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| *Human Perspectives ATAR Units 3 & 4* |

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Worksheet 4.1 Central nervous system

Using Chapter 4 of *Human Perspectives ATAR Units 3 & 4*, complete the following activities.

**1** Explain the difference between grey matter and white matter.

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**2** Compare the location of grey and white matter in the brain with their location in the spinal cord. Include a labelled diagram in your answer.

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**3** The white matter of the brain is made up of bundles of myelinated nerve fibres called tracts.

**a** What is myelin?

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**b** What is a nerve fibre?

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**c** List the three types of tracts in the white matter of the brain.

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**4** Sketch a diagram of the brain showing the cerebrum, cerebellum, medulla oblongata, pituitary gland and hypothalamus.

**5** Complete the following table to summarise the functions of the major parts of the brain.

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| **Part of brain Function** |
| Cerebrum |  |
| Cerebellum |  |
| Hypothalamus |  |
| Medulla oblongata |  |

**6** Make a sketch of part of the cerebrum to show the difference between a convolution (gyrus), a sulcus and a fissure.

**7** There are three types of functional areas in the cerebral cortex of the brain: sensory, motor and association. In the table below, summarise the differences between them.

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|  | **Sensory areas** | **Motor areas** | **Association areas** |
| Function |  |  |  |

**8** From where in the body does the cerebellum receive input to enable it to carry out its functions?

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**9** Describe how both the brain and spinal cord are protected from injury. Why is it so important that these organs remain injury free?

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**10** Describe the structure of the spinal cord and illustrate your description with a diagram.

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