# Exploring Mitosis and Meiosis & Evaluating the Best Webpage

As a graphic designer with a strong biology background, you have been hired to give a presentation at the annual conference of the ASBMB - American Society for Biochemistry & Molecular Biology at the Dove Mountain Ritz-Carlton in Arizona. However, your audience are not the usual suspects…. they are the spouses of the attendees of the conference who have signed-up for this workshop because ‘they don’t understand a word their spouse says when he or she tries to explain the process of mitosis and meiosis to them’. So your task is to search the internet to find the best site website to show and explain both mitosis and meiosis.

Your preliminary research has brought you to three websites that you think do a pretty good job explaining the key concepts at hand. Use these websites to answer the following questions.

**Website No. 1 Cells Alive**: **<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. Which stage does the following occur:

Chromatin condenses into chromosomes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chromosomes align in center of cell: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Longest part of the cell center: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nuclear envelope breaks down: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cell is cleaved into two new daughter cells: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Daughter chromosomes arrive at the poles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chromatids are pulled apart: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| The colored chromosomes represent chromatids. There are two of each color because one is an exact duplicate of the other.  2. How many chromosomes are visible at the beginning of mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_  3. How many are in each daughter cell at the end of mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  4. The little green T shaped things on the cell are: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  5. What happens to the centrioles during mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

**Website No. 2. John Kyrk:** <http://www.johnkyrk.com/mitosis.html> .

6. Draw a cell in each of the following stages:

|  |  |  |
| --- | --- | --- |
| Prophase | Metaphase | Telophase |

**Website No. 3. Onion Root Tip:** <http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html>

7. 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. Round to whole numbers.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Interphase** | **Prophase** | **Metaphase** | **Anaphase** | **Telophase** | **TOTAL** |
| Number of cells |  |  |  |  |  |  |
| Percent of Cells(calculate: number of cells divided by total cells x 100) |  |  |  |  |  |  |

8. Rank the websites from 1 to 3 and provide a justification for your ranking. (No. 1 being your first choice and No. 3 being your third choice)

Website No. 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?

Website No. 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?

Website No. 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?

9. Find three additional websites that you think do a good job showing and explaining mitosis and meiosis. List and rank them here with No. 1 being your first choice and No. 3 being your third choice

Website No. 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ URL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?

Website No. 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ URL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?

Website No. 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ URL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?