7.2 Reflexes

Science understanding

Visual/spatial Verbal/linguistic

Reflexes are messages that travel from where they are received, along a sensory neurone to the spinal cord. Within the spinal cord, a relay neurone transmits the message straight back along motor neurones to the first place they were received. This causes a response.

Because reflexes do not have to pass all the way up to the brain and back, they are very fast. Reflexes also help protect you from danger. Examples of reflexes are: pulling your hand away from a hot object, blinking your eyes to stop something getting into them, and pulling your foot away after standing on a sharp object. A message is sent to the brain shortly afterwards. Only then can the brain register pain!

1 **Compare** a reflex action with normal stimulus–response reactions of the nervous system.

2 **Explain** why this makes the reflex action so much faster.

3 Use Figure 7.2.1 to demonstrate the path of a reflex action.

(a) **Identify** the pathway of motor neurones in red.

(b) **Identify** the relay neurone in green.

(c) **Identify** the pathway of the sensory neurones in blue.

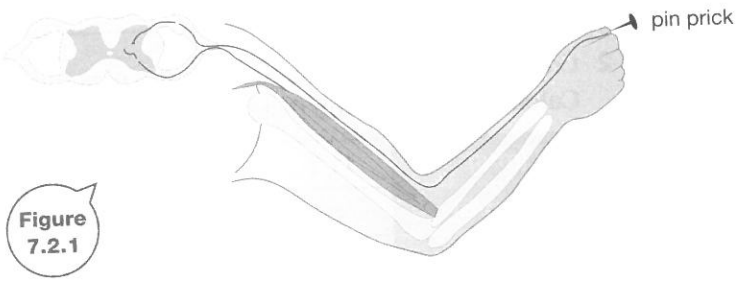

Figure 7.2.1

(d) Use arrows to **demonstrate** the direction of the stimulus.

4 **Explain** why you still feel the pain even after you have moved away from the problem.