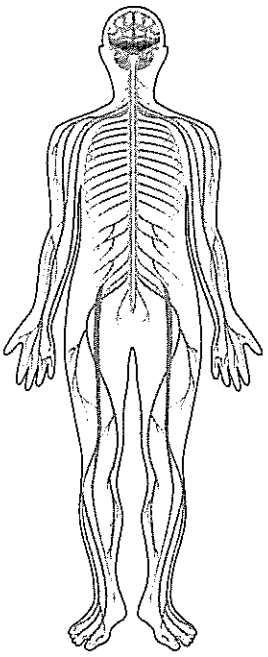
17 The Nervous System

Subject Outline terms and phrases	**central nervous system (CNS), peripheral nervous system (PNS), sensory neuron, interneuron, motor neuron, nerve pathway, synapse, neurotransmitter, reflex response**



1. (a) On the diagram label the **central nervous system (CNS)** and the **peripheral nervous system (PNS).**

   (b) State three functions of the CNS.

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   (c) Name the two parts of the PNS and state which part of the body each one controls.

   _____

   _____

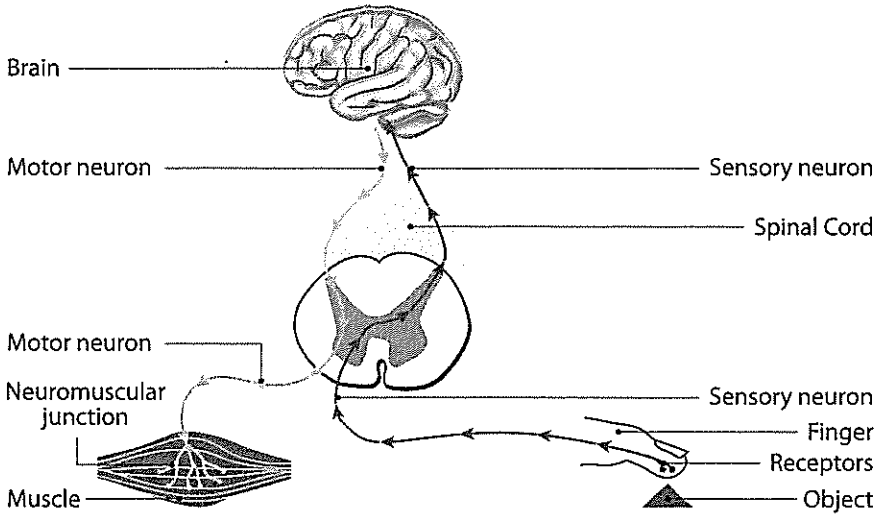
   _____

2. On the diagram below, label the following structures:
   cell body, dendrite, nucleus, axon, axon terminal

3. Complete the following table to show the structure and function of sensory neurons, interneurons, and motor neurons.

	sensory neuron	interneuron	motor neuron
unipolar or multipolar			
location	peripheral NS		
main role			
receives signal from	receptor		
sends signal to			

4. Use the following diagram to describe the structure of a nerve pathway from receptor to effector:



5. (a) What is a **synapse?**

(b) What is a **neurotransmitter?** Give two examples.

(c) Draw a labelled diagram showing a synapse with neurotransmitters.

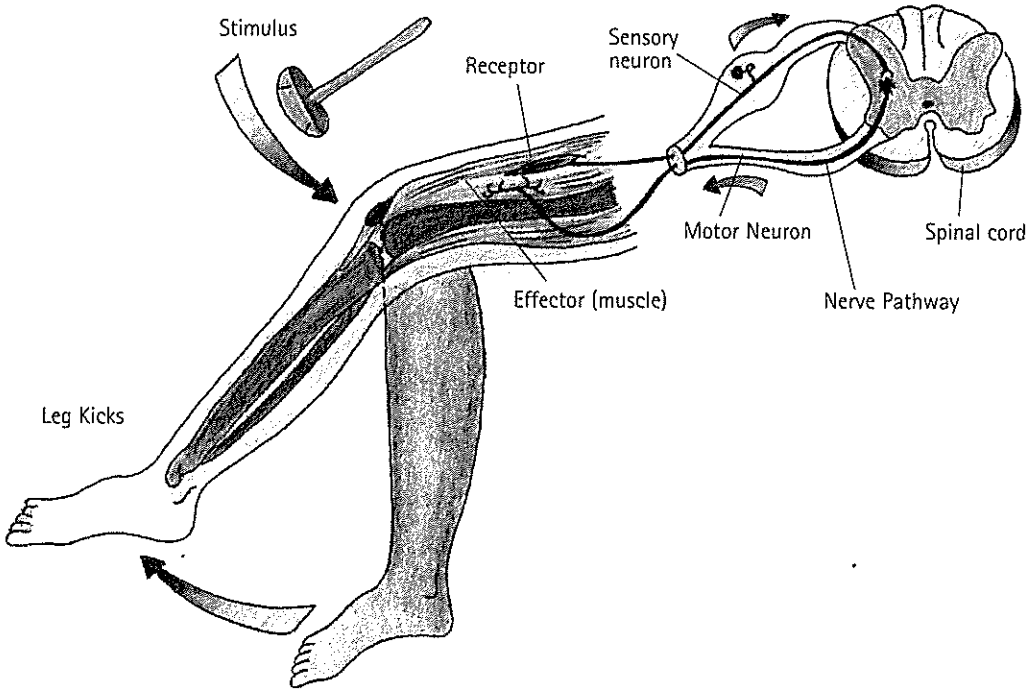
(d) (i) Why is it important that neurotransmitters do not remain in the synaptic cleft?

(d) (ii) How are neurotransmitters removed from the synaptic cleft?

6. (a) What is meant by the term **reflex response**?

(b) State three examples of a reflex response in humans.

7. By referring to the diagram below, describe the sequence of events from the stimulus to the reflex response.



8. What is the advantage to an individual of having the signal from a stimulus, such as heat from a flame, processed directly by the spinal cord, without involving the brain?