

CELL DIVISION WEBQUEST

Mitosis Tutorial

<http://www.cellsalive.com/mitosis.htm>

Read the text on this page. Once done, click on the red button on the top to view the animation. You can slow down the animation by clicking step by step through the phases.

1. List the stages of mitosis

2. From the readings, which stage does the following occur...
 - a. Chromatin condenses into chromosomes
 - b. Chromosomes align in center of cell.
 - c. Longest part of the cell cycle.
 - d. Nuclear envelope breaks down.
 - e. Cell is cleaved into two new daughter cells.
 - f. Daughter chromosomes arrive at the poles.

Watch the animation carefully.

3. The colored chromosomes represent chromatids. There are two of each color because one is an exact duplicate of the other.
 - a. How many chromosomes are visible at the beginning of mitosis?
 - b. How many are in each daughter cell at the end of mitosis?
 - c. The little green T shaped things on the cell are centrioles. What happens to the centrioles during mitosis?

Meiosis Tutorial

<http://www.sumanasinc.com/webcontent/animations/content/meiosis.html>

Read the introduction, then click on the "Step-Through" button. In the bottom left corner, click the play arrow to go through the animations. Read the text on the right during each step. When done, click on the "Q" in the bottom right corner and answer the included questions. Place your answers below...

1. _____
2. _____
3. _____
4. _____

Mitosis vs. Meiosis

<http://www.pbs.org/wgbh/nova/body/how-cells-divide.html>

Click on "Launch Interactive"

After viewing the animation, fill out the chart below, by placing a check in the box or boxes to indicate which the event occurs in (some events might have checks for both mitosis and meiosis).

	<u>Meiosis</u>	<u>Mitosis</u>
Two rounds of cell division		
Centrioles appear		
Chromosomes pair up		
Spindle fibers form		
Cytokinesis occurs		
Four total daughter cells		

Onion Root Tip - Online Activity

http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html

Read the introduction, then click the "next" button multiple times.

You will have 36 cells to classify. When you're finished, record your data in the chart below.

	INTERPHASE	PROPHASE	METAPHASE	ANAPHASE	TELOPHASE	Total
Number of cells						36
Percent of cells (calculate: number of cells divided by total cells x 100)						100%

The Cell Cycle Tutorial

http://nobelprize.org/educational_games/medicine/2001/cellcycle.html

Interphase: the time between when a cell is formed and mitosis is not just a resting time, but a complicated period that involves many activities in the cell.

This is a neat site that allows you to control the activities in the cell that help the cell divide. To begin, hit the "Enter" button...

Follow the directions and try your best. Pay attention to what you do wrong and try to improve each round...

1. What occurs during the G1 phase?
2. What occurs during the S phase?
3. What occurs during the G2 phase?
4. To prove you got through to the end of this challenge, explain, using terminology from this unit, what the animation is about at the end of the activity: