Unit 5: Genetics
Genetic changes PowerPoint Questions

I. Intro. to Mutations

- _____ are a result in a change in DNA sequence/material: A protein with a different _____ will be produced
- ** If these mutations occur in sex cells they may be transmitted to the next generation. (germ cell mutation)
- ** A mutation occurring only in body cells may be perpetuated in the individual but will not be passed on to the offspring by sexual reproduction. (somatic cell mutation)
- Mutations may be classified as _____ _____ or _____ _____
- The effects of chromosomal alternations are usually quite visible in the _____ of the organism because _____.

II. Types of Gene Mutations

- Point mutation(base-pair substitution)- _____
- Frameshift:
  - Insertions- _____
  - Deletions - _____

  ***This causes every codon in the DNA sequence after to be changed!*

III. Types of Chromosomal Mutations

- Two types of chromosomes: _____ chromosomes-body cell (22 pair) and _____ chromosomes-gamete cell (1 pair) ____ or ____
- _____- chromosomes moving to opposite poles during meiosis I. (_____ conditions)
- Nondisjunction-_____ of chromosomes to _____ properly during meiosis I.
  - Trisomy- _____
    - Ex: _____ --afflicted individual has a trisomy of chromosome 21.
  - Monosomy- _____

IV. Changes Chromosome Structure

1. Deletion- part of _____ is left out.

2. Duplication- part of _____ breaks off add attaches to the sister chromatid creating a _____ _____ on the same chromosome.

3. Translocation- when part of one chomosome _____ _____ and is added to a different _____.

4. Inversion- when part of a chromosome breaks off _____.

V. Karyotyping

- A karyotype helps scientists answer questions about an individuals _____

-Steps:

1) Fluid with _____ _____ taken during **amniocentesis** procedure
2) Cells cultured, cholchicine is added to arrest cells in _____
3) An image prepared of metaphase chromosomes
4) The photographed chromosomes are arranged into _____ pairs