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| **Guided Notes: The Cell Cycle and Mitosis** |
| http://jasminemjblogs.files.wordpress.com/2011/09/a-good-idea1.png**BIG IDEA: What is Mitosis?**  http://home.comcast.net/~clupold96/images/notes/chromosomes/fertilization.gif |  |
| **When does Mitosis begin?**   | *

 * i.e. 1 cell becomes 2 cells, 2 cells become 4 cells…become TRILLIONS!!!
 |
| **Why do cells make more cells?** **Three reasons why cells reproduce by asexual reproduction…** | 1.
2.
3.
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| **Important Terms**1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:**  body cells, produced through Mitosis, ours contain 46 chromosomes (23 pairs)
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:**  each member of a chromosome pair
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:** (2N) two sets of chromosomes (usually one from each parent), total of 46 chromosomes in people, ex. Somatic cells & Zygotes
4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:** (n) half of a complete set of chromosomes, total of 23 chromosomes in people, ex. Gametes (egg and sperm)
 | **Steps of the Cell Cycle**1. http://www.ivy-rose.co.uk/Topics/Cell_Structures/Mitosis_cIvyRose.jpg
2.

 1.

 1.

 1.
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| http://www.edupic.net/Images/Mitosis/interphase(G2).png**INTERPHASE** | * Occurs before Mitosis begins
* Chromosomes are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (# DOUBLES)
* Chromosomes appear as threadlike coils (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) at the start, but each chromosome and its copy (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)condense to sister chromatids by the end of this phase
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| **What are the 3 stages of Interphase?**1. **Growth Stage 1**
2. **Synthesis**
3. **Growth Stage 2**
 | 1. **G1:**
2. **S:**
3. **G2:**
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| http://www.edupic.net/Images/Mitosis/prophase.png**PROPHASE (1st Stage of Mitosis)**  | * Mitosis begins (cell begins to divide)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (or poles) appear and begin to move to opposite ends of the cell
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ disappears
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form between the poles
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| **METAPHASE (2nd Stage of Mitosis)**http://www.edupic.net/Images/Mitosis/metaphase.png  | * Chromatids(pairs of chromosomes) attach to the spindle fibers at the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ move to the equator of the spindle
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| **ANAPHASE (3rd Stage of Mitosis)**http://ts2.mm.bing.net/th?id=H.4595581874409033&pid=15.1 http://ts2.mm.bing.net/th?id=H.4595581874409033&pid=15.1 http://ts2.mm.bing.net/th?id=H.4595581874409033&pid=15.1 | * Chromatids (pairs of chromosomes)…
*
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| **TELOPHASE (4th & Final Stage of Mitosis)**http://ts1.mm.bing.net/th?id=H.4595581874408988&pid=15.1 http://ts1.mm.bing.net/th?id=H.4595581874408988&pid=15.1 | * 2 new identical nuclei form (nuclear envelopes reform)
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* Mitosis ends!
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| **CYTOKINESIS (Occurs after Mitosis)**http://www.edupic.net/Images/Mitosis/cytokinesis_3D.png | * Cell membrane moves inward to create two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells- each with its own \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with identical chromosomes
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| **REMEMBER…****I:** **P:** **M:** **A:** **T:** **C:**  |  |

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