

Name \_\_\_\_\_

## Modeling Mitosis

**Problem:** To demonstrate that cells repeatedly divide to make more cells for growth and repair.

**Background Information:** Mitosis is a process of cell division which results in the production of two daughter cells from a single parent cell. **The daughter cells are identical to one another and to the original parent cell.** There are 5 phases of mitosis: interphase, prophase, metaphase, anaphase, telophase; followed by cytokinesis.

### Materials:

6 chocolate cream filled cookies	Ice cream sprinkles
Map pencils	

### Procedure:

1. Twist the cookies apart very carefully so that you have 5 sides with cream on them, and 5 sides without cream.
2. The cookie & cream will represent a cell; the ice cream sprinkles will represent chromosome pairs.
3. Use the cookie and the sprinkles to make models of the following phases of cell mitosis:
  - Interphase
  - Prophase
  - Metaphase
  - Anaphase
  - Telophase
  - Cytokinesis
4. Use different colors of sprinkles to represent different chromosome pairs.
5. Have your teacher check your models.
6. Diagram & label your models in the data section.

Teacher Initials



Data:

Phase of Mitosis	Diagram	Description
Interphase		
Prophase		
Metaphase		
Anaphase		
Telophase		
Cytokinesis		

**Questions & Conclusions:**

1. List & describe 3 limitations of this model:

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

3 \_\_\_\_\_

\_\_\_\_\_

2. Mitosis occurs by in a step by step sequence. Predict what would happen if a step was missed or the sequence got out of order. Explain your answer.

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