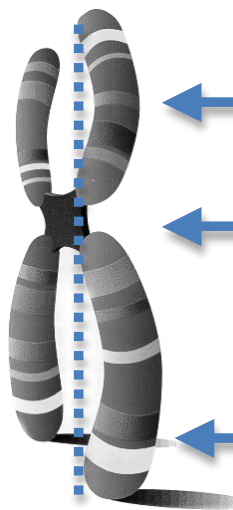


Explain how genetic diversity is increased with crossing over, mutations, and genetic recombination.

Compare & Contrast Mitosis & Meiosis

	Mitosis	Meiosis
When does process take place		
Cells the same or different?		
What type of cells produced (diploid or haploid)		
Used in asexual or sexual reproduction		



Whole picture: _____

One arm: _____

Light color band: _____
(alternate form of trait)

_____ Is a structure that is formed from two homologous chromosomes.

A _____ are two pairs of chromosomes that have the same genes but can have different alleles

Make the following vocabulary terms with the correct letter:

- Chromosome: _____
- Gene: _____
- Haploid: _____
- Diploid: _____
- Allele: _____
- Crossing Over: _____
- Mutations: _____
- Genetic Recombination: _____

- A. Section of DNA that contains the instructions for a particular trait
- B. Change to DNA sequence or chromosome that can change the phenotype of a trait
- C. Cell that contains two copies of chromosome (one from mother & one from father)
- D. Condensed strand of DNA
- E. Cell that contains one copy of chromosome
- F. Specific type of a trait; alternate form of trait
- G. Process that switches portion of chromosome between homologous chromosomes
- H. Process that results in chromosomes randomly dividing into game cells

Asexual vs. Sexual Reproduction:

Asexual reproduction is the production of offspring from a(n) _____ parent(s). Sexual reproduction is the production of offspring from a(n) _____ parent(s). Meiosis _____ (does/does not) occur during asexual reproduction. Asexual reproduction is the primary form of reproduction in many single celled organisms.

For the following conditions, select sexual or asexual as the best response:

- An organism that does not move during it's lifetime: _____
- A rapidly changing environment: _____
- An environment with little to no changes: _____
- Increases genetic diversity among a population: _____

The _____ of genetic information between _____ is referred to as crossing over. It occurs during _____ of meiosis and creates _____ of genes. It is not a _____.

Mutations are changes to the _____ or the _____. Four types include _____ (change of one nucleotide), deletion (_____), _____ (moving of one portion of chromosome to another), or inversion (_____). If a mutation occurring in _____ will be passed on to offspring; a mutation occurring in _____ will not be passed on to offspring.

Genetic recombination is the _____ of chromosomes. It can create multiple possibilities of _____ because chromosomes _____ independently of one another.

Draw a picture to represent crossing over.

Draw a picture to represent genetic recombination.