

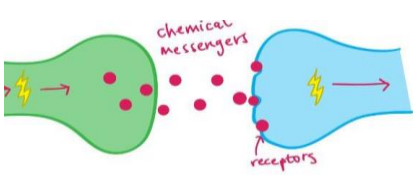
1. Key Words

Key word	Definition
Homeostasis	Maintenance of a constant internal environment
Stimulus	Change in the environment that causes a response
Sense organ	Organ that contains receptor cells to detects a stimulus
Reflex	A quick, automatic reaction to a stimulus
Synapse	Gap between 2 nerve endings
Neurone	Nerve cell
CNS	Central nervous system consisting of the brain and spinal cord

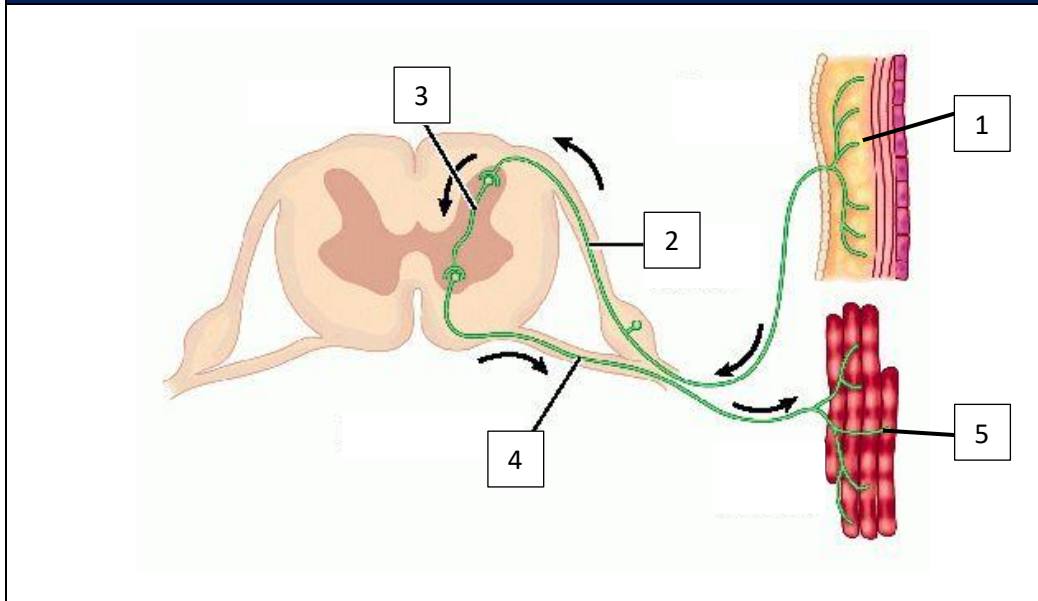
2. Sense organs

Sense	Organ
Sight	Eyes
Hearing	Ears
Touch and pain	Skin
Taste	Tongue
Smell	Nose
Balance	Ears

3. The synapse (Higher)

1	Chemical is released into the synapse	
2	Chemical diffuses across the gap and is absorbed into the next neurone	
3	Absorption of the chemical causes a new electrical signal in the next neurone	

4. Reflex Arc

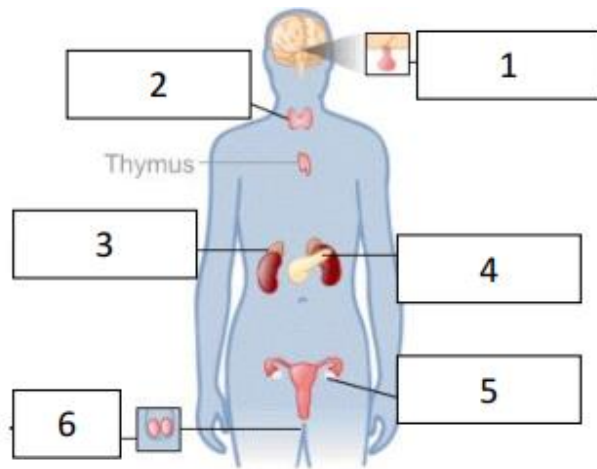


1	Receptor	Detects a stimulus
2	Sensory neurone	Carries an electrical impulse to the spinal cord
3	Relay neurone	Co-ordinates the automatic response to the stimulus
4	Moto neurone	Carries the electrical impulse to the part of the body that needs to react
5	Effector	Muscle or gland that will contract or release a chemical

