROUGH THE PRISM



LAB BASED QUESTIONS



CLICK ON
YELLOW ICON
TO OPEN
VIRTUAL LAB

QUESTIONS ABOUT PRISM

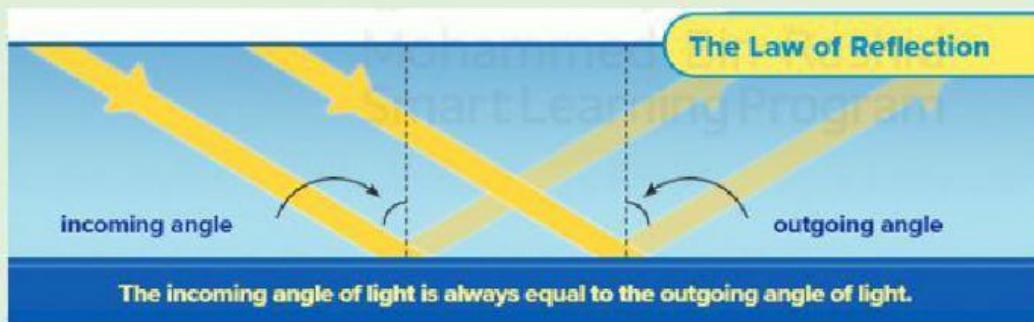
1. _____ light splits in 7 colors.
2. We use _____ to splits white light into seven colors.
3. _____ spectrum is the range of waves that make up light.

REFLECTION

Bouncing back of light is called reflection

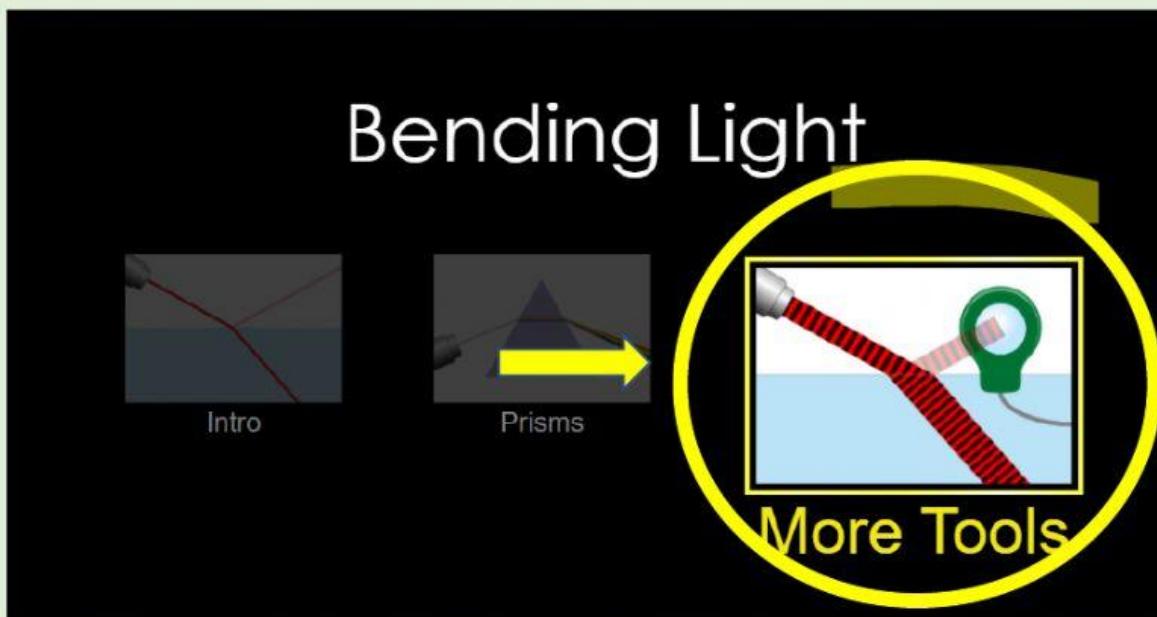
LAWS OF REFLECTION

The incoming angle of light is always **equal** to the outgoing angle of light.



