

Dispersion, Refraction, and Polarization Worksheet

- 1. When you see a straw in a glass of water, it looks bent, why is that?
 - a. Diffraction
 - b. Reflection
 - c. Refraction
 - d. Polarization
- 2. Light travels through all transparent media at the same speed
 - a. True
 - b. False
- 3. Below is a diagram of the visible spectrum. And the two bits of the electromagnetic spectrum that are on either side of visible light. Label on the diagram where red light and blue light would be. Also label what are the two parts of the electromagnetic spectrum.

Visible light



- 4. When a light wave vibrates in a variety of directions, the light is said to be ______.
 - a. Transverse
 - b. Polarized
 - c. Unpolarized
- 5. Filters allow light to pass through. Polaroid filters are very selective above the orientation of the light vibrations that are allowed through. The light that passes through a Polaroid filter is vibrating in a direction that is _____.
 - a. Parallel to the orientation of the molecules that make up the alignment
 - b. Parallel to the polarization axis or transmission axis of the filter
 - c. Parallel to the ceiling or the sky (if the source of light is on the ceiling or in the sky)
 - d. Always horizontal, regardless of what the light source is



6. Sketch the path of the rays as they pass from the air into the water. Draw observer's eyes in the water that could see each ray



7. The light source is now under water. Sketch the path of the rays as they pass from the water into the air. Draw the observer's eyes in the air that could see each ray.

