Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TOPIC 4: Cell Division**

*Please use the Council Rock Video Podcast to guide you*

1. What are the three reasons that cells typically divide?
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

1. What is the difference between plant and animal telophase/cytokinesis?
2. What does meiosis do to the number of chromosomes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Meiosis goes from 2N🡪 \_\_\_\_\_\_\_\_\_, or from diploid 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is crossing over?
5. When does crossing over happen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What is the idea of Independent assortment?
7. When chromosomes fail to separate properly, it is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. \_\_\_\_\_\_\_\_\_\_\_ syndrome and Patau syndrome are results of nondisjunction.