**Cell Division Study Guide**

1. Be able to calculate SA:V ratio and explain what happens to the ratio as cells gets larger.
2. What are three reasons why cells can’t continue to grow indefinitely and explain each one. Also explain how cell division alleviates these problems.
3. What is the difference between a chromatid and chromosome?
4. What are some factors that regulate cell growth?
5. What happens if a cell ignores these factors and does not/can not regulate its growth rate? What would this look like?
6. What is the correct order for these pictures? Is it mitosis or meiosis? How do you know? What is this cell’s chromosome number?

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1. Be able to compare and contrast mitosis and meiosis. Know the phases of mitosis and meiosis, what happens in each phase, what the phases look like, what the end product is, and what happens to the chromosome number.
2. What are mutations? Why might they be harmful? Where might a mutation cause the most damage?
3. Know the definition for haploid and diploid and be able to correctly identify the number of chromosomes in a diploid and haploid cell.

 *Example: a fruit fly has 4 pair of chromosomes. What would its diploid number*

*be? What would its haploid number be?*

1. When given a picture of a cell, be able to give the chromosome number



1. How do mitosis and meiosis lead to the formation of a child?