

## **Major Endocrine Glands**

The following is a list of endocrine glands:

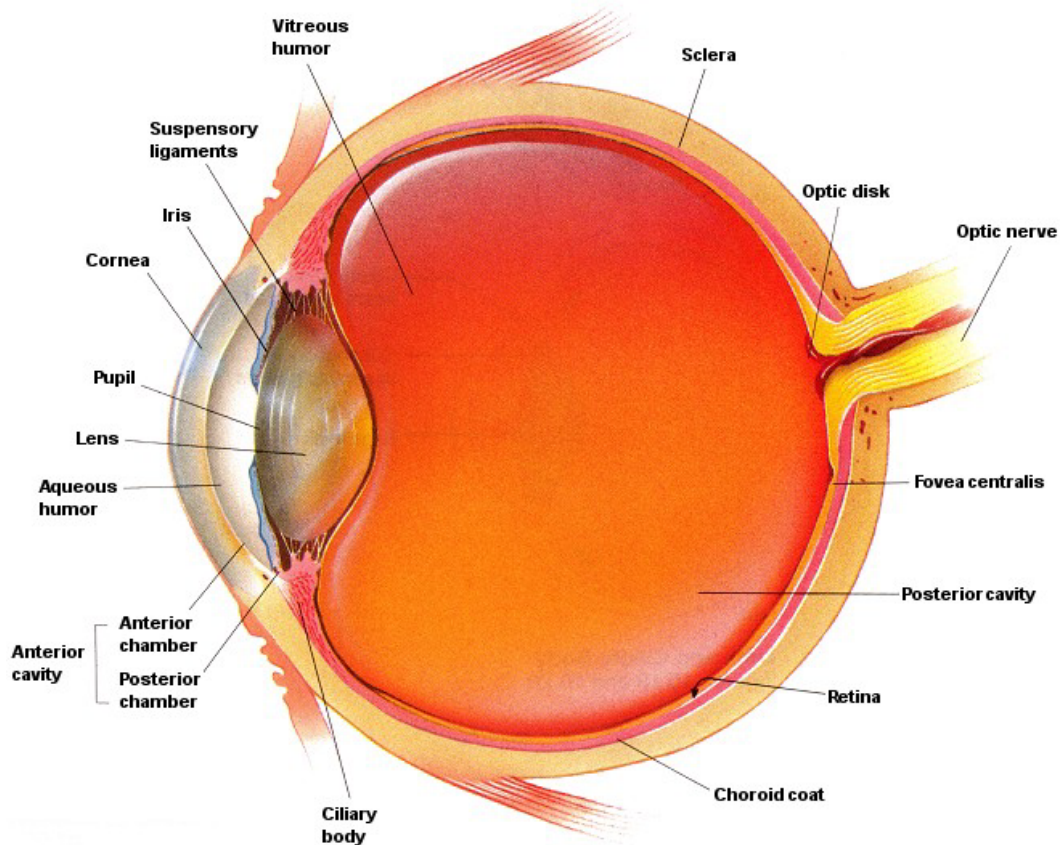
- Pineal
- Pituitary
- Thyroid
- Parathyroid
- Adrenal
- Parts of the Pancreas
- Parts of the Ovaries and Testes

## **THE SPECIAL SENSES**

The special senses are taste, touch, smell, pain, temperature, sight and hearing.

## **THE EYE (ORGAN OF SIGHT)**

The eye receives rays of light reflected from objects stimulating the nerve ending in the eyeball. The optic nerve receives these impulses and carries them to the occipital lobe of the cerebral cortex where they are interpreted. The eye is almost spherical in shape and lies in the cone-shaped orbit of the skull, protected by the eyelids anteriorly and a pad of fat posteriorly. The eyeball is attached to the orbit by six small muscles which move the eye in all directions. Both eyes move simultaneously.



The eye has a jelly like centre covered by three outer coats, namely:

- The Sclera and Cornea
- The Choroid (iris)
- The Retina

## Vision

Light rays entering the eyeball pass through the cornea, aqueous humour, the lens and the vitreous humour. These substances bend the rays in order to focus on the retina – the end organ of vision.

