**The Human Eye, the Camera & Colorblindness**

**The Eye and the Camera p. 294 - 295**

1. Look at the diagram of the eye on p. 294 and label the blank diagram below, using your textbook as a reference.



1. Read p. 294- 295 and match up the following eye structures with their function:
2. Retina \_\_\_\_ Controls the **amount of light** that enters the eye. It will

*dilate* (bigger) in the dark, and *contract* (smaller) in bright light.

1. Pupil \_\_\_\_ This **light sensitive area** produces the image we see – **like**

**a screen** at the back of our eye – and converts it to nerve signals.

1. Iris \_\_\_\_ These help to **focus your vision** by changing the **thickness**

of the lens.

1. Lens \_\_\_\_ **Sends the picture** of what we see to the brain – thanks to

the rods and cones that transform the image into **nerve signals**.

1. Cornea \_\_\_\_ This **clear, convex lens** at the front of the eye helps to

focus light on the retina.

1. Cilliary Muscles \_\_\_\_ This **protective covering** at the front of the eye also helps

focus light on the retina.

1. Optic Nerve \_\_\_\_ This **hole in the iris** lets light pass through it to reach the

retina –like a window.

1. Rods \_\_\_\_ These **color-sensing cells** in the retina come in **3 types**.

Each type is sensitive to a specific color of light: red, blue or green.

1. Cones \_\_\_\_ These **light-sensitive cells** transform light into signals, but

 cannot see color.

1. Read text page 294-295, and fill in the Venn Daigram below:

Comparing The Human Eye with a Camera

 Human Eye Both Camera

**Color Vision and Color Blindness p. 304-305**

1. Read about how cones see things in color on p. 304. **Explain** the connection between **cones and the additive theory** of color in your own words in the space below:
2. Do the “Try This” in the yellow box at the top of pg. 205. **Draw / sketch or describe** what you saw when you looked at the black box on this sheet.
3. Read about color blindness on pg. 305. **Explain**, in your own words, **what** ***red-green color blindness*** is and **why** it happens.