

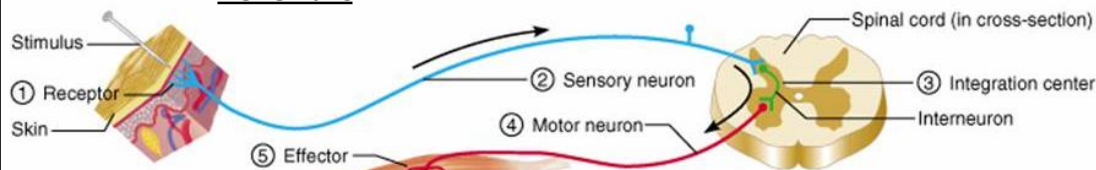
Section 1: Key Terms

Homeostasis	Regulating internal conditions to keep them at an optimum, despite internal and external changes . Maintains optimum conditions for enzymes .
Negative Feedback (HT)	Negative feedback ensures that changes are reversed and returned back to the optimum level .

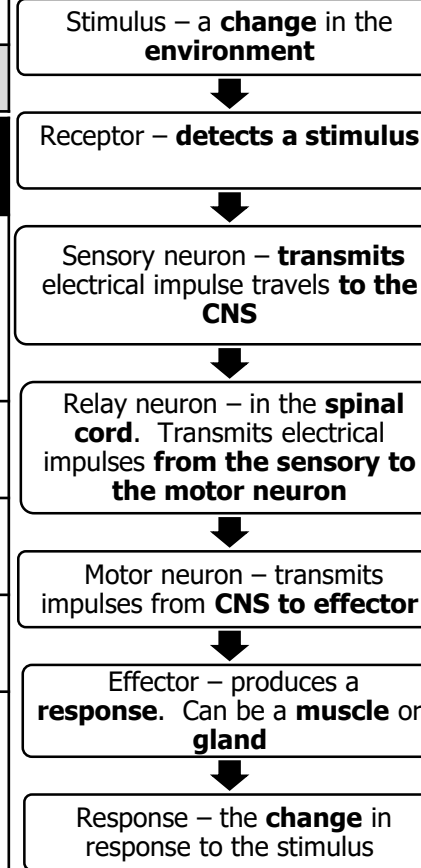
Section 2a: Nerve Reflexes Key Terms

Central nervous system (CNS)	The brain and spinal cord together. Co-ordinates the response of effectors .
Reflex action	A fast, automatic reaction. Does not involve thinking parts of the brain.
Coordination Centre	Receives and processes information from receptors e.g. CNS, pancreas.
Synapse	The gap between two neurons . Allows many different neurons to connect.
Myelin sheath	Some neurons are surrounded by myelin. Myelin insulates the neuron and speeds up the transmission of electrical impulses .

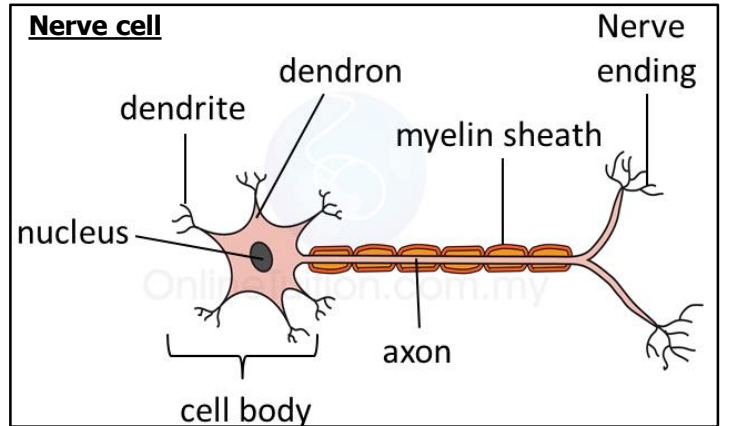
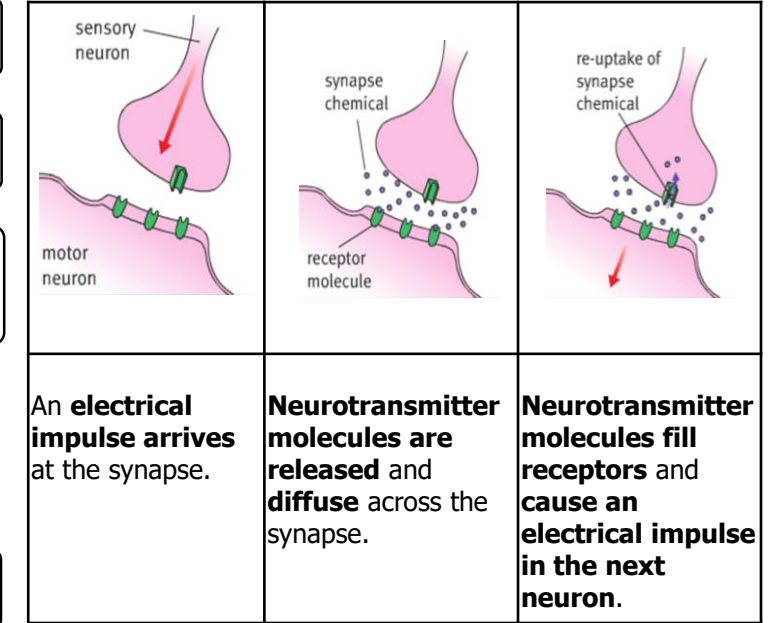
Reflex arc



