Bio I
Activity: Diagramming Mitosis

Procedure

1. Examine the materials on the middle table. Select an object to represent each of the following: chromatin, chromosomes, centrioles, spindle fibers, nuclear membrane, and plasma membrane. Colored pencils may be used to represent some of the components. Fill in the chart below to use as a key.

Object	Component of Mitosis	Object	Component of Mitosis
Plasma membrane			*Nuclear membrane*
Chromatin			*Spindle fibers*
Chromosomes			*Centrioles*

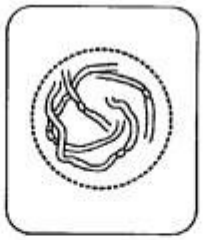
2. Using the blue sheet of construction paper, diagram each stage of the cell cycle, one at a time.
3. Write a short summary in the table below to explain what is occurring.
4. Once the particular stage has been diagramed and explained, raise your hand and I will check your work. You will be required to explain to me what is occurring in your diagram. *Only create one stage at a time*! **Please be patient in this process.**
5. Repeat steps 2-4 until every stage of the cell cycle has been diagramed and you have been checked off for each stage.

Stage	Explanation	Approval
Interphase *(G_1, S, and G_2)*		
Prophase		
Metaphase		
Anaphase		
Telophase		
Cytokinesis		

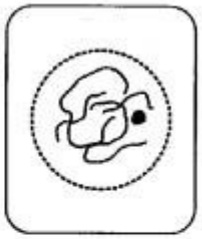
Analysis

1. The drawings A-E show stages of mitosis in an animal cell. Identify each stage below. Be careful to analyze every component present.

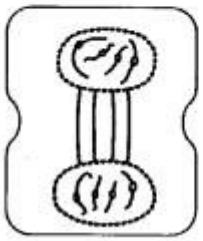
A



B



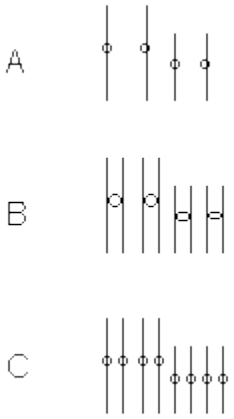
C



D

E

2. Examine the diagrams below and answer the following questions for each:
   - How many chromosomes are there in each of the three diagrams below?
   - How many chromatids?
   - How many homologous pairs?
   - How many centromeres?



3. What is the purpose of Interphase? Mitosis? Cytokinesis?

4. Why does DNA replication occur aside from the objective of making new DNA? What is the purpose?