

Homework

1. Draw a chromosome. Show what it looks like when a cell has 46 chromosomes.



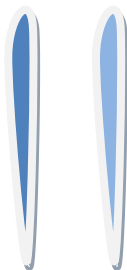
2. Draw a chromosome. Show what it looks like when a cell has 92 chromosomes during cell division.



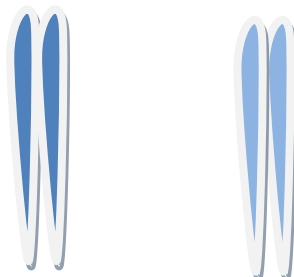
3. Are chromosome pair members identical?

No. They have similar but not necessarily identical genes.

The two in #2 are identical, but they do not constitute one of the 23 pairs. Here's a chromosome pair at the 46 stage of cell division



Here is the pair after the cell doubles its number to 92.



4. What is the difference between a gene and DNA?

Genes are made up of DNA, but a gene is only one section of the DNA and it codes for 1 protein.

5. What is the difference between an amino acid and a DNA base(adenine, thymine, guanine, cytosine)?

An amino acid is the building block of a protein and a base is a building block of DNA.

6. Why does adenine match with thymine and not with cytosine?

It forms the most bonds between the two molecules.

7. Why are proteins so important?

They are the most versatile molecules in the world. Some make up hair and skin; others are enzymes which speed up all the reactions in your body (growth, digestion, detoxification, production of hormones, healing etc). Still others are histones which act as on and off switches for genes.