MCC Biology **Name** _____
Chapter 12 Guided Reading Assignment

1. Compare and contrast the role of cell division in unicellular and multicellular organisms.

2. Define the following terms:
   a. Genome
   b. Chromosomes
   c. Somatic cells
   d. Gametes
   e. Chromatin
   f. Sister chromatids
   g. Centromere
   h. Mitosis
   i. Cytokinesis
   j. Meiosis

3. List the activities of the cell cycle:
   a. Mitotic phase
   b. Interphase
   c. G1 phase
   d. G2 phase
   e. S phase

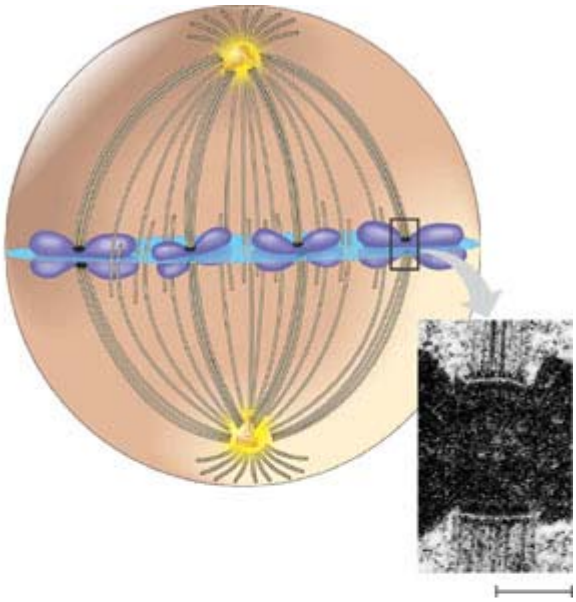
4. Define the following terms:
   a. Mitotic spindle
   b. Centrosome

