Mitosis

In this 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 .

I. Mitosis Tutorial

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

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

Prophase
Pro-metaphase
Metaphase
Anaphase
Telophase

2. Which stage does the following occur

Chromatin condenses into chromosomes	Prophase
Chromosomes align in center of cell.	Metaphase
Longest part of the cell cycle.	Interphase
Nuclear envelope breaks down.	Prophase
Cell is cleaved into two new daughter cells.	Telophase
Daughter chromosomes arrive at the poles.	Telophase

Watch the video carefully.

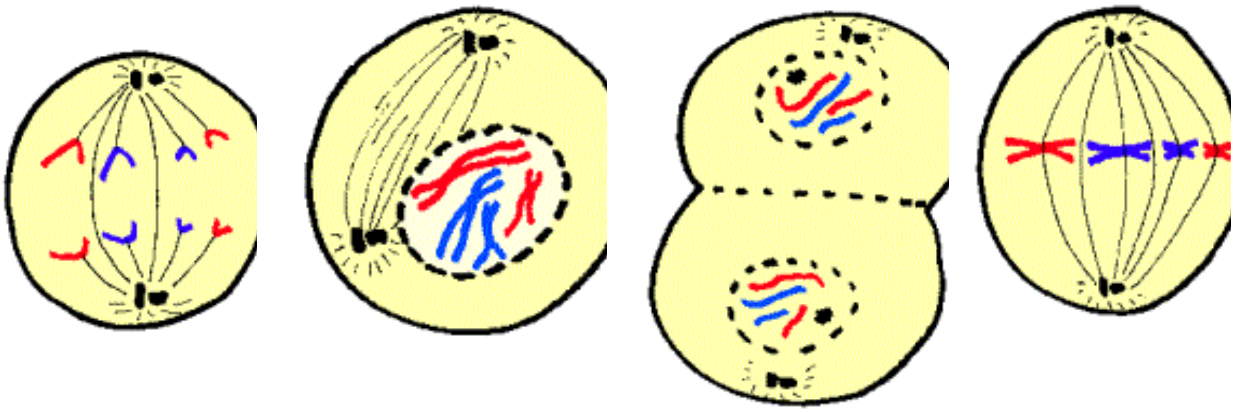
3. The colored chromosomes represent chromatids. There are two of each color because one is an exact duplicate of the other.

--How many chromosomes are visible at the beginning of mitosis? 4
--How many are in each daughter cell at the end of mitosis? 4
The little green T shaped things on the cell are centrioles.

-- What happens to the centrioles during mitosis? The centriole is copied and the two move to opposite poles. From these the microtubules, kineticore and nonkineticore, will form.

4. Identify the stages of these cells:

Anaphase Prophase Teleophase Metaphase



II. Onion Root Tip - Online Activity

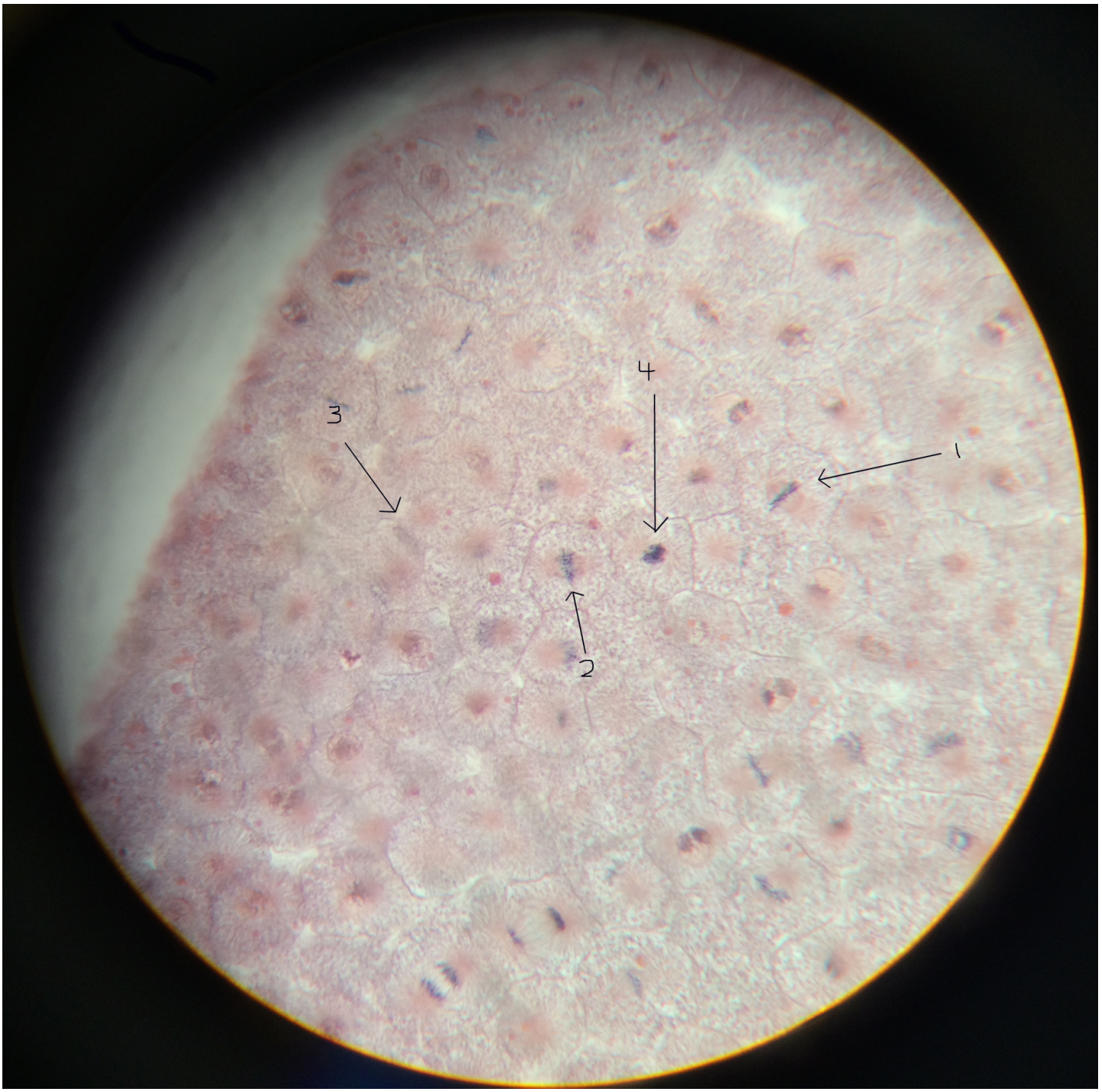
http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html

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.

	Inter	Prophase	Metaphase	Anaphase	Telophase	Total
Number of cells	20	10	3	2	1	36
Percent of cells (calculate: number of cells divided by total cells x 100)	55.6%	27.8%	8.3%	5.6%	2.8%	100 %

II. The real thing:

Identify the four major stages of mitosis on a slide through the microscope. Take pictures and paste your image(s) here.



1. Metaphase
2. Anaphase
3. Telophase
4. Prophase