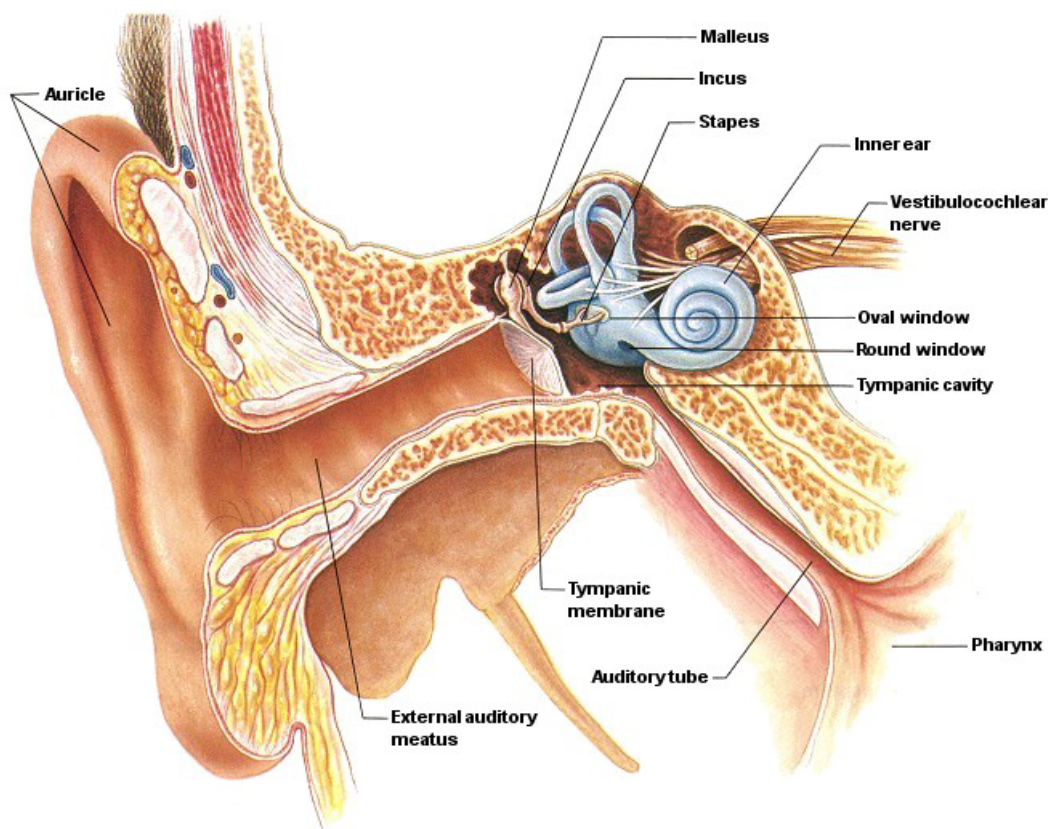
The lens is adjustable, allowing the rays to be bent as necessary. Looking at a close object requires bending at a greater angle than looking at a distance. For reading, the lens needs to be thicker therefore the ciliary muscles contract and the lens becomes more convex. Hence the eyes become “tired” and need to be rested between reading, e.g. looking into the distance. This focussing of the eye is called accommodation.

The muscle fibres of the iris are circular and radiating. When the light is bright, the circular fibres contract and the pupil constricts. If the light is poor or dark the radiating muscles contract and the pupils contract to let more light in.

These muscles are controlled by the autonomic nervous system. Sympathetic nerves dilate and the parasympathetic constrict.

## THE EAR

This is the organ of hearing. It is constructed in such a way as to catch sound waves passing through the atmosphere and transmit them to the hearing centre in the temporal lobe of the cerebral cortex.



