1. The brain uses what percentage of the body's energy?

a) 2 per cent b) 10 per cent c) 20 per cent d) 50 per cent

Answer: C 20 per cent

The adult brain weighs between 1300-1400 grams, which represents about 3 per cent of our body's total weight, yet it uses 20 per cent of our body's energy. Relative to our body size, the human brain is bigger than that of any other animal.

2. What is not found in grey matter, a major component of the brain?

a) Dura mater b) Glial cells c) Nerve cells d) Capillaries

Answer: A Dura mater

Grey matter is made up of nerve cells (neurons) and capillaries held together by a network of glial cells, which provide support, protection and nutrition to neurons as well as help transmit electrical impulses from neuron to neuron. It is estimated that glial cells outnumber neurons by about 10 to 1. That’s a lot given that estimates of neurons range from 10 to 100 billion or even more! Dura mater is one of three membranes (meninges) that physically protect the brain.

3. Which statement is true of grey matter?

a) It is the primary source of intelligence b) It is located mainly in the frontal lobes c) It processes information d) It is the dominant type of nervous tissue in the brain

Answer: C it processes information

Grey matter, which makes up about 40 per cent of the brain, is responsible for processing information. White matter, which makes up about 60 per cent of the brain, is important for transmitting information from one part of the central nervous system to another. While we often associate the phrase 'using our grey matter' for intelligence, recent research has found that both grey and white matter is important for intellectual skill. Men use more grey matter from right across the brain for intellectual functions, whereas women use more white matter. Most of the white and grey matter used by women is located in the frontal lobes.

4. What is not a part of the brain?

a) Cerebellum b) Brain stem c) Foramen magnum d) Cerebrum

Answer: C Foramen magnum

The brain is made up of three primary areas - the forebrain, midbrain and hindbrain. The forebrain consists of the cerebrum and the top part of the brainstem. The midbrain, made up of the middle part of the brainstem, joins the forebrain to the hindbrain. The hindbrain includes the bottom part of the brain stem and the cerebellum. The foramen magnum is the hole in the base of the skull where the bottom of the brain stem, the medulla oblongata, meets the spinal cord.

5. Which area of the brain is not part of the cerebral cortex?

a) Frontal lobe b) Cerebellum c) Parietal lobe d) Temporal lobe

Answer: B Cerebellum

The cerebral cortex, the largest part of the cerebrum, is divided into four areas - the frontal, temporal, parietal and occipital lobes. The cerebral cortex is responsible for high level skills such as intelligence, personality and planning as well as sensory perception and motor function. The cerebellum, which is the second largest part of the brain, sits at the base of the brain. It is very important for motor coordination, posture and balance. A third part of the brain, the brain stem controls many of the body's automatic functions.

6. Which part of the brain moves the right side of your body?

a) Left parietal lobe b) Left frontal lobe c) Right temporal lobe d) Right frontal lobe

Answer: B Left frontal lobe

The primary motor area is located at the back of the frontal lobe where it joins the parietal lobe. Stimulation of neurons on the left side of this area of the brain will result in movement on the right side of your body and vice versa.

7. Which part of the brain is important for language comprehension?

a) Wernicke's area b) Circle of Willis c) Hersch's gyrus d) Schwann's cells

Answer: A Wernicke's area

Named after German neurologist Carl Wernicke, this small area located on the left hemisphere of the brain where the parietal and temporal lobes meet, is important for the comprehension of language. It is connected to Broca's area named after French surgeon Paul Broca, which is also involved in language comprehension and in the production of meaningful sentences.

8. Which task would not be affected by damage to the right parietal lobe?

a) Recognising shapes b) Dressing c) Doing arithmetic d) Writing

Answer: D Writing

The parietal lobe, located behind the frontal lobe, is responsible for integrating sensory and visual information and is critical to how we perceive our world. Damage to right parietal lobe can cause problems recognising the left side of our body, planning basic tasks such as how to dress ourselves, read maps, draw shapes, recognise objects or do arithmetic. Damage to the left parietal lobe causes problems such as telling left from right, an inability to write or count and speech disorders.

9. What part of the brain stem regulates your heartbeat?

a) Pons b) Medulla c) Hypothalamus d) Thalamus

Answer: B Medulla

The medulla oblongata is located in the lower part of the brain stem and is responsible for maintaining basic human functions that keep us alive such as regulating breathing, heartbeat and blood pressure. The pons also plays a role regulating breathing. The thalamus relays sensory information such as pain and temperature from the spinal cord and cerebellum to the cerebral cortex, while the hypothalamus controls functions such as regulating body temperature and release of hormones.

10. Which cranial nerve allows us to chew food?

a) Facial b) Abducens c) Trochlear d) Trigeminal

Answer: D Trigeminal nerve

There are 12 cranial nerves, 10 of which emerge directly from the brain stem. These nerves are responsible for a number of sensory functions - sight, hearing, smell, taste - and innervate muscles in the face and throat that control functions such as eye and tongue movement, chewing, swallowing and facial expression. The fifth cranial nerve, also called the trigeminal nerve, supplies the facial muscles used for chewing whereas the seventh cranial nerve, also called the facial nerve, supplies the muscles used in facial expressions such as smiling.