

- The Miracle of Life Video eBio worksheet
- Fertilization and Development eBio worksheet
- Infertility and Assisted Technologies eBio worksheet
- Contraception WWW activity and worksheet
- Sexually Transmitted Infections WWW activity and worksheet

### **Topic 6 (3) : Mendel & the Gene Idea** (2 weeks)

#### **Readings:**

- Genetics, chapters 14 and 15 of text
- Receive outline notes and guidance on the textbook readings in addition to chapter specific questions.

#### **Lecture Topics:**

- Mendelian genetics, probability, segregation, independent assortment
- Non-Mendelian patterns, codominance, pleiotropy, epistasis, polygeny
- Human genetics, pedigree analysis
- Sex linkage, autosomal linkage, linkage maps
- *Drosophila* genetics, setting up a cross
- Chi-square analysis
- Eukaryotic chromosome
- Control of gene expression, Lac Operon

#### **Class Activities:**

- Students solve several problems using the eBio worksheets posted on my site. These include monohybrid, dihybrid, sex-linked, and pedigree analysis.
- Students also work through problems concerning linked and unlinked genes, creating gene maps where appropriate based on recombination frequencies.
- Chi-square analysis using M&M's (teacher generated)
- Campbell & Reece Online Activities and Self Quizzes

#### **Labs:**

- Genetics of Organisms (AP)
- Genetics of Corn (monohybrid and dihybrid); students also apply their Chi-square analysis skills here.
- Fruit Fly Lab (AP Lab #7)

#### **Independent work** (this goes beyond the 2 week window noted above):

- Brochure assignment – research a genetic disorder
- *Drosophila* Genetics (“Are you my mommy?”). I have partnered with a genetics professor (Dr. Marlene Snyder) at Acadia University. Dr. Snyder and myself are collaborating to provide AP students with a special opportunity to partake in the