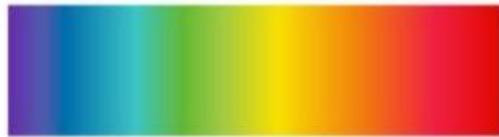


**Choose the correct answers for the following questions.**



**8- Which of the following lights has the **lowest frequency**?**

- A. The violet light.
- B. The red light.
- C. The yellow light.
- D. The green light.

**9- Which of the following lights has the **lowest frequency**?**

- A. The violet light.
- B. The green light.
- C. The yellow light.
- D. The blue light.

**10- Which of the following lights has the **highest frequency**?**

- A. The violet light.
- B. The red light.
- C. The yellow light.
- D. The green light.

**11- Which of the following lights has the **longest wavelength**?**

- A. The violet light.
- B. The green light.
- C. The yellow light.
- D. The blue light.

**12- Which of the following lights has the **shortest wavelength**?**

- A. The red light.
- B. The green light.
- C. The yellow light.
- D. The blue light.

**13- Which of the following lights has the **lowest energy**?**

- A. The red light.
- B. The green light.
- C. The yellow light.
- D. The blue light.

**Answer the following questions:**

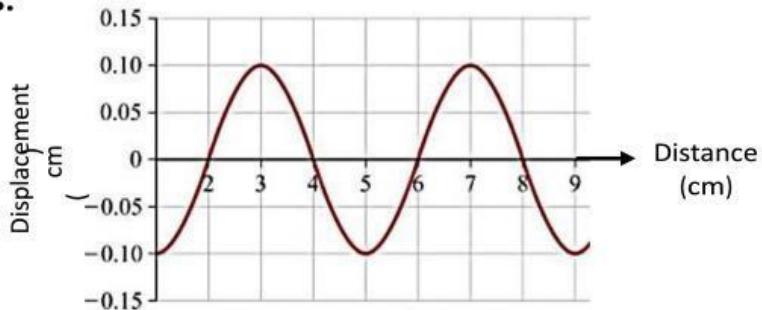
**1-**

**2- Study the table to answer the following questions.**

What is the speed of light in water?	$\times 10^8$
In which medium the speed of light is the highest?	$\times 10^8$
In which medium the speed of light is the lowest?	$\times 10^8$

Material	Refractive index	Speed of light /ms <sup>-1</sup>
Air	1.00	$3.0 \times 10^8$
Water	1.33	$2.3 \times 10^8$
Perspex	1.49	$2.0 \times 10^8$
Glass	1.50	$2.0 \times 10^8$
Diamond	2.42	$1.2 \times 10^8$

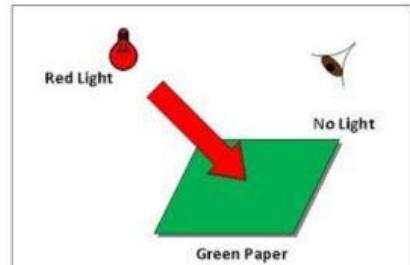
- 3- Use the data on the (Displacement- Distance) graph to answer the questions.



- What is the wavelength of this wave? ..... cm
- What is the amplitude of this wave? ..... cm

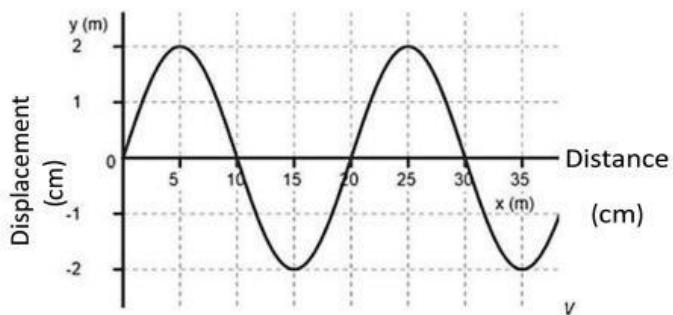
- 4- If a red light falls on a green paper.

- What color would the apple look like?  
.....
- Explain your answer.



Because the paper will ..... (absorbs, reflects, refracts)  
the red color and ..... (no, all) light will reflect to the eye.

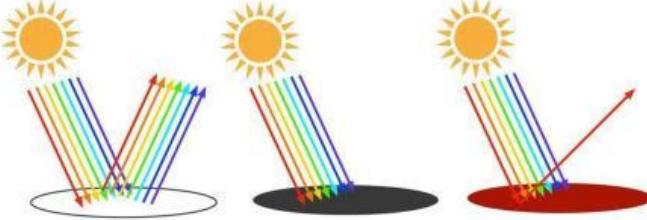
**5- Use the data on the (Displacement- Distance) graph to answer the questions.**



- What is the wavelength of this wave? ..... cm
- What is the amplitude of this wave? ..... cm
- How can you change the frequency of this wave to make its wavelength shorter?

I have to ..... (increase,decrease) the frequency then the wavelength will decrease.

**6- Relay on the bar photo to answer the following questions:**



- What are the colors of the light spectrum?

Violet - Indigo - ..... - Green- ..... - Orange -

- Which color reflects all the light? .....
- Which color absorbs all the light? .....
- The red color reflects only the ..... light and ..... all the others.

Order **Electromagnetic waves** from **most energetic** to **lowest energetic** waves


Order **visible light** from **most energetic** to **lowest energetic** waves.
