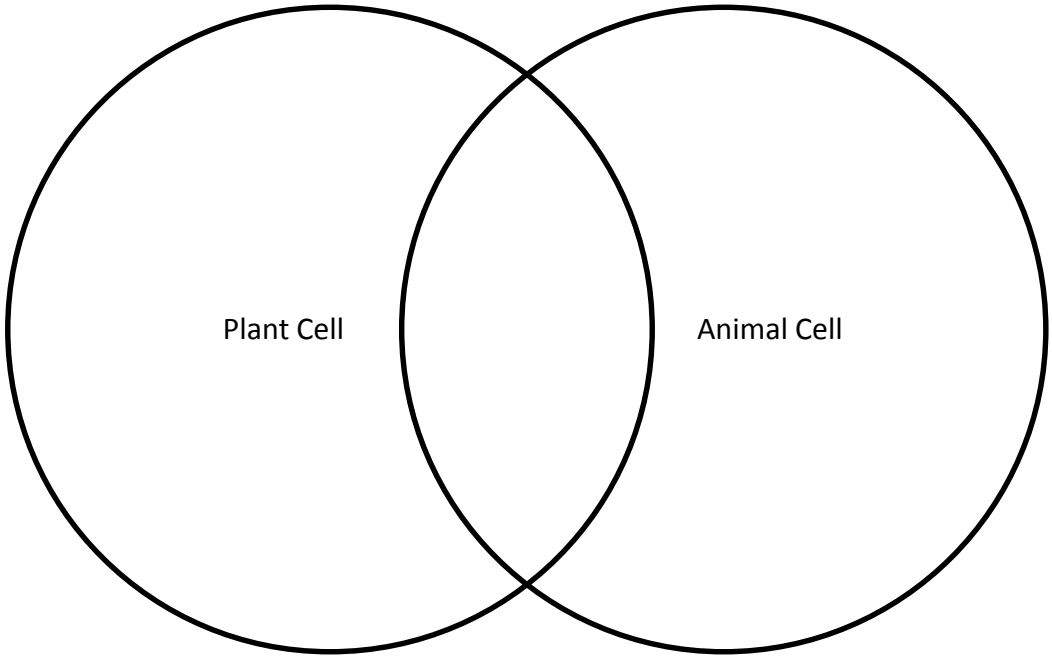
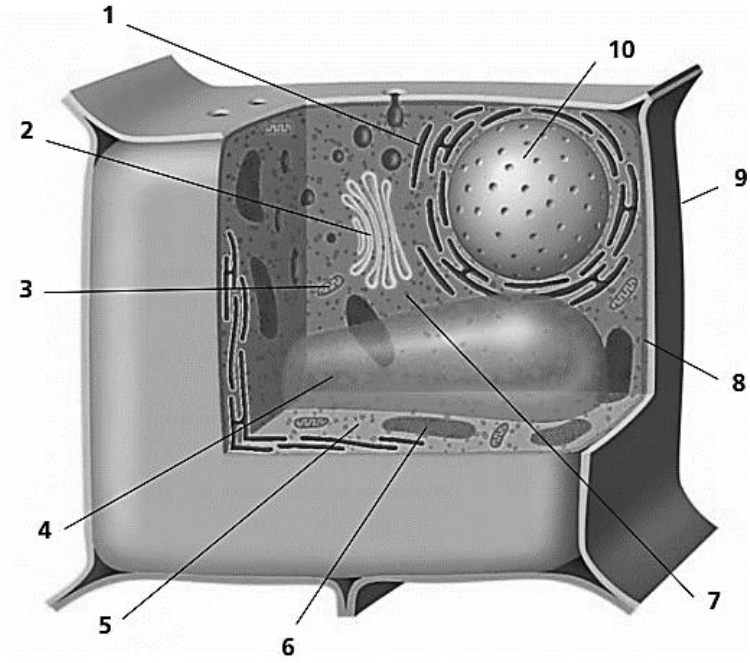
G8 Science: Class 2 Homework

1. Using the Venn Diagram below, list the similarities and differences between animal cells and plant cells. **[6 marks]**



2. Label the following cell. Is this a plant cell or animal cell? **[11 marks]**



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Plant or Animal Cell? _____

3. List two advantages and two disadvantages of a having a selective permeable membrane. **[4 marks]**

4. What does the term “concentration gradient” mean? **[2 marks]**

5. Give two examples in your everyday experience where diffusion occurs. Can you think of a situation where diffusion might be harmful? **[3 marks]**

6. Explain the process of osmosis. Use a diagram of a red blood cell to explain osmosis. **[4 marks]**

7. What organelle in the plant cell makes turgor pressure possible? Describe the role of this organelle. **[3 marks]**

8. Provide one similarity and two differences for flagella and cilia. **[3 marks]**

9. Provide one similarity and two differences for diffusion and osmosis. **[3 marks]**

10. Predict what might happen to an animal cell if it was placed in a beaker of distilled water. **[3 marks]**

11. Why do plant cells not burst when water diffuses into them? **[2 marks]**

12. What would be the impact on the environment if an artificial virus that attacked and destroyed chloroplasts in plant cells was accidently released by a research company? **[3 marks]**

13. When you put groceries away, you forgot to put the celery in the refrigerator. When you found it on the counter, it was soft and limp. How could osmosis help the celery? Explain what you would do and why it would work. **[3 marks]**

14. How do diffusion and osmosis limit the size of a cell? **[2 marks]**

15. What would happen if cell membranes suddenly became permeable instead of selectively permeable? Could cells remain alive? Explain your thinking. **[2 marks]**

16. A cell encounters a large piece of food. Use a simple diagram to show how it might move the food particle into the cell's cytoplasm. What is this process called and include labels in your diagram. **[7 marks]**