

## Light, Sight & Color Study Guide

### Key Vocabulary

1. **Light** – is a form of energy. Examples of things that produce light are the sun, stars, and fireflies.
2. **Reflection** – the way light bounces off material. An example of a reflection is the use of a mirror. Most objects are seen be reflected light.
3. **Transparent** – the image can be clearly seen because most of the light passes through it without being diffused. Our classroom windows are an example of a transparent material.
4. **Translucent** – tend to diffuse or scatter light rays. An example of translucent materials is a window with a heavy coating of frost.
5. **Pupil** – the part of the eye through which light enters.

### Key Concepts

1. Typically you cannot see around a corner because light travels in straight lines.
2. A spectrum of color is produced by sending white light through a prism.
3. The order of the colors of the spectrum are: red, orange, yellow, green, blue, indigo, and violet. (ROY G. BIV)
4. Most light bulbs are frosted so that the light that is produced will be more evenly spread/scattered.
5. Smooth walls produce more glare than walls with rough surfaces. Rough surfaces tend to scatter the light rays.
6. If your eyesight is normal, the lenses in your eyes adjust automatically so that they throw a clear image on the retina.
7. The image focused on the retina is always upside down.
8. Our eyes are naturally protected by our cheekbones, bridge of our nose, and our eye lids.
9. **Eye Safety:**
  - a. Do not rub your eyes.
  - b. Apply cold if you receive a blow to the eye.
  - c. Never try to remove an object that is stuck in the eye.
10. Without good peripheral vision a person may have difficulty playing soccer, riding a bicycle, or playing a bouncing ball relay.

11. A student who was having difficulty seeing the chalkboard could be helped by:

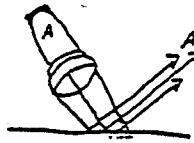
- a. Being moved closer to the chalkboard.
- b. Wearing corrective lenses (glasses or contacts)
- c. Control the amount of light (turn more lights on)

12. An inch thickness of newspaper is opaque. No light passes through opaque material.

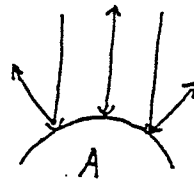
**Diagrams:**

Remember that light rays will pass through transparent and translucent materials and reflect off opaque materials like a mirror.

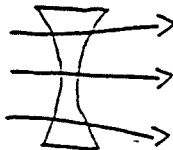
1. Law of Reflections:



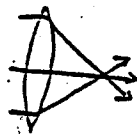
2. A wide-angle mirror:



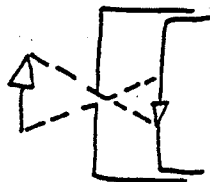
3. A concave lens:



4. A magnifying lens:



5. A pinhole camera:



6. A mirror that magnifies:



## Eye Diagram

Be able to label these parts of the eye:

Cornea

Lens

Retina

Iris

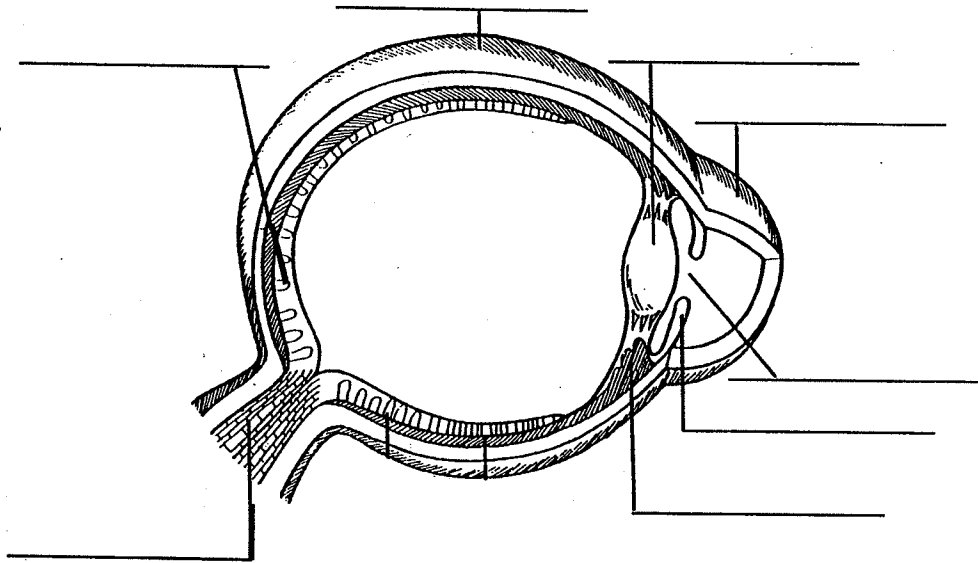
Sclera

Optic Nerve

Pupil

Ciliary Muscle

## ***PARTS OF THE EYE***



**Additional Study Notes:**