

WJEC Wales Biology GCSE

2.5 (a) to (d) - The Nervous System

Flashcards

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What is the central nervous system (CNS)?



What is the central nervous system (CNS)?

Brain and spinal cord



What are sense organs?



What are sense organs?

- A group of receptor cells that detect specific stimuli (environmental and internal changes)
- Send information to the CNS along neurones



Give an example of a stimulus



Give an example of a stimulus

Chemicals, temperature, light, sound etc.



What are neurones?



What are neurones?

Nerve cells adapted to quickly transmit nerve impulses. They are the functional units of the nervous system.



What is a nerve?



What is a nerve?

Group of neurones that transfer information as electrical impulses in the nervous system



What is the nervous system made up of?



What is the nervous system made up of?

CNS and nerves



What is the function of the nervous system?



What is the function of the nervous system?

Allows an organism to rapidly react to environmental and internal changes



What is the function of sensory neurones?



What is the function of sensory neurones?

Carry impulses from sense organs
(receptors) to the central nervous system



What is the function of motor neurones?



What is the function of motor neurones?

Carry impulses from the central nervous system to effectors (muscles and glands)



What is a reflex?



What is a reflex?

- Automatic response to a stimulus by the body
- Involuntary - does not involve conscious part of the brain
- Protective mechanism



Give some examples of reflexes



Give some examples of reflexes

- **Withdrawal reflex** - pulling away e.g. initiated when touching a hot object to prevent burns
- **Blink reflex**
- **Pupil reflex** - pupils constrict to prevent damage to the eye by bright light



What does a reflex arc involve? (higher)



What does a reflex arc involve? (higher)

- Stimulus
- Receptor (sensory organ)
- Coordinator
- Effector
- Response



What is the role of the coordinator?
(higher)



What is the role of the coordinator? (higher)

Coordinates information from the receptors and transmits impulses to the effectors



Describe the reflex arc (higher)



Describe the reflex arc (**higher**)

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



Outline the function of a relay neurone (higher)



Outline the function of a relay neurone (higher)

Carries impulses from sensory neurones to motor neurones within the central nervous system



What is a synapse? (higher)



What is a synapse? (higher)

A small gap between neurones across which a nerve impulse is transmitted via neurotransmitters



Why is a reflex automatic?



Why is a reflex automatic?

Impulses do not travel through neurones
in the brain



Why is a reflex fast?



Why is a reflex fast?

Impulses must only cross through two synapses (which slow them down) in the spinal cord

