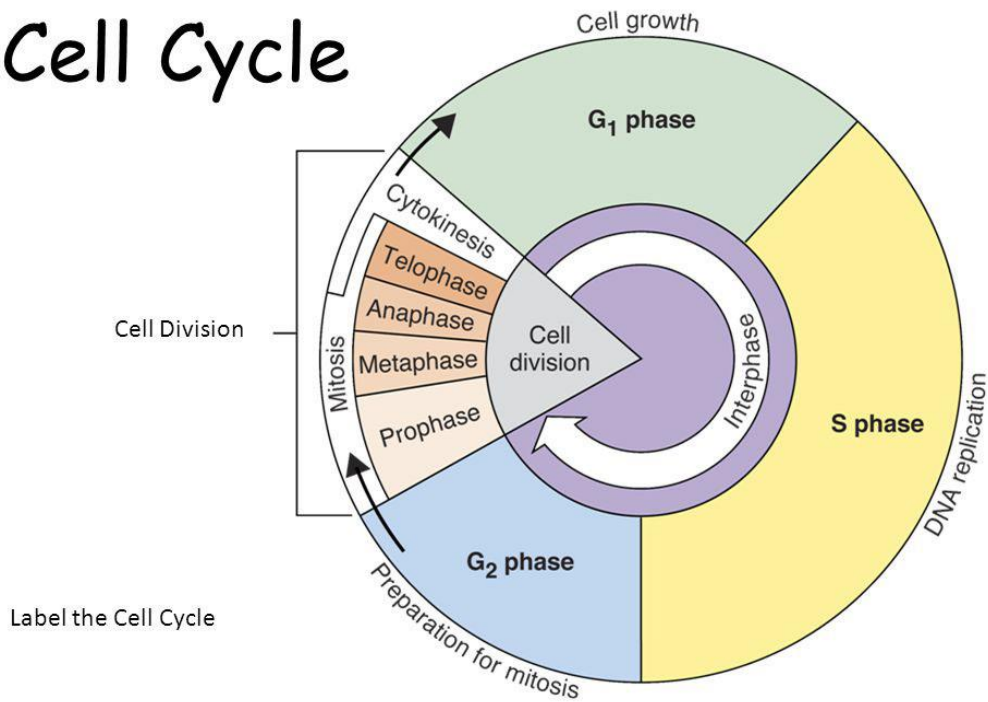


# Biology

## Reproduction & Cell Division

### Cell Cycle



*“Biology gives you a brain, Life turns it into a mind” – Jeffrey Eugenides*

**Essential Understanding:**

Essential Knowledge 3.A.2: In eukaryotes, heritable information is passed to the next generation via processes that include the cell cycle and mitosis or meiosis plus fertilization.

Essential Knowledge 3.C.1: Changes in genotype can result in changes in phenotype

Essential Knowledge 3.C.1: Changes in genotype can result in changes in phenotype

**Overview**

The cell cycle is a complex set of stages that is highly regulated with checkpoints, which determine the fate of the cell. Mitosis passes a complete genome from the parent cell to daughter cells. Errors in mitosis or meiosis can result in changes in phenotype. Sexual reproduction in eukaryotes involving gamete formation, including crossing-over during meiosis and the random assortment of chromosomes during meiosis, and fertilization serve to increase variation. Reproduction processes that increase genetic variation are evolutionarily conserved and are shared by various organisms.

**Guiding question: How does DNA control growth and function of cells?**

**Lessons**

- \_\_\_\_\_ Week 19: Mitosis (01/25)
- \_\_\_\_\_ Week 20: Meiosis (02/08)
- \_\_\_\_\_ Week 21: Fertilization & Development (02/15)

## Individual Work

\_\_\_\_\_ Read the overview with your color group and mark it up with questions or comments. (01/22)

Read Khan Academy:

\_\_\_\_\_ Week 19: Mitosis (01/24)

\_\_\_\_\_ Week 20: Meiosis (02/07)

\_\_\_\_\_ Week 22: Fertilization & Development (02/14)

\_\_\_\_\_ Make vocabulary cards for the vocabulary in unit

\_\_\_\_\_ Reflect on the answer to Guiding Question 1. Update your mind map with the group presentation. (02/14)

## Group work/Lab work

---

\_\_\_ TBA: Will be announced in class and posted on Google Classroom a week in advance.

***Labs will be done in groups of 4 or 5.***

**Lab Handouts:** There will be a pre-lab for students to complete before the lab experiment, during the lab the students will gather the necessary data to complete the lab and answer the questions associated with the topic. After the necessary data is collected students will work on completing their lab notebook.

**Lab Notebook:** Every student is required to keep a lab notebook. The lab notebook will be each student's personal "copy". You will receive specific instructions on the lab notebook requirements.

This notebook will be graded on proper usage and completeness. *The lab notebook will be checked once a unit on the day of the assessment.*

**Formal Laboratory Report:** Each quarter students will put together a formally written laboratory report. This laboratory report is done individually (plagiarisms is not allowed). The report must be typed and include; Title, Purpose, Procedure, Materials, Observations, Data, Results, Conclusion and Citations.

### Assessment

\_\_\_ Individual assessment (02/21)

### Extension/Honors

Chromosomal Disorder Research Essay

