

The human nervous system: practice questions

3 questions • 9 marks • mark scheme at the back

For AQA GCSE Combined Science: Trilogy 8464. **Higher tier** is only on the Higher paper.

Name

Total / 9

- 1** A person touches a hot object and their hand moves away without them thinking. [3 marks]
Describe the path taken by the nerve impulse in this reflex action.

- 2** A student measured her reaction time five times using a computer test. The results were [2 marks]
0.26 s, 0.24 s, 0.31 s, 0.27 s and 0.28 s. Calculate her mean reaction time.

Answer =

- 3** Describe how you could investigate the effect of a distraction, such as music, on a [4 marks]
person's reaction time using a ruler.

Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [3]

- impulse travels along the sensory neurone (from the receptor) to the CNS / spinal cord (1)
- impulse crosses a synapse to the relay neurone (1)
- impulse passes (across another synapse) to the motor neurone (1)
- motor neurone carries the impulse to the effector / muscle, which contracts (1)
- Max 3

2. [2]

- $0.26 + 0.24 + 0.31 + 0.27 + 0.28 = 1.36$ (1)
- $1.36 \div 5 = 0.27 \text{ s}$ (1) allow 0.272 s
- allow 1 mark for dividing their total by 5 if the addition is wrong

3. [4]

- partner holds ruler vertically and drops it without warning; the person catches it and the distance is read from the ruler (1)
- repeat with and without the distraction (1)
- control variables stated, such as the same person, the same hand and the same drop height (1)
- repeat several times and calculate a mean (for each condition) (1)
- allow: a shorter distance means a faster reaction