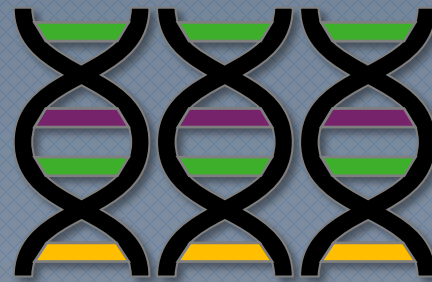
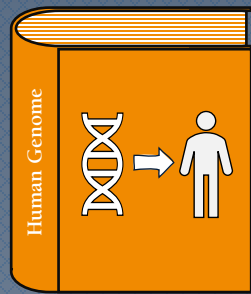


# The **HUMAN GENOME** is the whole set of instructions to make a person

That instruction manual is in the form of **DNA**



Some parts of the genome are the same from person to person.

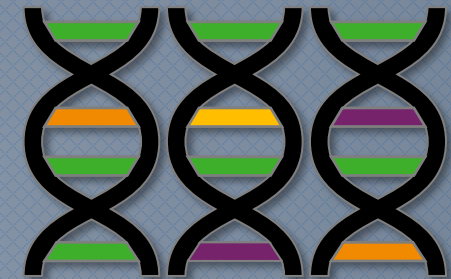
**A** DNA is a molecule made up of 4 individual letters (**nucleotides**) that combine to make **genes**, each of which is a complete set of instructions for a particular protein.

**C**

**T**

**G**

Other parts may have differences that vary between people.



The human genome is over **3 billion** letters long!

These changes can range from **very small** (one letter) to **very large** (a whole paragraph or even a whole chapter).

## **STRUCTURAL VARIATIONS** are medium to large changes in the genome

### INSERTING

I want that one



I **really** want that one

### DELETING

I want **that** one



I want one

### REARRANGING

I want that one



I **that want** one



**These differences can change the meaning of the DNA's instructions, but we still don't know all the possible changes or what impact these changes have.**