

## ...your cool tips on genetics

What is Genetics?

What are Genes?

What is DNA?

What is a Chromosome?

Sex Chromosomes

Inheritance

Variation

What is Cloning?

What are stem cells?

## **Check out these lessons:**

- Winds
- Photosynthesis
- Genetics
- Kinds of Energy
- All About Force
- **■** Ecosystems
- Pollution
- Hurricanes
- States of matter

## What DNA and what does DNA stand for?

**DNA** simply means Deoxyribonucleic Acid. It is a hereditary molecule that is found in almost all living things (cells). DNA carries a code (information) that genes use to make living things grow. It is found in all cells in structures called chromosomes.

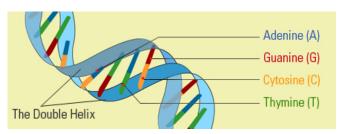
DNA is located in the nucleus of cells. This is called 'nuclear DNA. Some DNA is also located in the mitochondria of the cell and that is also called mitochondrial DNA. All the cells in that living thing carry the same DNA.

There are 4 chemical bases that make up the code in DNA.

These chemical bases are

- Adenine (A)
- Guanine (G)
- Cytosine (C)
- Thymine (T)

These chemical bases are contained in the shape of a twisted ladder called *The Double Helix*.



In humans, all the bases are the same - BUT, the combination or order, or sequence is unique to every individual.

## Think of it this way:

All telephone numbers use the same numbers, but each person has a unique combination or sequence. This is how the chemical bases in DNA work.

DNA can duplicate or copy itself. This is why all cells in an individual have the same DNA.

So, the larger picture looks like this:

The strand in the DNA is made up of Letters G A T C. These letters combine in a set way to make words. The words combine to make sentences. The sentences can be called "Gene' It is the gene that instructs all the cells in the body to perform their functions, as specified in our DNA, including making protein.

next



SEE OTHER REVISION LESSONS AVAILABLE ON ESCHOOLTODAY

GENETIC ENGINEERING | FORCES | KINDS OF ENERGY | ECOSYSTEMS | PHOTOSYNTHESIS

