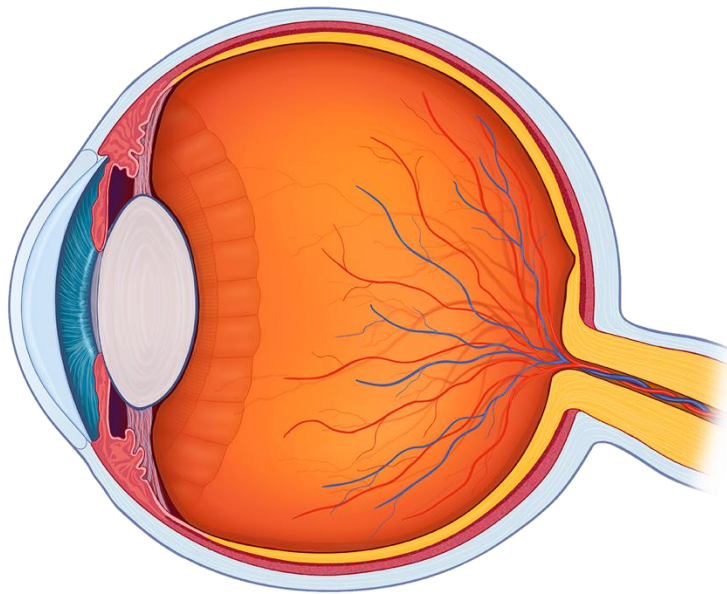


**1. Human Eye****Human Eye**

- Your eyes focus on 50 different objects every second.
- Eyes are able to process 36,000 pieces of information in a single hour
- The only organ more complex than the eye is the brain.
- Your eyes can distinguish approximately 10 million different colours.
- It is impossible to sneeze with your eyes open.
- Ommatophobia is a fear of the eyes.
- 80 percent of all learning comes through the eyes.
- Heterochromia is the medical term for having two different coloured eyes.
- The average person blinks 12 times a minute!

**Let's Label!**

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## Focusing System

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### 1. Cornea

- \_\_\_\_\_ material that covers the \_\_\_\_\_ and \_\_\_\_\_ and holds the eye together

### 2. Lens

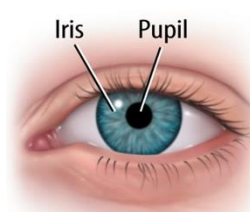
- A flexible \_\_\_\_\_ structure behind the \_\_\_\_\_ and \_\_\_\_\_ that \_\_\_\_\_ light towards the \_\_\_\_\_

## Lighting

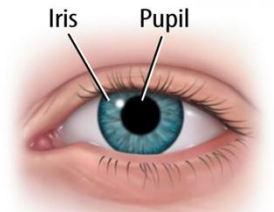
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### 3. Iris

- \_\_\_\_\_ that surrounds the \_\_\_\_\_
- \_\_\_\_\_ of the eye
- \_\_\_\_\_
  - In dim light, iris \_\_\_\_\_
  - In bright light, iris \_\_\_\_\_



The iris relaxes in bright light.



The iris contracts in dim light.

### 4. Pupil

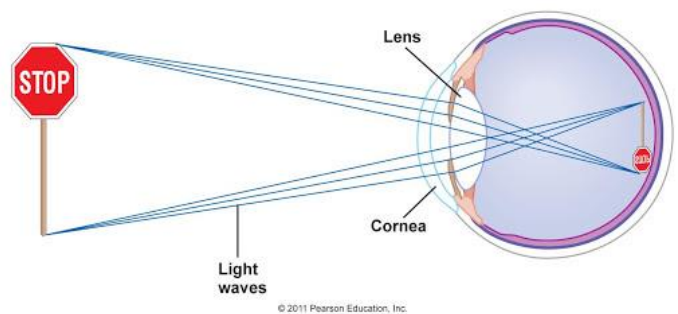
- An \_\_\_\_\_ where \_\_\_\_\_ enters the eye
  - In dim light, the pupil \_\_\_\_\_ to let in \_\_\_\_\_ light
  - In bright light, the pupil \_\_\_\_\_ to let in \_\_\_\_\_ light

## Communicating with the brain

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### 5. Retina

- A \_\_\_\_\_ at the back of the eye where the \_\_\_\_\_ is formed
- Image forms \_\_\_\_\_!
- Contains specialized cells called \_\_\_\_\_ and \_\_\_\_\_



### 6. Optic Nerve

- Communicates with the \_\_\_\_\_
- Carries \_\_\_\_\_ signals

## **Structure**

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### **7. Sclera**

- The \_\_\_\_\_ region around the \_\_\_\_\_
- Helps to \_\_\_\_\_ the eye

### **8. Aqueous Humour**

- The \_\_\_\_\_ fluid between the \_\_\_\_\_ and \_\_\_\_\_
- Helps to maintains the \_\_\_\_\_ of the eye

### **9. Vitreous Humour**

- The \_\_\_\_\_ fluid that gives \_\_\_\_\_ to the eye
- \_\_\_\_\_ the eye and keeps the \_\_\_\_\_ in place

## **Video: The evolution of the Human Eye**

# Parts of the eye

Use the vocabulary words in the box below to label the parts of the eye. Place the correct letter on the line next to each part of the eye.

