

GCSE Biology A (Gateway)

J247/01 B1-B3 and B7 Foundation (Foundation Tier)

Question Set 5

1

A boy picks up a hot plate and quickly drops it.

This is a reflex action.

- (a) Describe the sequence of events that happens in his nervous system during this reflex action.

The stimulus is detected by receptors in the skin. The impulse is sent along a sensory neurone to the spinal cord. The impulse is then sent along a motor neurone to the effect of which is the hand/arm muscle to drop the plate. (muscle contracts) [5]

The impulse is relayed to motor neurone via relay neuron located in spinal cord

- (b) Explain why it is important that this action is a reflex and not controlled consciously by the brain.

This reaction needs to be rapid to avoid further damage. Impulse travelling up to the brain would need to travel a longer distance and it takes time for the brain to decide and send appropriate action. Thus, the reaction time would take longer. [3]

Total Marks for Question Set 5: 8



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