

GCSE Biology B (Twenty First Century Science)
J257/01 Breadth in Biology (Foundation)

Question Set 19

Multiple Choice Questions

1. Reflexes help us to respond to stimuli. In a simple reflex, nerve impulses are passed along a pathway called a reflex arc.

The diagram in **Fig. 10.1** shows a reflex arc.

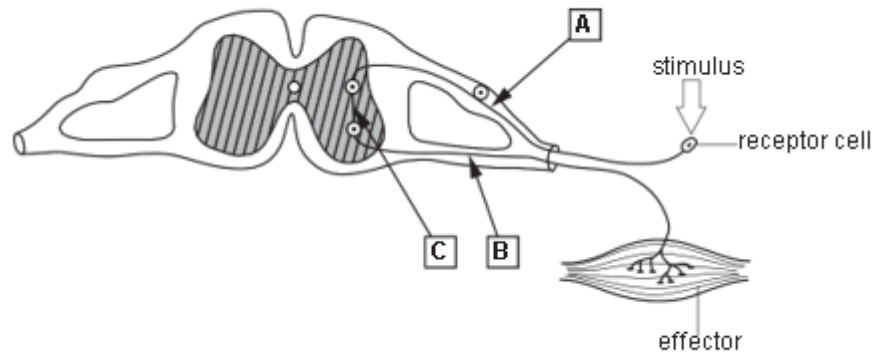


Fig. 10.1

- (a) Name the structures labelled **A**, **B** and **C**.

	Name of structure
A	<i>sensory neurone</i>
B	<i>motor neurone</i>
C	<i>relay neurone</i>

[3]

- (b) Write down **one** advantage of a reflex arc **not** involving the brain.

very quick response of body for protection

[1]

- (c) Two students want to investigate reflex actions.

They set up an experiment as shown in **Fig. 10.2**.

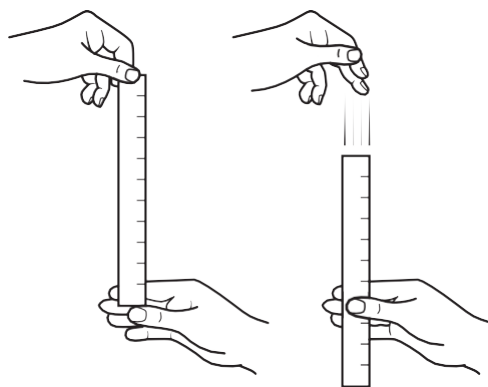


Fig.10.2

Each student decides to use a different method.

- Using a stop clock, student **A** measures the time it takes for the participant to catch the ruler.
- Student **B** measures the distance the ruler falls through the participant's hand

(i) Write down **one** reason why student **B**'s method is better than student **A**'s.

more accurate with less uncertainty as doesn't need to consider about the student's reaction time as well

[1]

(ii) Write down **two** variables that both students would need to keep the same.

- person who releases ruler - participant

[2]

(iii) Both students decide to repeat their experiment.

Explain why. *to increase the reliability by reducing the effect of any anomalies & calculating the average*

[1]

(d) (i) Some nerve impulses can travel at a speed of 119 m/s.

Which of the following shows 119 written in standard form?

Tick (✓) **one** box.

- | | |
|-------------------------|-------------------------------------|
| 1.19 × 10 ² | <input checked="" type="checkbox"/> |
| 1.19 × 10 ⁻² | <input type="checkbox"/> |
| 11.9 × 10 ¹ | <input type="checkbox"/> |
| 119 × 10 | <input type="checkbox"/> |

[1]

(ii) Which part of a neuron speeds up transmission of a nerve impulse?

Tick (✓) **one** box.

- | | |
|------------------|-------------------------------------|
| Axon | <input type="checkbox"/> |
| Fatty sheath | <input checked="" type="checkbox"/> |
| Neurotransmitter | <input type="checkbox"/> |
| Synapse | <input type="checkbox"/> |

[1]

Total Marks for Question Set 19: 10

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