

Answer completely in the space provided. You may do any work on the back.

1. Electromagnetic radiation is the result of _____ moving from higher to lower energy levels in an atom.

electrons

2. **True or False:** Light is considered both a wave and a particle.

true

3. A red ball will look _____ when placed under only blue light.

Black; red pigment can only reflect red and blue light has no red

4. Which region of the electromagnetic spectrum has the highest energy waves?

gamma rays; highest frequency = highest energy

5. Which color of visible light has the longest wavelength?

Red; look at spectrum chart

6. List the primary colors of light.

red, green, and blue

7. Which primary colors of light are absorbed and reflected when white light shines on a red rose petal?

**absorbed – green and blue (cyan)
reflected – red; which is why it is red**

8. An object that blocks all light is considered to be

opaque

9. A light wave can be _____, which is to say that it can be made to vibrate in only one plane.

polarized

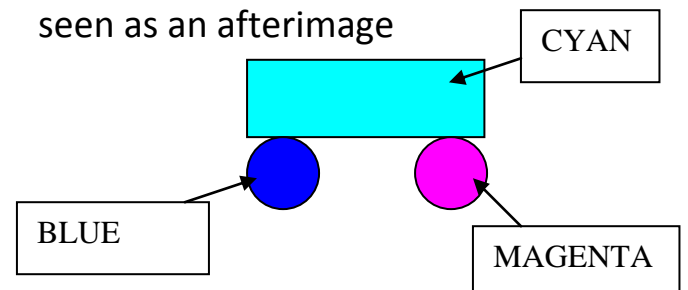
10. Why does light refract when it passes from the air into a piece of glass?

it slows down

11. A prism forms a rainbow primarily because the different colors of light have different _____ in the glass.

speeds

12. Redraw the image as it would be seen as an afterimage



Afterimage colors are opposite of the actual colors.