

TOPIC 4: Cell Division

Please use the podcast from Council Rock High School for TOPIC 4 to guide you. The podcast can be found at <http://www.crsd.org/Page/31715>

1. What are the three reasons that cells typically divide?
 - a.
 - b.
 - c.
2. **Circle one:** The longest phase of the cell cycle is **INTERPHASE / MITOSIS**
3. G₁ is about cells _____.
4. How does a duplicated strand of DNA end up being identical to the original strand?
5. The last stage of Interphase is _____.
6. In mitosis, the goal is to get cells that are genetically _____. That is, we want to go 2N → 2N.
7. Match the following Mitosis stages to what happens
 - ___ Prophase a. Chromosomes move to opposite ends of cell
 - ___ Metaphase b. Nucleus reforms, DNA loosens, last stage
 - ___ Anaphase c. DNA condenses; nuclear breaks down
 - ___ Telophase d. Chromosomes line up in middle of cell
8. What is the difference between plant and animal telophase/cytokinesis?
9. What does meiosis do to the number of chromosomes? _____
10. Meiosis goes from 2N → _____, or from diploid → _____
11. What is crossing over?
12. When does crossing over happen? _____
13. What is the idea of Independent assortment?
14. When chromosomes fail to separate properly, it is known as _____.
 - a. _____ syndrome and Patau syndrome are results of nondisjunction.