

Mitosis and Meiosis -- Internet Lesson

In this internet lesson, you will review the steps of mitosis and meiosis and view video simulations of cell division. You will also view an onion root tip and calculate the percentage of cells at each of the stages of cell division.

Mitosis Tutorial

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

On the left side of the screen is a navigation bar, click on the link to "MITOSIS" Read the text on this page and view the animation, you can slow down the video by clicking step by step through the phases.

1. List the stages of mitosis
2. Which stage does the following occur

Chromatin condenses into chromosomes

Chromosomes align in center of cell.

Longest part of the cell cycle.

Nuclear envelope breaks down.

Cell is cleaved into two new daughter cells.

Daughter chromosomes arrive at the poles.

Watch the video carefully.

3. The colored chromosomes represent chromatids. There are two of each color because one is an exact duplicate of the other.

--How many chromosomes are visible at the beginning of mitosis?

-- How many are in each daughter cell at the end of mitosis?

The little green T shaped things on the cell are centrioles.

-- What happens to the centrioles during mitosis?

Meiosis Tutorial

http://www.biology.arizona.edu/cell_bio/tutorials/meiosis/main.html

See the Contents: You will browse through each topic.

Part 1: Reproduction

1. Give an example of asexual reproduction.
2. What is a clone?
3. Name the two types of gametes produced by meiosis.

(click the "next" button)

Part 2: Chromosomes in a Diploid Cell

4. What is the diploid chromosome number for humans?

5. Egg and sperm cells are [haploid / diploid]

(click the "next" button)

Part 3: Meiosis 1 and Meiosis 2

View the meiosis 1 and 2 animation

12. At the end of meiosis 2, each cell contains how many chromosomes?

(click the "next" button)

Part 4: A Review of Meiosis

13. Name 2 errors that can occur during meiosis.

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.

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 %

Did you forget a calculator -- no problem. Go to www.calculator.com and click on the "fractions" calculator. A window with a virtual calculator will open and you can do the math from there.