Mitosis Class Work

Definition
Mitosis is the stage of the _____ cycle during which the cell's _____ divides into two new _____ and one copy of _____ is distributed into each new_____ cell.

Stages of mitosis
Interphase, _____, prometaphase, _____, anaphase, _____, cytokinesis.

Interphase
Cells may appear _____ during this stage, but they are quite the _____. This is the longest period of the complete _____ cycle during which DNA replicates and proteins are actively produced.

Prophase
During the first mitotic stage, the nucleolus _____ and chromatin(replicated DNA and associated proteins) condenses into _____.

Metaphase
All _____ are lined up in the center of the nucleus.

Anaphase
Spindle _____ shorten, the kinetochores separate, and the _____ (daughter chromosomes) are pulled apart and begin _____ to the cell poles.

Telophase
The daughter _____ arrive at the poles and the spindle _____ that have pulled them apart disappear.

Cytokinesis
Two new _____ cells are formed.

* Download flipchart from Edmodo
* Complete WS during flipchart presentation

THE CELL CYCLE MATCHING ACTIVITY INSTRUCTIONS

1. On your paper at the top are the six phases of the cell cycle including the four stages of Mitosis. At the bottom is a short description of each phase of the cycle. To the right is a drawing representing a cell in each one of the phases.

2. Start by matching the phase to its description and picture.

3. Cut out the matching phase, description, and picture and arrange on a separate sheet of paper.

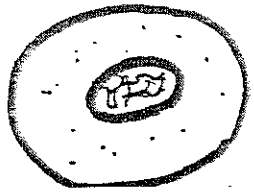
4. Glue the phases (with matching description and picture) on in the order they occur in the cell cycle. It is best to represent the cell cycle in a circle because it is continuous. Cells that have divided into two daughter cells then enter interphase and begin the whole cycle over again as parent cells.

5. Use the diagram on page 64 and 65 of your Cells and Heredity Book as a reference for completing your matching activity correctly.

★ Instructions for Mitosis Activity Cut-n-Paste

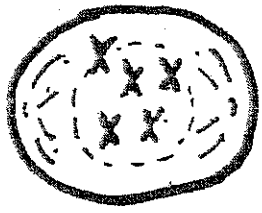
Mitosis

INTERPHASE



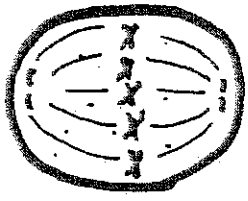
Cells grow. DNA breaks up into short segments called chromosomes. The chromosomes copy themselves and attach in the middle at the centromere.

MITOSIS - PROPHASE



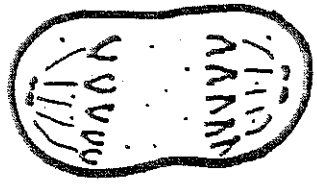
Chromosomes thicken and shorten. The membrane of the nucleus disappears and threadlike spindle fibers appear at the ends of the cell.

MITOSIS - METAPHASE



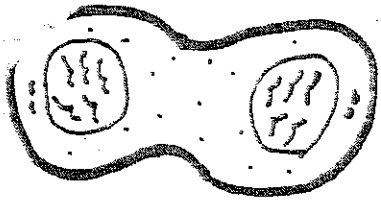
Chromosomes line up along the middle of the cell and each centromere is attached to a spindle fiber.

MITOSIS - ANAPHASE



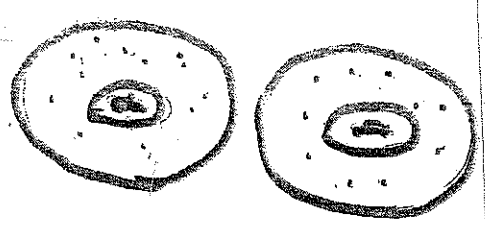
The centromers split. Spindle fibers pull one chromosome from each pair towards opposite ends of the cell.

MITOSIS - TELOPHASE



The original parent cell pinchestwo and produces two daughter cells.

CYTOKINESIS



The nuclear membrane reappears and begins to pinch inwards.