Eye Review: Vision Lab, Eye Worksheet, Eye Structure/Function, Lab

- The shortest distance at which an object is in sharp focus is called the **near point of vision**
- The lens’ ability to change curvature for sharp focusing is called **accommodation**
- What does each test for? **Snellen Test** (visual acuity), **Ichikawa Test** (color vision)
- How would your doctor test for astigmatism **Visual chart test** _3-lined star or measure the curvature of the cornea and lens_
- Discuss how colorblindness is inherited, who is mostly affected? **X-linked recessive allele**; most common in **males**
- List the structures light would pass through as it entered the eye to the retina. **Cornea, aqueous humor, lens, vitreous humor**
- What is refraction? **Bending of light rays when they pass through different medium**
- List structures become fatigued when doing close work? **Eye muscles**
- List structures for camera and eye: **protection, focusing, regulation of light, light entry**
  - **Protection**: box/cornea; **Focus**: lens; **Regulation of light**: F-stop/iris; **Light Entry**: shutter/pupil
- Which lenses is called **converging** and why? **Convex** – converge light more strongly before they enter the eye
- Which lenses is **diverging** and why? **Concave** - diverge light rays before they enter the eye
- Draw a convex lens and a concave

```
Convex

Concave
```

- Rods, cones, or both:
  - most sensitive to bright light, **cones**
  - do not recognize colors, **rods**
  - concentrated in the fovea, **cones**
  - most abundant photoreceptors, **rods**
  - most sensitive to dim light, **rods**
  - considered to be photoreceptor neurons, **rods and cones**
  - found in the periphery of the retina, **rods**
  - found in the retina, **rods and cones**
  - recognize colors **cones**
- Describe/define the following: **aqueous humor, choroid, conjunctiva, cornea, iris, optic disk, optic nerve, pupil, retina, sclera, vitreous humor** – **See Structure and Function Diagram and definitions**
- List correct sequence of the wall of the eye starting from outer to inner layer of the eye. **Sclera – choroid – retina**
- Where is the blind spot located? **Exit point of optic nerve**
- Describe the fovea centralis. **What is it commonly called it? is in the macula lutea (yellow spot) and referred to as the fovea** Rods or cones? **Fovea holds greatest concentration of cones** Type of vision? **It is the area of greatest visual acuity**
- Muscles: elevates eye or rolls it superiorly, moves eye laterally, moves eye medially, elevates eye and turns it laterally, depresses eye and turns it laterally, depresses eye or rolls it inferiorly – see Structure and Function diagram and definitions
- Which part observed in the sheep eye does not appear in the human eye? **Tapetum** What’s its function? **Increase light levels in back of eye and allow for night vision**
- Decide if each of the following refers to: astigmatism, farsighted, nearsighted, presbyopia
- usually sets in around age 50, lack of accommodation presbyopia
- myopia near-sighted
eye is too elongated near-sighted
- hyperopia far-sighted
- light rays are brought into focus in front of the retina near-sighted
- unequal curvatures in different parts of the lens astigmatism
- corrected by a concave lens near-sighted
- corrected by a convex lens far-sighted
- light rays would be in focus behind the retina far-sighted

- Decide if each of the following refers to: amblyopia, cataracts, glaucoma, strabismus
- cloudy area in the lens of the eye cataracts
- 4 major types; leading cause of blindness; may be genetic glaucoma
- “cross-eyed” strabismus
- Condition of increased fluid pressure inside the eye which damages the optic nerve causing partial vision loss and eventually blindness glaucoma
- Eye patch is one type of treatment to try to strengthen a weak eye amblyopia
- “lazy eye” amblyopia
- Condition in which the eyes deviated when looking at an object strabismus
- Adult version is associated with aging; develops slowly and painlessly with gradual loss of vision glaucoma

Label: Muscles of Eye, Structure of Eye. Layers of Eye (Photoreceptors), Binocular diagram (on-line), Convex lens, Concave lens, Myopia, Hyperopia

Hyperopia/Far-sighted

Myopia/Near-sighted

![Diagram of Eyes](Image)