

Outline of Mitosis and Meiosis PBL:

1. Cell Division

- a. **Journal:** “Why do cells divide?”
- b. **Define terms:**
 - i. Chromosome, DNA, gene...(Mr Kittel has list; on blackboard)
- c. **What is cell division?**
 - i. **Cell Cycle (4days)**
 1. Cell Cycle/Mitosis
 2. Internet search [www.cells alive.com](http://www.cellsalive.com) (Cell cycle and mitosis)—animations
 3. Web karyotyping and chromosomes
 4. Guided reading 6.1 (chromosomes and mutations) and 6.2 (cell cycle) notes
 5. Reinforcement paperwork (mitosis)
 6. **Mitosis project (~90min):** Students create model detailing the process of mitosis using candy and/ or yarn and/or socks; peer evaluation with rubric
 7. **Activity (as a class; 30min):** “Cancer in Cell Cycle”
 8. Evaluation/ Assessment: Explain the phrase “Cancer cells: Mitosis gone wild”/ as an oncologist you must explain to your patients what is happening to their cancer cells---use case from NIH or Mr Kittel’s father-in-law, special visit
 9. Meiosis
 - a. Internet search comparing mitosis and meiosis
 - b. Case Study and focus questions
 - c. Modeling crossing over: Genetics: Mendel’s 2 Laws
- d. Review Terms from “b” and concepts (jeopardy games using some of the questions from the Pre-test)
- e. **Student Evaluation of M/M**
 - i. What they liked?
 - ii. What they disliked? How would you change it?
 - iii. What is the one/many things you will learn from this unit?