Name: Key
Blk:___Date:

4.2 Properties of Visible Light

Read pgs 144-149 to complete the following:

1. The wave model of light depicts light travelling as a wave.

2. light is a type of wave that travels through empty space and transfers energy from one place to another.

3. A wave that you see is called visible light.

4. Refraction is defined as the bending or changing direction of a wave as it passes from one material to another.

5. Explain why we see a rainbow emerge from a prism

Because the longer wavelengths are refracted less than the shorter wavelengths ... different colours are separated when they emerge from the prism

6. In a rainbow we see a range of colours that decrease in wavelength and increase in frequency. These coulours in order are:

Red Orange Yellow Green Blue Indigo Violet.

a. Which colour has the longest wavelength? Red
b. Which colour has the shortest wavelength? Violet.
c. Which colour has the highest frequency? Violet
d. Which colour has the lowest frequency? Red.

Describe

7. ~~Use~~ Newton's experiment that light itself contains colour.

Newton set up three prisms: white light entered the first + came out as colours → colours went into the 2nd + came out as colours ... these colours

8. Reflection is defined as what occurs when a light wave strikes an object + bounces off.

9. Why does a green shirt appear to be green? all other colours are absorbed, but green is reflected.

10. Why does your blue coat look black when you are in a dark movie theatre?

very little light source ∴ appears dark.

4. Fill in the colours of the spectrum in the diagram below: