

Solutions

2.1 The regulation of the internal conditions of a cell or organism; to maintain optimum conditions for enzyme action/all cell functions, in response to internal and external changes.

2.2 Receptors; coordination centres; effectors.

2.3 Muscle – contracts; gland – secretes hormones.

3.1 Stimulus detected by receptors; electrical impulse passes along the sensory neurone; to the relay neurone in the CNS/spinal cord; along a motor neurone; to the effector (muscle), which contracts to give the response. Reflexes are automatic and rapid and do not involve the conscious brain.

3.2 When the impulse reaches the end of the neurone a chemical is released; the chemical diffuses across the gap/synapse; it triggers an electrical impulse in the next neurone.

3.3 With partner's hand in a standard position, drop a ruler between finger and thumb without warning and record the catch distance; repeat, e.g. 5 times, and take a mean, converting distance to reaction time; take measurements in silence as the control; repeat while the partner listens to music; controls: same person/hand, same drop height and ruler, same time of day, no practice effect – change the order of tests; compare the two mean reaction times and conclude.