

Mitosis: Webquest

Part I: Mitosis Tutorial <http://www.cellsalive.com/>

click “Cell biology” in the left frame; and then click Mitosis. Push play. You can stop the animation at any stage to read and draw. Fill in the chart.

Stage	Description	Drawing
Interphase		
Prophase		
Metaphase		
Anaphase		
Telophase		

Which stage does the following occur:

1. Chromatin condenses into chromosomes

2. Chromosomes align in center of cell.

3. Longest part of the cell cycle.

4. Nuclear envelope breaks down.

5. Cell is cleaved into two new daughter cells.

6. Daughter chromosomes arrive at the poles.

7. Chromatids are pulled apart

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

1. How many chromosomes are visible at the beginning of mitosis?
2. How many are in each daughter cell at the end of mitosis?
3. The little green T shaped things on the cell are...
4. What happens to the centrioles during mitosis?

Part 2: Details of Mitosis

There are several reasons for the cell to divide. Two reasons are shown at the following website:

<http://plaza.ufl.edu/alallen/pgl/modules/rio/stingarees/module/why.html>

Explain two reasons why a cell must divide:

- 1.
- 2.

There are several parts of the cell involved in cell division. Click on the parts shown at the following site and read what they do.

<http://plaza.ufl.edu/alallen/pgl/modules/rio/stingarees/module/index.html>

1. What do the centrioles do for the cell?

The following site explains and shows the spindle fibers: <http://www.counterbalance.net/biogloss/mitspin-body.html>

1. Define and draw spindle fiber

Part 3: Classifying Mitosis Stages

Online Activity at 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. 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)						

Part 4: Prokaryotic Cell Division

<http://www2.estrellamountain.edu/faculty/farabee/biobk/biobookmito.html>

1. Scroll down to “Prokaryotic Cell Division” and define the following words by clicking on them.
 - a. Prokaryote:
 - b. Binary Fission:

2. Describe an advantage to binary cell division in Prokaryotes?
3. Describe a disadvantage to binary cell division in Prokaryotes?