

The Chromosomal Basis of Inheritance Reading Objectives (New/Old Book Ch. 15)

Big Ideas of the Chapter:

What exactly is a chromosome and how are genes located on one?

What is a sex linked gene? What are linked genes?

How do chromosomes fit into Mendelian Genetics? What happens when chromosome numbers are wrong?

Summarize the **chromosomal theory of inheritance**:

BE SURE TO READ THE SECTION ON THOMAS HUNT MORGAN. **Summarize his findings:**

How is human sex determined? Explain the different phenotypes for males and females.

In humans, who is responsible for determining the sex of the child? Explain why.

Sex Linked Gene -

What will happen to a male who receives 1 recessive allele on an X chromosome, and none on his Y?

Barr Body -

What is X inactivation? Is the same X chromosome always inactive? Describe what is meant by a *genetic mosaic*.

Linked Gene -

Why are some genes inherited together?

Genetic Recombination -

Crossing Over -

Genetic Map -

Linkage Map -

How are linkage maps made?

What is a map unit? What is a map unit based on?

What will make two linked genes more likely to cross over?

How are **cytogenic maps** different from linkage maps?

Nondisjunction -

Aneuploidy -

Monosomy -

Trisomy -

Polyploidy -

List and describe 4 different types of chromosomal mutations:

Deletion

Duplication

Inversion

Translocation

How does Down Syndrome come about in humans?

What is genomic imprinting

What is an organelle gene?