5. Hormonal 'v' Nervous Responses

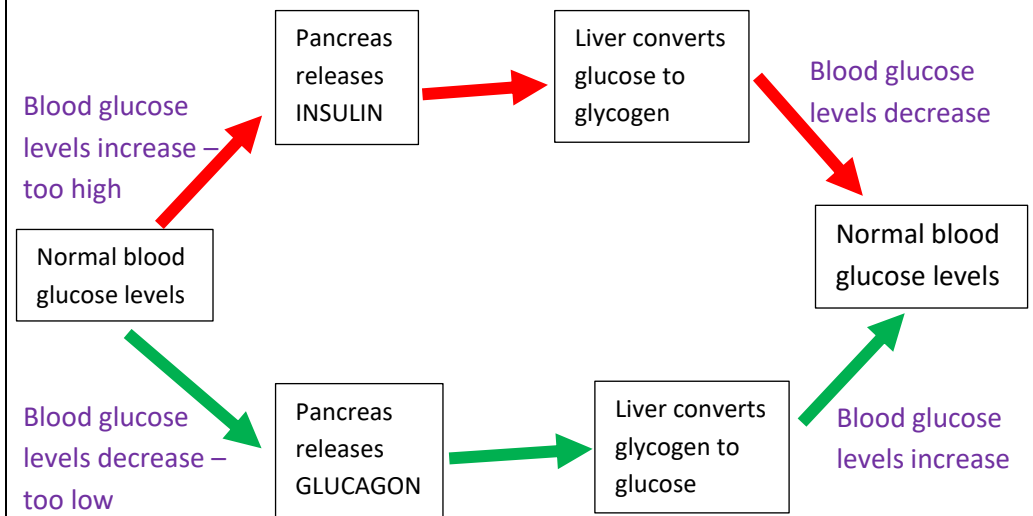
Hormonal	Nervous
Slow release of chemicals	Very fast action
Effects are long lasting	Effects are over a very short time
Acts on general areas of the body	Acts on a very precise area of the body

6. Endocrine system



	Endocrine Gland	Function
1	Pituitary gland	Master gland that produces many hormones that affect other endocrine glands. Releases FSH, LH and ADH, as well as many more
2	Thyroid	Produces thyroxine, which helps to regulate the metabolic rate
3	Adrenal glands	Produces adrenaline
4	Pancreas	Produces insulin and glucagon to control blood sugar levels
5	Ovaries	Releases oestrogen and progesterone involved in the menstrual cycle
6	Testes	Releases testosterone involved in the production of sperm

7. Control of blood glucose levels



8. Thyroxine and Adrenaline

Hormone	Effect on the body
Adrenaline	This hormone causes the blood vessels to the muscle cells dilate and the heart rate to increase. This increases the volume of oxygenated blood to the muscles for aerobic respiration. It also reduces blood flow to the digestive system and the skin to ensure maximum blood flow to the muscles
Thyroxine	This hormone controls the metabolic rate. It does this by controlling the speed that food moves through the digestive system, slowing or speeding up the heart rate, raising or lowering the body temperature to increase or decrease the rate of biological reactions. It can also control the rate at which dead or dying cells are replaced.

9. Hormones in the menstrual cycle

Hormone	Released from	Target organ	Function
FSH	Pituitary	Ovary	To cause an egg to mature
Oestrogen	Ovary	Uterus	Causes the lining of the uterus to thicken
LH	Pituitary	Ovary	Causes ovulation
Progesterone	Ovary	Uterus	Maintains a thick uterus lining

10. Contraception

Type of contraception	Example	How it works	Advantages	Disadvantages
Barrier	Condom or cap	Blocks the entry of sperm cells into the uterus	Easy to use	Could tear or rip
Hormonal	Contraceptive pill	Contains progesterone that prevents the release of an egg	Can regulate periods	May forget to take the pill
Hormonal	IUD (intrauterine device)	Copper coil kill the sperm cells Releases progesterone to prevent the release of an egg	Once inserted, can last for 6 to 18 months. No periods	Can cause swelling, bloating, headaches and acne

11. IVF (Higher)

Stages of IVF:

- 1 Injections of FHS, oestrogen and LH are administered for a month
- 2 Egg cells are collected from the oviduct
- 3 Egg cells are fertilised in a petri dish using sperm cells
- 4 Fertilised egg cells are incubated until embryos form after days 3-7
- 5 Embryo is implanted into the uterus

Advantages	Disadvantages
Allows low fertility or infertile couples to have a baby	Low success rates
	Emotionally stressful
	Increased risk of multiple births
	Side effects of vomiting and abdominal pain