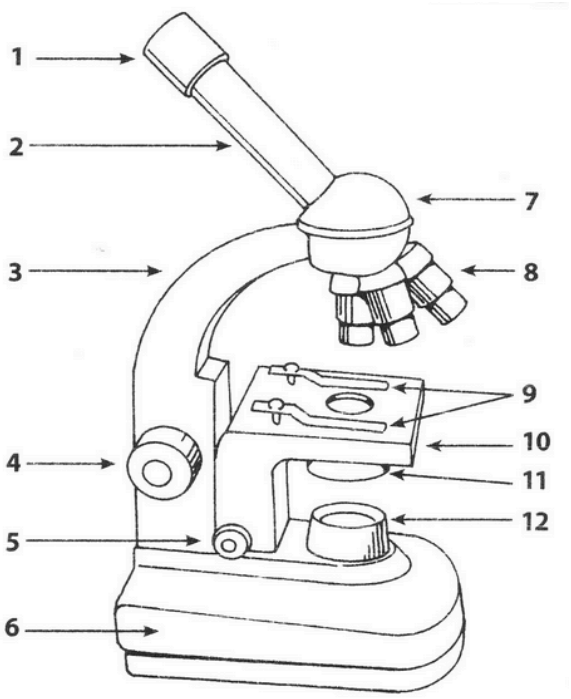
G8 Science: Class 1 Homework

1. What does the cell theory state? **[3 marks]**

2. Label the following compound microscope on the diagram **AND** explain its function in the table below. **[24 marks]**



	Name	Function
1		
2		
3		
4		
5		

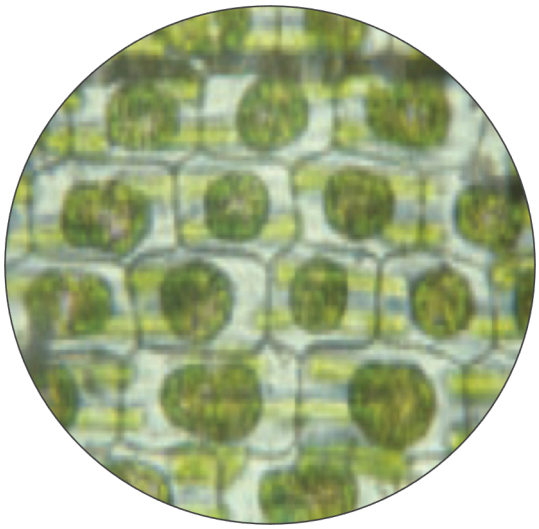
6		
7		
8		
9		
10		
11		
12		

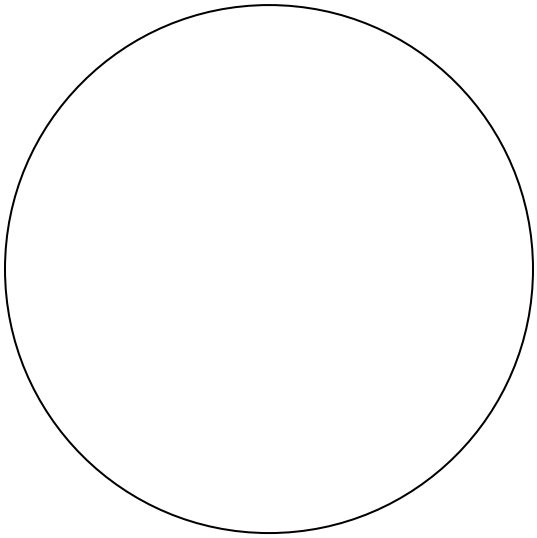
3. A scientist will first focus on a specimen using the low-power objective lens, and then move to a high magnification. Explain why. **[3 marks]**

4. When observing a specimen under medium power, which adjustment knob should be used to focus the image? Why? **[2 marks]**

5. Explain two safety precautions when using a compound microscope. **[2 marks]**

6. Create a biological drawing of the plants cells shown below. Assume that the photograph was taken through a microscope with a total magnification of 400X. Be sure to add a title, magnification level and label three components of the cell using horizontal lines. **[5 marks]**





7. Besides the name of the electron microscopes, what is the main difference between TEM and SEM? **[2 marks]**

8. Provide two advantages and two disadvantages of using an electron microscope. **[4 marks]**

9. Why was the invention of the electron microscope significant to our understanding of cells? **[2 marks]**

10. Calculate the total magnification for a microscope that has a 10X ocular lens and a 20X objective lens. **[2 marks]**

11. What power objective lens should you use if you want to magnify a specimen 300X. Assume that the ocular lens is 10X. **[2 marks]**

12. Why is the compound microscope limited to 1500X magnification? **[3 marks]**