**DNA Basics**

1. <https://blog.myheritage.com/2017/11/new-blog-series-dna-basics-begins-today/>

Two distant cousins who have never met but have a common ancestor will have a small piece of DNA inherited from that ancestor in common. That’s the basis for using DNA tests to discover relatives you otherwise wouldn’t know about. Most people married and died in the same region where they were born. Because people married other people from the same region, and had children who then married in the same region, a correlation can be seen between DNA and geographic location.

1. <https://blog.myheritage.com/2018/01/dna-basics-chapter-2-the-structure-of-dna/>

Our bodies are made up of more than 30 trillion cells. The headquarters of the cell is the nucleus. Not every single cell actually has a nucleus — red blood cells don’t, for example. But almost all of our cells do have a nucleus and that’s where DNA is stored.

DNA takes the shape of a double helix — think of two long (untied!) shoelaces, pressed together along their entire length, and then wrapped around your finger. Each of the two shoelaces is made up of a series of little blocks called nucleotides. There are four nucleotide types, abbreviated as A, T, G and C. The same four nucleotides appear over and over again in different orders to make up the entirety of your individual DNA sequence.

About 99.9% of this very long sequence is identical in every person on earth. The 0.1% that varies from person to person carries the part of the instruction manual that makes us each unique — from the different colors of our skin to our height, and beyond.

1. <https://blog.myheritage.com/2018/02/dna-basics-chapter-3-dna-expression/>

Nucleotides are the letters;

* Sets of three consecutive nucleotides called codons are the words;
* Groups of codons called genes are the sentences; and,
* Chromosomes are complete volumes of the 23-volume manual — one edition of which is inherited from each parent.

1. <https://blog.myheritage.com/2018/03/dna-basics-chapter-4-a-glossary-of-terms/>

Every generation, the two chromosomes within each chromosome pair, “break” and recombine, “swapping” pieces with each other, before being passed down. So when a child inherits a chromosome 7 from his father, he is not inheriting the same chromosome 7 his father inherited from his father, or the chromosome 7 his father inherited from his mother; rather, the child inherits one chromosome 7 from his father that is a combination of his paternal grandparents’ chromosome 7s.

1. <https://blog.myheritage.com/2018/04/dna-basics-chapter-5-how-dna-testing-works/>

When you swab the inside of your cheek,*epithelial cells* stick to the cotton swab. Epithelial cells are easily accessible and can be collected in a noninvasive manner. The cells collected by the cheek swab are also *germline* cells, which means the DNA they contain is inherited from your parents (as opposed to *somatic cells* which include mutations that you acquire over your lifetime).