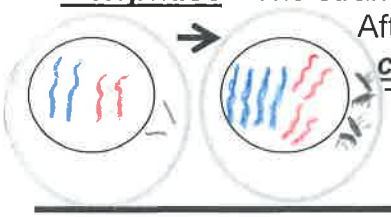
**I CAN** explain and describe how animal & plant cells produce more cells.

Name _____
Period ___ Date _____
**Cell Cycle NOTES**

***CELL CYCLE*** occurs in ***SIX*** steps.

**1st Step**: (first stage) Chromosomes & organelles are ***copied*** (# doubles)
***interphase*** The strands of DNA & proteins appear as threadlike coils (***chromatin***)
After each chromosome is duplicated, the two copies are called ***chromatids*** (***sister*** chromatids).
This ends this first stage of the cycle.



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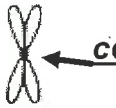
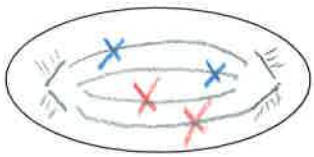
**MITOSIS** (second stage)

**2nd step** (1st phase): ***prophase*** ***Mitosis*** begins




The ***nuclear*** membrane breaks apart.



***Centrioles*** begin to move to opposite ends of cell (ends called poles.)

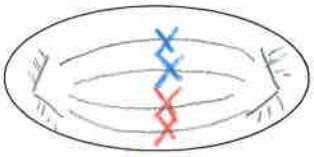
***Spindle*** ***Fibers*** form between the poles.

***Chromosomes*** condense into rodlike structures.

***Fibers*** attach at the centromere.

**3rd step** (2nd phase): ***metaphase***

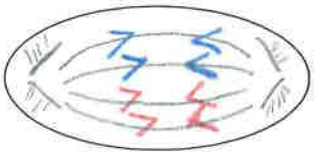
***Chromatids*** line up on the equator.



Sister chromatids

**4th step** (3rd phase) : ***anaphase***

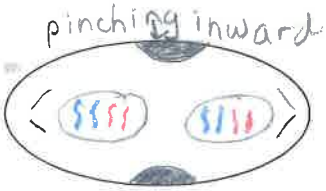
Chromatids ***separate*** and are pulled to opposite sides of the cell by the spindle fibers.



Sister chromatids split

**5th step** (4th phase) : ***telophase***

The nuclear membrane forms around the 2 sets of chromosomes forming two new ***nuclei***.




Chromosomes unwind, the spindle fibers disappear.

Chromosomes appear as chromatin (***threads*** rather than ***rods***)
***Mitosis*** ends

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**6th step** (third stage) :
***cytokinesis***

The ***cytoplasm*** splits in two.
The cell membrane moves inward to create two identical cells called ***daughter*** cells – each with its own ***nucleus*** with identical ***chromosomes***.