It consists of three sections:

- The External (Outer)
- The Middle
- The Internal Ear (Inner)



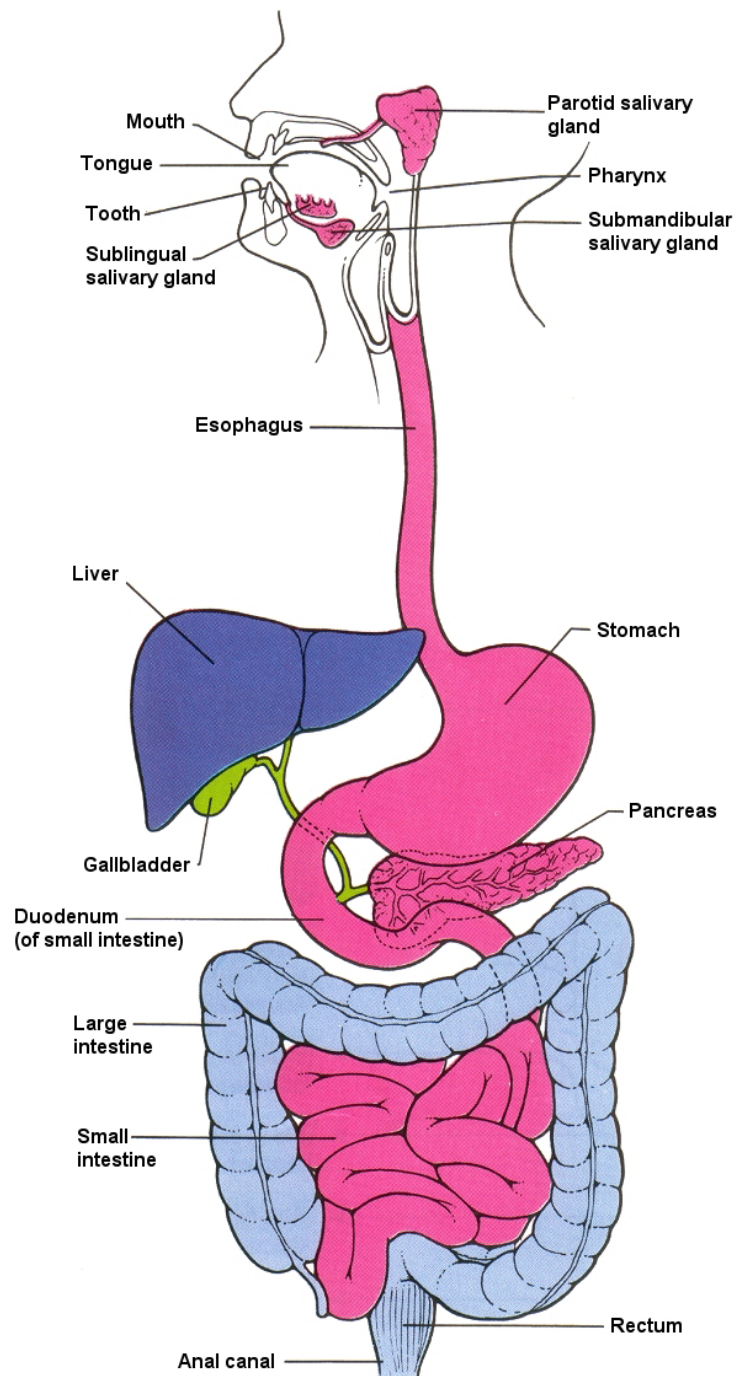
**TIME FOR TEA:** We are now about halfway through this assignment, it is a good idea to have a break for tea as you have earned it!

# THE DIGESTIVE SYSTEM

## The Organs of Digestion

Are divided into two sections:

- **The alimentary canal** – about nine metres long, starting at the mouth and ending at the anus
- **The accessory organs** – assist with digestion, absorption and storage of food substances. These are the pancreas, liver and gall bladder.



The parts of the alimentary canal are:

- The mouth
- The pharynx
- The oesophagus
- The stomach
- The small intestine
- The large intestine

## **THE RESPIRATORY SYSTEM**

The respiratory system consists of **Air Passages** and **Lungs**.

The air passes through the following structures on its way to the lungs:

- Nose
- Pharynx
- Larynx
- Trachea
- Bronchi
- Bronchioles – *in the lungs*
- Alveoli – *in the lungs*