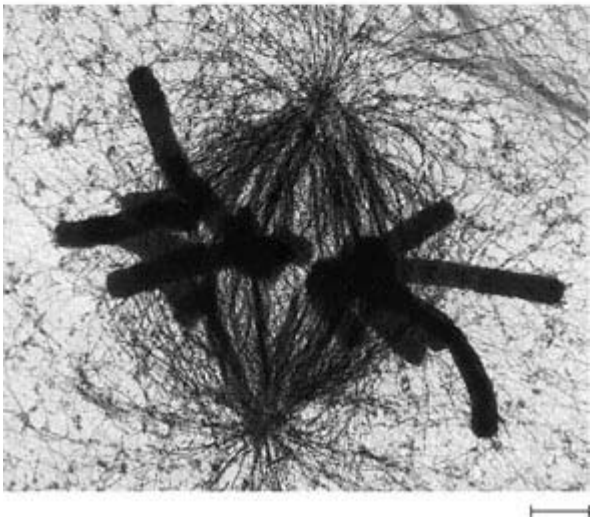
c. Microtubule organizing center

d. Aster

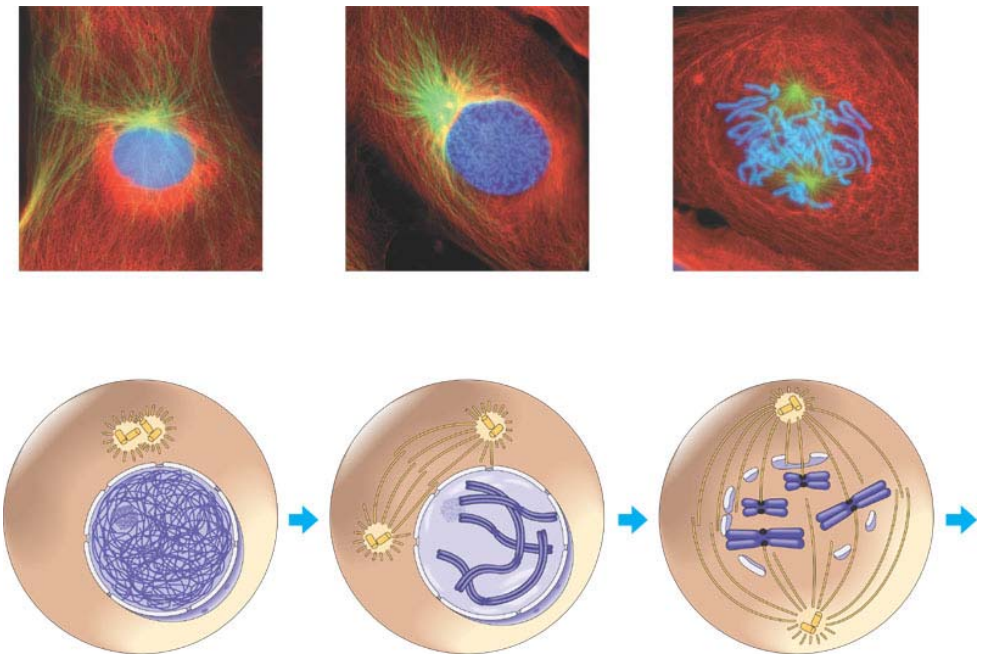
e. Kinetochore

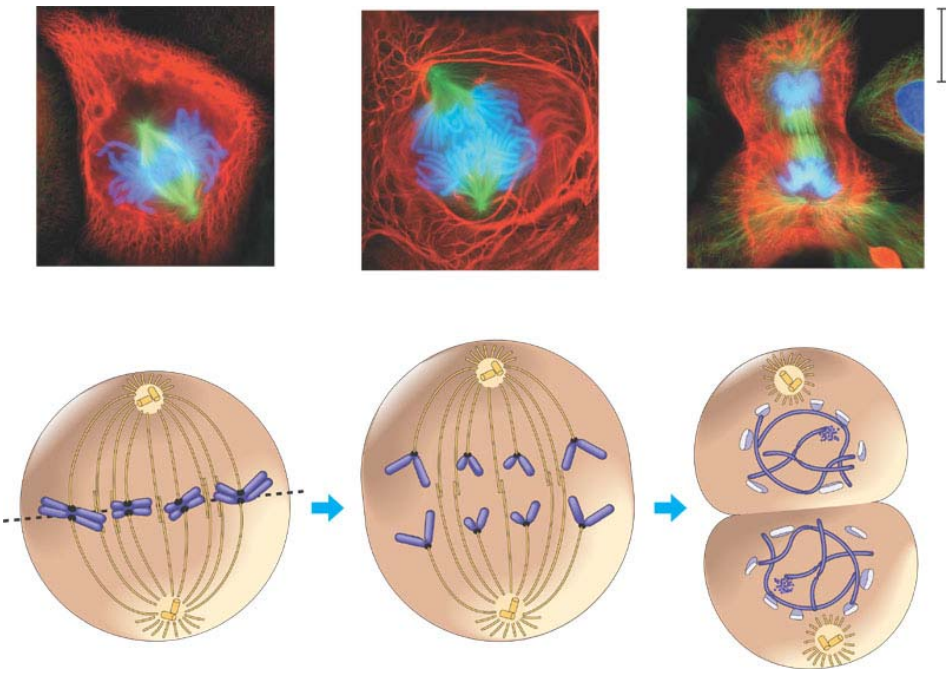
f. Label below:





5. Label the diagram below:

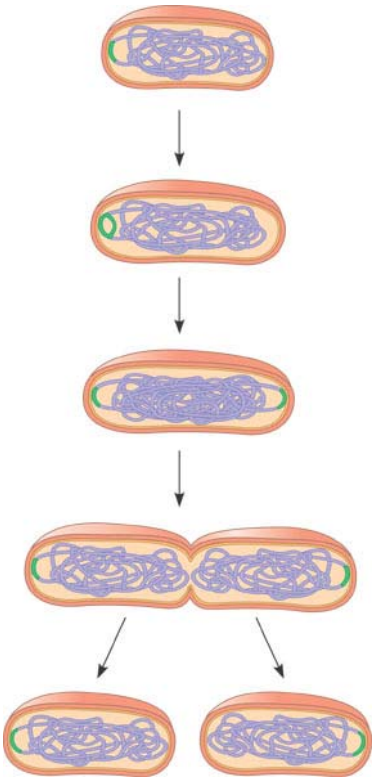




6. Describe the experiment concerning the movement of microtubules during mitosis and its results.

7. Contrast cytokinesis in plant and animal cells.

8. Define binary fission and label the diagram below:



9. Discuss the hypothetical evolution of mitosis.

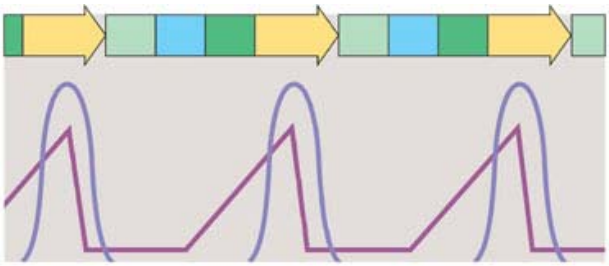
10. What is the cell cycle control system and how do checkpoints play into this?

11. What is a cyclin and what does it activate?

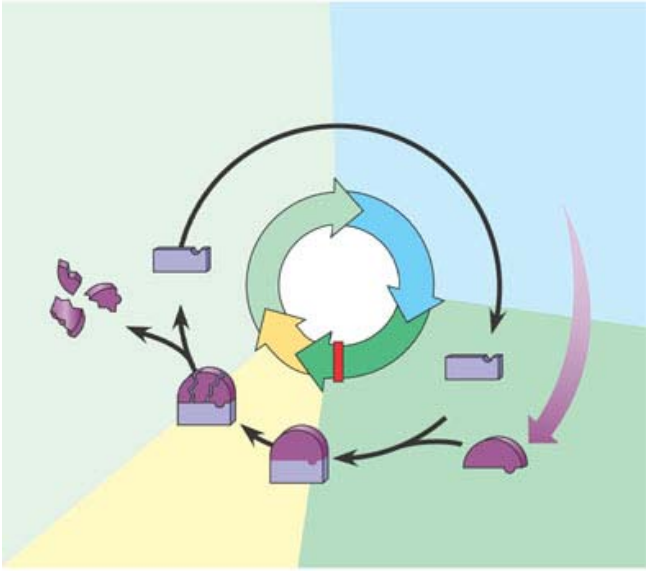
12. What are Cdk's?

13. What does MPF stand for and what does it promote?

14. Label the diagram below illustrating the molecular control of the cell cycle?



(a)



(b)

15. What is a growth factor?

16. What is density-dependent inhibition?

17. What is anchorage dependence?

18. Define the following terms:
    a. Transformation

    b. Benign tumor

    c. Malignant tumor

    d. metastasis