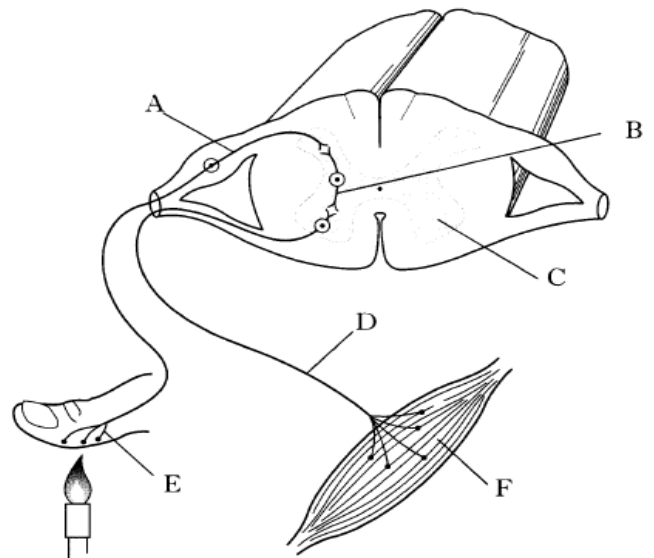


Key Area 2.2 - Homework 2

1. The diagram represents the structures involved in a reflex action which occurs when a finger touches a flame.



- (a) Complete the table below with the correct letters from the diagram to identify the stages of the reflex action and with a description of the missing stage.

KU2

<i>Stage</i>	<i>Letter</i>
Stimulus detected by sensory receptor	
Information sent along a sensory nerve cell	
	B
Impulse sent along motor nerve cell	
Response made by effector organ	

(b)

Some neurons found in area C may transmit impulses to another part of the Central Nervous System (CNS).

Name the part of the CNS which receives these impulses.

KU1

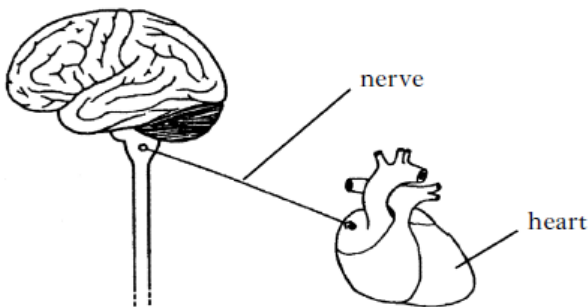
- (c) Describe the response that occurs at F.

KU1

- (d) What is the function of reflex actions?

KU1

2. The diagram below shows parts of the central nervous system (CNS) and a nerve to the heart.



a) Name the two parts, shown in the diagram, which make up the central nervous system (CNS).

1 _____
 2 _____ KU1

(b) Name the area, which controls heart rate. KU1

3. The grid below shows structures related to the nervous system KU1

A		B		C		D	
	relay nerve cell		muscle		motor nerve cell		sensory nerve cell

Complete the sequence below, using letters from the grid, to show the order of the structures through which a nerve impulse travels in a reflex action.

stimulus → touch receptor → _____ → _____ → _____ → _____ → response

4. The following table shows the average brain and body masses of several animals.

<i>Animal</i>	<i>Average brain mass (g)</i>	<i>Average body mass (g)</i>	<i>Ratio of brain : body mass</i>
Monkey	100	7 000	1 : 70
Kangaroo	56	35 000	1 : 625
Cat	30	3 300	1 : 110
Racoon	39	4 290	1 : 110
Squirrel	6	900	1 : 150
Frog	0.1	18	

(i) Complete the table to show the ratio of brain : body mass for the frog.

_____ : _____
 brain : body mass

(ii) Of the following animals, which has the smallest brain compared to its body mass?

Tick (✓) the correct box. KU1

Kangaroo

Cat

Racoon

Squirrel