

DNA, genes and genomes - General

DNA's code

What is DNA's alphabet?

We use codes everyday; alphabets are also codes. Let's take the word "koala". In English, the letters 'k', 'o', 'a', 'l' and 'a' in that particular order mean an animal that lives in Australia and eats eucalyptus leaves. If you didn't know any English, you wouldn't be able to guess what the word means from the letters that are in it. The letters 'k', 'o', 'a', and 'l' appear in lots of other words where they don't mean anything to do with koalas. Different languages use different alphabets to convey meaning.



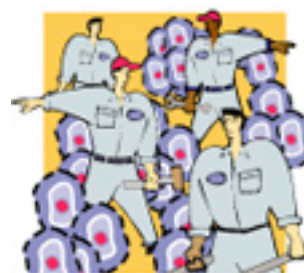
DNA's code is written in only four 'letters', called A, C, T and G. The meaning of this code lies in the sequence of the letters A, T, C and G in the same way that the meaning of a word lies in the sequence of alphabet letters. Your cells read the DNA sequence to make chemicals that your body needs to survive.



What does DNA code for?

A gene is a length of DNA that contains the instructions to make a chemical in your body. The DNA in a gene usually codes for a protein.

In our cells, proteins are the workforce; they get everything done. Proteins break down our food to release energy. Proteins organise the transport of useful chemicals between cells. Often, these useful chemicals are themselves proteins.



DNA, genes and genomes - General

DNA's code

What does DNA code for?

As well as doing things, proteins are the building blocks for most of your body. In the same way that a wall is made mostly of bricks, your body is made mostly of protein.

We talk about genes having different characteristics. For instance, if you hear about 'genes for eye colour', it means that these genes code for protein pigments in the iris of each of our eyes. Genes can come in different versions. Some people's versions code for proteins that make their eyes look blue while other people's versions make proteins that make their eyes look brown.

