

Name _____

Date _____

Mitosis Cookies Activity

As you know, mitosis is the process of cellular division. Nearly all types of cells undergo mitosis. Mitosis is the means by which organisms grow and repair damaged tissues. In asexually reproducing species, such as bacteria, mitosis is also the means of reproduction.

Mitosis is broken down into 5 phases: Interphase, Prophase, Metaphase, Anaphase, and Telophase. Mitosis results in the production of two daughter cells, each containing identical genetic material, barring mutations during the process of DNA replication.

Your assignment is to illustrate the 5 phases of mitosis, in order, and show them to your teacher.

Procedure:

1. Get 5 cookies from your teacher.
2. Twist the cookies apart so you have 5 sides with icing on them, and 5 sides without icing.
3. Set un-iced ends aside (mouth optional).
4. Get 36 assorted colored sprinkles (3 colors, 12 of each color), these will be used to represent the chromosome pairs.
5. Using the icing end of each cookie as a background, illustrate the 5 phases of mitosis from interphase through telophase.
6. Place the pairs of sprinkles on the icing, as you think the chromosome pairs would look at each of the 5 stages of mitosis.
7. When you have completed the exercise, have your teacher come over and check your mitosis cookies for accuracy (2 points for each stage).
8. Once your cookies have been checked off you may eat them.
9. Oh yeah, don't forget to complete the questions on the back about mitosis.

1. During which phase of mitosis do the sister chromatids split apart and move toward the poles of the cell?

2. During which phase of mitosis does the nuclear membrane reappear around the newly formed sets of chromosomes?

3. When are the chromosomes replicated?

4. From what structures do the spindles originate?

5. What are the spindles made of?

6. What is the difference between cytokinesis in plant and animal cells?

7. What are the similarities between this activity and mitosis?

8. What are the differences between this activity and mitosis?