STEPS ABOUT HOW TO USE LAB:

1. OPEN MORE TOOLS IN THE PHET LAB



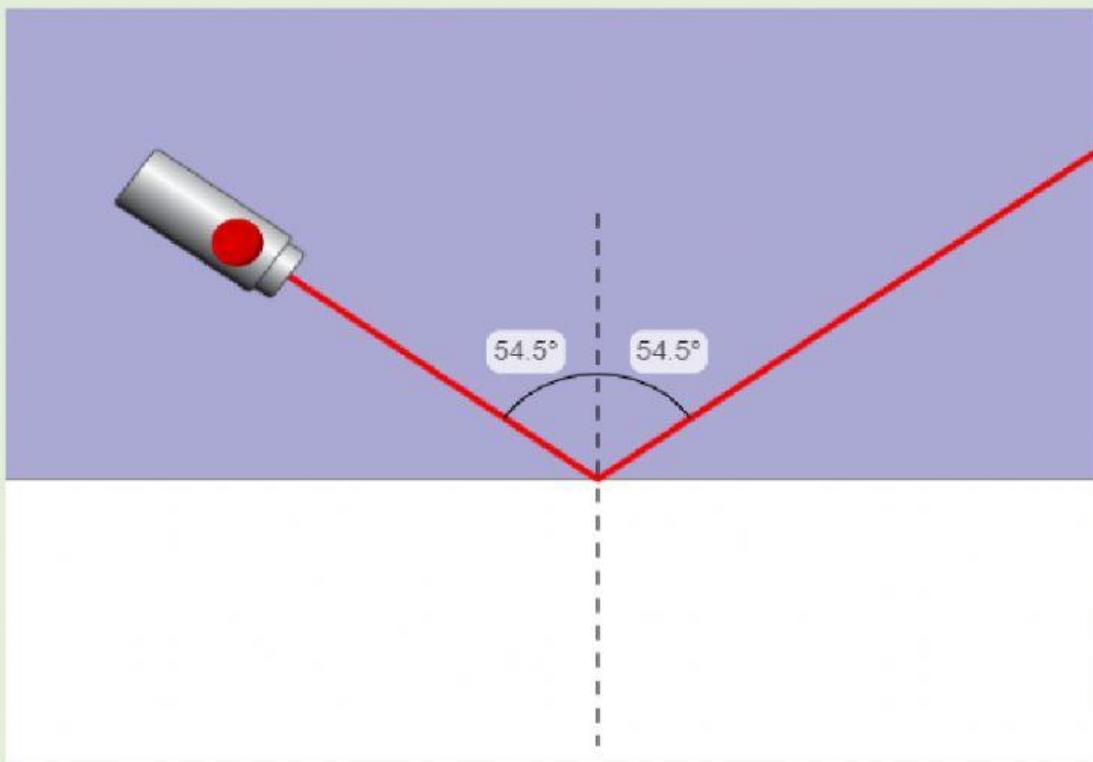
2. CHANGE MATERIAL

The image shows two separate simulation panels. The top panel is titled 'Material' and has a dropdown menu set to 'Glass'. Below it is a slider for 'Index of Refraction (n)' with a value of '1.500'. A horizontal bar at the bottom shows 'Air' on the left, 'Water' in the middle, and 'Glass' on the right, with a blue dot indicating the current material. The bottom panel is also titled 'Material' and has a dropdown menu set to 'Air'. It has a slider for 'Index of Refraction (n)' with a value of '1.000'. A horizontal bar at the bottom shows 'Air' on the left, 'Water' in the middle, and 'Glass' on the right, with a blue dot indicating the current material. Both panels have a yellow arrow pointing to the left of the material dropdown menu.

3. CLICK ANGLES

The image shows a simulation panel with a large protractor at the top. Below it are three buttons: 'Intensity' (green), 'Speed' (orange), and 'Time' (blue). At the bottom, there are two checkboxes: 'Normal' (checked) and 'Angles' (unchecked). A yellow arrow points to the 'Angles' checkbox.

4. LAW OF REFLECTION



If the angle of incidence is 45 degree, what is the angle between the incident ray and reflecting surface

- 45
- 90
- 180
- none of the above

Law of reflection state that - The angle of incidence is to the angle of reflection.

- equal
- double
- half

A ray of light is incident on a plane mirror and the angle of incidence is 25 degrees. What is the angle of reflection?

- A. 0 degrees
- B. 50 degrees
- C. 90 degrees
- D. 25 degrees