

Definitions and Concepts for WJEC (Wales) Biology GCSE

Topic 2.5: Response and Regulation

*Definitions in **bold** are for higher tier only*

Definitions marked by '' are for separate sciences only*

Auxin - A plant hormone that is responsible for cell elongation.

Blind spot - A small portion of the retina that doesn't contain light receptor cells because it is the site where the optic nerve enters the eye.

Blink reflex - A reflex of the eye causing it to blink to prevent foreign bodies entering.

Cardiovascular disease - A non-communicable disease that affects the heart or blood vessels.

Central nervous system (CNS) - The brain and the spinal cord.

Choroid - A thin layer between the retina and sclera which has many blood vessels and allows oxygen into the retina cells.

Coordinator - **Receives information from the receptor and sends it to the effector to produce a response.**

Cornea - The front part of the eye that refracts light as it enters, focusing it onto the retina.

Effector - **A gland or muscle that produces a response to the stimulus to restore optimum conditions.**

Endocrine gland - Glands that are involved in the production of hormones and then secrete them directly into the bloodstream.

Enzymes - Biological catalysts that increase the rate of chemical reactions.

Erector muscle - Muscles in the skin that contract when the body is too cold. This raises the hairs on the skin, trapping a layer of air next to the skin for insulation.

Glucagon - **A hormone produced by the pancreas which works with insulin to control blood sugar levels. It increases blood glucose concentration by converting glycogen into glucose.**

Glucose - A type of carbohydrate (simple sugar) which is used in respiration to produce energy in the form of ATP.

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Glycogen - A form of glucose which is stored in the body.

Gravitropism - The growth response of a plant to gravity.

Homeostasis - The maintenance of a stable internal environment in the body despite fluctuations in internal and external conditions.

Hormone - A chemical messenger secreted by the endocrine glands into the bloodstream and transported to receptors on target organs.

Insulin - A hormone produced by the pancreas which controls the body's blood sugar levels. It works to decrease glucose levels.

Iris - The part of the eye that contracts or relaxes to control the amount of light entering the eye.

Lens - A part of the eye that further refracts light to focus it onto the retina.

Motor neurone - The neurone that transmits impulses from the relay neurone to the effector to produce a response.

Negative feedback system - A system which works to reverse the initial stimulus.

Optic nerve - The nerve that carries impulses between the brain and the eye.

Phototropism - The growth response of a plant to unilateral light.

Protein - A large molecule synthesised from amino acid monomers.

Pupil - A hole in the centre of the iris. It is controlled by the muscles of the iris and changes size depending on the brightness of the light.

Pupil reflex - A reflex of the eye causing the pupil to constrict in response to light to prevent damage to the eye.

Receptor - A cell or organ that recognises the stimulus.

Reflex action - A fast, automatic response to the stimulus.

Reflex arc - The pathway of neurones involved in a reflex action:

stimulus → sensory → sensory → relay → motor → effector → response
receptor neurone neurone neurone

Relay neurone - The neurone that transmits electrical impulses from the sensory neurone to the motor neurone. It is found in the spinal cord.

Retina - The layer at the back of the eye that contains light receptors and is sensitive to light.

Sclera - The white outer layer of the eye which protects the eye.



