

Name: _____
Mr. Willis
Biology: _____
Date: _____

Unit VI
Biology – Mitosis and Meiosis
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VI

Cell Cycle Flipbook

Objective:

You will be able to see the cell cycle in action by creating a flipbook animation that includes the three subphases of interphase as well as mitosis (four phases) and cytokinesis.

Materials:

10 3" x 5" index cards

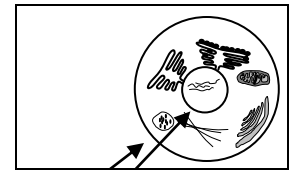
4 different colored pencils

note which color is used for _____ DNA (chromatin, chromosomes, chromatids)

_____ nuclear envelope

_____ spindle fibers

_____ centrioles & microtubules



Directions:

- Put your name and hour on the lined side of each card.
- Circles (representing the cell membrane) should be about 5 cm in diameter and placed on the right side of the card equidistant from the top and bottom of the card and the right margin. A smaller circle about the size of a nickel will represent the nucleus in the first four phases.
- Use colored pencils (as noted above) only for the designated parts of the cell.
- Do NOT color anything else.
- Don't affix labels to any card until directed to do so below.

Procedure:

You are to draw the cell cycle as a flipbook animation. Start by numbering your cards sequentially in SMALL figures in the top right corner.

1. Interphase (G1) – Draw the cell with a representation of all of the organelles. Include the endoplasmic reticulum, lysosome, mitochondria, ribosomes, golgi apparatus. Include a bundle of about three or four microtubules. The nucleus should be about the size of a nickel and contain a representative amount of chromatin. Do NOT include the nucleolus (for the sake of simplicity) or the centrioles.
 2. Interphase (S) – Draw a cell identical to the cell on card 1, BUT, double the amount of chromatin in the nucleus.
 3. Interphase (G2) – Draw a cell identical to card 2, BUT, change the microtubules to centrioles.
 4. Mitosis (M) – Prophase
 5. Mitosis (M) – Metaphase
 6. Mitosis – Anaphase
 7. Mitosis – Telophase
 8. Cytokinesis
- } Use the text (pages 246-7) to show the changes during the four phases of Mitosis.

Make a cover including a title, your name, the date, and class period.

Make a back page that includes a key for the four colors included on your drawings.