Vocabulary	
a. iris b. lens c. pupil d. sclera e. retina f. cornea g. optic nerve	

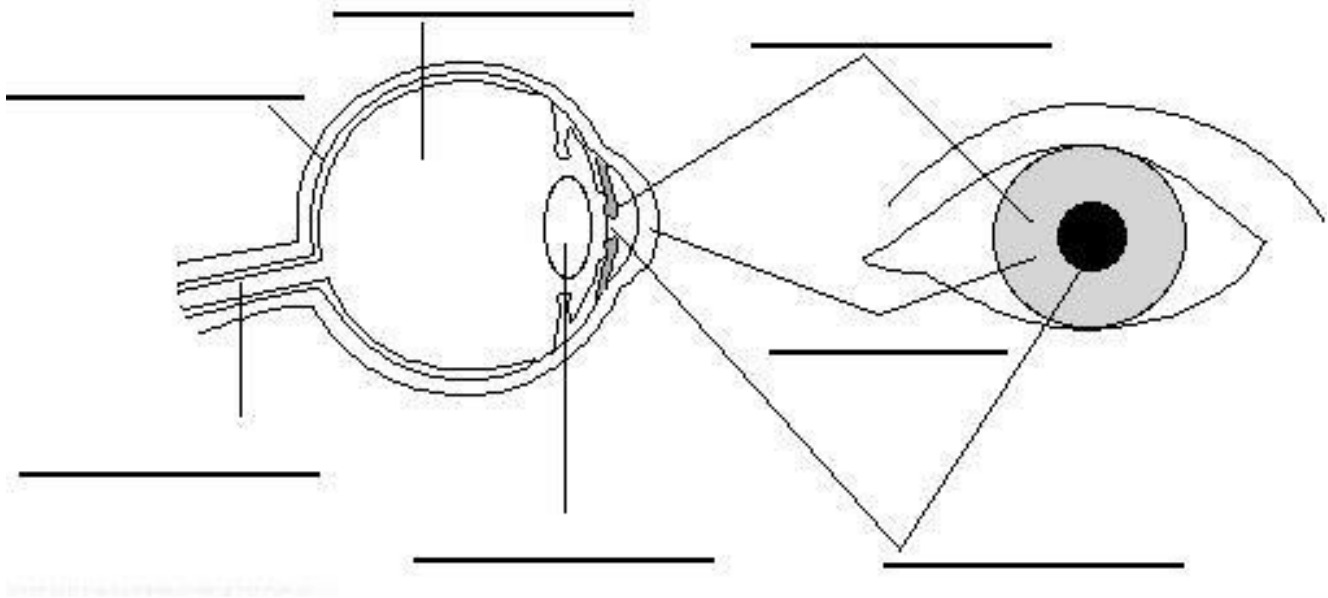
Use the same vocabulary words in the box above to fill in the blanks below. Each word can be used only once.

8. Light rays are first refracted by the \_\_\_\_\_.
9. Surrounding the cornea is an opaque white tissue called the \_\_\_\_\_.
10. Light enters the eye through an opening in the centre called the \_\_\_\_\_.
11. The \_\_\_\_\_ is the coloured circle of muscle surrounding the pupil. It controls the amount of light entering the eye.
12. Light then passes through the flexible, convex \_\_\_\_\_ which can change its shape.
13. Once light is refracted by the lens, it is focussed on the \_\_\_\_\_ at the back of the eye, where an image is formed.
14. Light-sensitive cells detect the image and an electric message is sent to the brain through the \_\_\_\_\_.

## Practice:

Label the following diagram:

- Cornea
- Lens
- Iris
- Optic Nerve
- Pupil
- Retina
- Aqueous Humour



1. Why does the pupil appear dark?
2. What part of the eye is referred to as grey, brown, blue or hazel?
3. The iris can dilate or contract, changing the size of the pupil. In a dark room, will the iris dilate or contract? Why?

4. A covering called a cornea holds the iris and pupil together. How does light behave when passing through the cornea?
  
  
  
  
  
  
  
  
  
  
5. The lens behind the pupil is convex. Draw what happens to the light rays as they pass through the pupil and hit the lens.
  
  
  
  
  
  
  
  
  
  
6. After the light rays pass through the lens, it hits the retina at the back of the eye. What material is in between the lens and the retina? What is the function of this material?
  
  
  
  
  
  
  
  
  
  
7. The retina is considered a “screen”. Explain why this analogy is made.
  
  
  
  
  
  
  
  
  
  
8. The light rays pass through the lens and reach the retina at the \_\_\_\_\_ .
  
  
  
  
  
  
  
  
  
  
9. How does the retina communicate with the brain?

