# G10 Science: Class 6 Homework

1. Sketch and label a neuron. **[7 marks]**

2. What is Multiple Sclerosis and list 3 symptoms of MS. **[4 marks]**

3. It has been suggested that everyone should be required to be an organ donor. What are the arguments for and against this suggestion? Where do you stand? Explain your position. **[4 marks]**

4. Your friend tells you that she has had special training that helps her hold her breath for long periods of time. She claims that she can swim underwater for almost 30 minutes. What is your reaction? Explain why. **[3 marks]**

5. Imagine that doctors identified a disease that causes the smooth muscles in the human body to stop working. What consequences would this disease have for the person suffering from it? **[3 marks]**

6. As you travel to high altitudes, the concentration of gases in the air, including oxygen decreases.
    a. What effect does the environment have on your breathing? **[2 marks]**

    b. How might a runner who trained at sea level perform in a race taking place at 2000m above sea level? Explain. **[2 marks]**

7. Compare the function of stem, leaf and roots in plants. **[6 marks]**

8. Compare the structure and function of xylem and phloem. **[4 marks]**

9. Match the following terms with its definition: **[11 marks]**

| | | |
|---|---|---|
| | Stomata | a) A layer of wax on the surface of leaves |
| | Cuticle | b) A structure that controls the size of openings |
| | Chloroplast | c) An opening that allows for the exchange of gases |
| | Guard Cell | d) An organelle that carries out photosynthesis |
| | Xylem | e) Responsible for the uptake of water, nutrients and minerals from the soil |
| | Phloem | f) A process that creates glucose and oxygen |
| | Photosynthesis | g) A pigment inside the thylakoid membranes that absorbs light energy |
| | Chlorophyll | h) Provides surface area for photosynthesis to occur |
| | Stem | i) Hollow, tube-shaped structures that carry water upwards from roots to leaves |
| | Leaf | j) Living tissue that carries water, nutrients and hormones upwards and downwards |
| | Roots | k) Supports the shape and structure of the plant |

10. Why does the spongy mesophyll have empty space? **[1 mark]**

11. Describe three adaptations of leaves to help the plant undergo photosynthesis. **[3 marks]**

12. Potato plants store starch. We use this starch as food. In which part of the plant do potatoes store their starch? Where does this starch come from? **[2 marks]**

13. Explain how each plant tissue has a similar function to the organ or organ system in the human body.

    a) Dermal Tissue and Human Skin **[2 marks]**

    b) Vascular Tissue and the Circulatory System **[2 marks]**

14. Label the following diagrams below as dermal tissue, vascular tissue or ground tissue. **[9 marks]**