

MITOSIS refers to <u>Cell Division</u> or <u>Cell Reproduction</u>, but also means division of the <u>nucleus</u>. <u>Cell</u> <u>division</u> by MITOSIS produces two new "<u>daughter cells</u>" that are a copy of the old cell. That means if the old cell is a human cell the new cells will be h____ cells. Onion cells will be o____ cells. The chromatin of the nucleus changes into CHROMOSOMES. CHROMOSOMES have the genetic information in DNA that determines the type of organism that the cell builds.

MITOSIS takes place in EUKARYOTES meaning <u>cells that have nuclei</u> (nuclei is plural for nu____). Some cells such as bacteria cells do not have <u>nuclei</u>. A cell that does not have a <u>nucleus</u> is a PRO-KARYOTE (meaning before-nu ____). PROKARYOTES have been found in fossil records to show that they were on Earth <u>before</u> EU-KARYOTES (new cells-with nuc ___). From this scientists have used <u>fossil evidence</u> to show that our cells and other EUKARYOTES (w ___ nuclei) were developed (or <u>evolved</u>) from PROKARYOTES. The term -karyote means having a kernel or center.

<u>Cell Division</u> is also called <u>Cell Multiplication</u> and <u>Cytokinesis</u>. Cell Multiplication because the number of cells is multiplied by two. <u>Cytokinesis</u> because <u>cyto-means cell</u> and -<u>kinesis means movement</u>. (Remember: Kinetic energy is energy of mo _ _ _ _ _)

so, cells m_____ when they d_____.

Cell Reproduction A Virtual Lab Page 2 Name, Science Home→ Life→ Rutgers Virtual Labs→ Cell Reproduction http://bio.r

Name_____Period http://bio.rutgers.edu/~gb101/virtuallabs_101.html

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The Cell Cycle of Mitosis (Cell Reproduction).

Below are microscopic images of animal cells that are in different stages of MITOSIS. When new cells are produced, those new cells then go on to produce more new ce___. The LIFE SPAN of a cell is the time from formation of the cell to the next MITOSIS or cell division. Multicellular organisms have a lifespan of how long the cells live and work together to be a living organism. Each of our cells also has it own life span. Flakes of skin are dead skin cells. More cells are constantly being formed by MITOSIS.

- _1. Do Rutgers Virtual Lab for Cell Reproduction. (See link above.)
- ___2. Review Prentice Hall Life Science (PHLS), pages 72-77. Open to the Mitosis cycle.
- __3. Start with plain white paper and a circle (use a circle machine) to represent a cycle. Draw clockwise direction arrows on your circle.
- __4. Cut out the below cell images. Use FLAPS OF TAPE to place them order on (or by) your circle to show a CELL CYCLE. Try to use at least 10 images. More images = more points.
- __5. Cut out and then use FLAPS OF TAPE to add the TITLE and the LABELS for at least one of each of these five (5) stages of MITOSIS:
- _6. Use a pencil to add a SHORT DESCRIPTION of each stage. (Use your text for reference.)

Interphase Prophase Metaphase Anaphase Telophase/Cytokinesis

Cell Reproduction/Mitosis Cycle by