

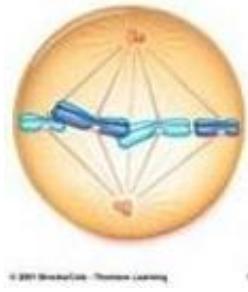
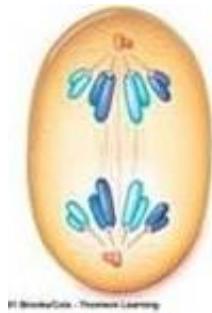
G10 Science: Class 4 Homework

1. What are the most obvious differences between prokaryotic and eukaryotic cells? **[4 marks]**
 2. What are the main differences between an animal cell and plant cell? **[4 marks]**
 3. What is the plant cell wall made of and what is its function? **[2 marks]**
 4. Plant cells can make their own “food” – glucose. Why do plant cells have mitochondria? **[3 marks]**
 5. Name three reasons for cell division. **[3 marks]**
 6. Why do cells divide rather than get bigger as an organism grows? **[2 marks]**

7. Which stage of the cell cycle corresponds to each of the descriptions below? [6 marks]

A new cell wall begins to form	
The membrane of the nucleus dissolves	
Daughter chromosomes begin to separate	
The cell begins to pinch together along its centre	
Thick chromosome threads are visible in two distinct regions of the cell	
The cell grows and copies its DNA	

8. Label the following diagrams with the correct phase in mitosis: [4 marks]



9. Some biology books used to describe interphase as the “resting phase”. Based on what you know, what is wrong with this term? [2 marks]

10. Some antibiotics interfere with a bacterial cell’s ability to copy DNA.

a. How would this type of antibiotic be able to stop a bacterial infection? [2 marks]

b. These antibiotics do not have any effect on the DNA replication of human cells. What makes bacterial cells different from human cells? **[2 marks]**

c. Why is it important that the antibiotic does not affect human cells? **[2 marks]**

11. a. What is a carcinogen? **[1 mark]**

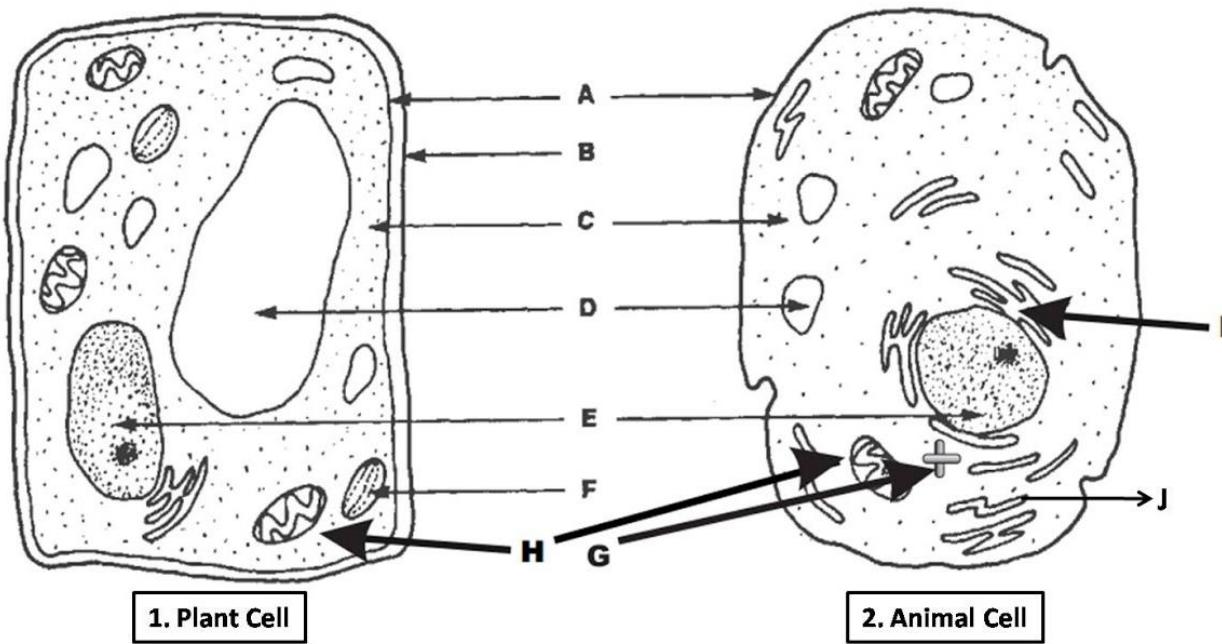
b. List three carcinogens that you know of in everyday life. **[3 marks]**

12. How is the behavior of cancer cells different from normal cells? **[3 marks]**

13. Why might it be easy to overlook cancer in its early stages? **[3 marks]**

14. Why might a doctor be concerned about finding cancer cells in a patient's blood? **[2 marks]**

15. Label the following diagram and describe the function of each organelle. [20 marks]



	Organelle	Function
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		