Section 2b: The Reflex Arc



Section 2c: The Synapse

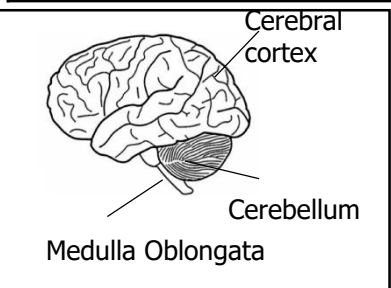
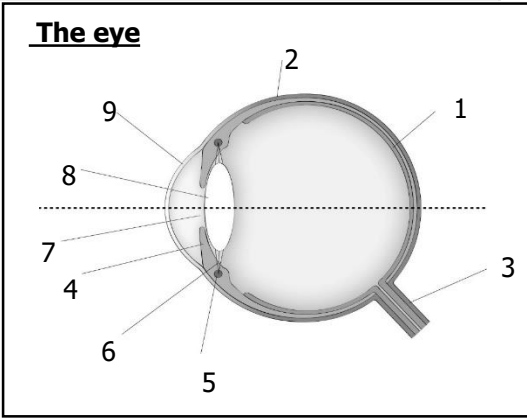


Section 1: The brain

Cerebral cortex	Outer wrinkly part, responsible for consciousness, intelligence, memory and language
Medulla oblongata	Controls unconscious activities e.g. breathing and heartbeat
Cerebellum	Responsible for muscle coordination

Section 2: Studying the brain (HT)

Study people with brain damage	If a part of the brain has been damaged the effect on the patient can tell you what this part does
Electrically stimulate the brain	By observing what stimulating different parts of the brain does its possible to get an idea of what those parts do
MRI scans	MRI scans produce detailed pictures of the brain. Scientists can see which parts are active when people are doing things
The brain is complex and delicate – investigating and treating it is difficult	



Section 4: Focusing on near and distant objects

To look at near objects – ciliary muscles contract , suspensory ligaments slacken , lens becomes fat , increasing amount of refraction
To look at distant objects – ciliary muscles relax , suspensory ligaments tighten , lens becomes thin , decreasing amount of refraction

Section 3: The eye key terms and parts

Refraction – the bending of light rays when they pass from one medium to another

Part	Function
1 Retina	Where an image forms at the back of the eye, contains rods and cones
2 Sclera	The white part, protects the eye
3 Optic nerve	Send electrical impulses from the retina to the brain
4 Iris	Coloured muscle controls the size of the pupil
5 Ciliary muscles	Contract and relax to change the shape of the lens
6 Suspensory ligaments	Controls the shape of the lens to focus light rays on the retina
7 Pupil	Hole located in the centre of the iris of the eye that allows light to strike the retina
8 Lens	Refracts light to be focused on the retina
9 Cornea	Refracts light through the pupil
Rods	Light sensitive receptor cells that let you see in low light conditions
Cones	Light sensitive receptor cells that let you see colour

Section 5: Correcting vision problems

	Where the image focuses	How to correct it	Why it occurs
Long sighted (HYPEROPIA)	Behind the retina	Convex lens	The lens is too weak or the eyeball is too short
Short sighted (MYOPIA)	Where the image focuses	How to correct it	Why it occurs
	In front of the retina	Concave lens	The lens is too strong, or the eyeball is too long
Contact lenses	Good for sports/activities, almost invisible. Could cause infection if not sterilised properly		
Laser eye surgery	Permanent correction of vision problems, however, surgery carries risks		
Lens replacement	Permanent solution, risk of vision loss		