

DNA, genes and genomes - General

Comparing genomes

How much DNA?

DNA is, of course, much smaller than a ladder. We measure DNA's dimensions in thousands of millionths of metres, known as 'nanometres'! To put these tiny measurements into perspective: in each of your cells, you have about 6,000,000,000 'rungs' of DNA. That means if the base pairs were as far apart as the rungs on a real ladder, then the DNA from just one cell would stretch half way to the moon!



All living things have DNA, packaged into their cells. In tiny organisms like bacteria, the DNA is coiled into tiny circular packages. In plants and animals, DNA is tightly packaged into bundles, wrapped around a scaffold of protein. If we look at DNA under a microscope, we can sometimes see these bundles of protein and DNA, called chromosomes.



How many chromosomes?

The amount of DNA and the number of chromosomes in an organism's cells depends on the species it comes from. Humans have 46 chromosomes (23 pairs), but carp fish have 104 chromosomes (52 pairs) while broad beans have 12 chromosomes (6 pairs).

