Introduction:
What makes us Different?

Look at your partner.

What are 5 things that are different?

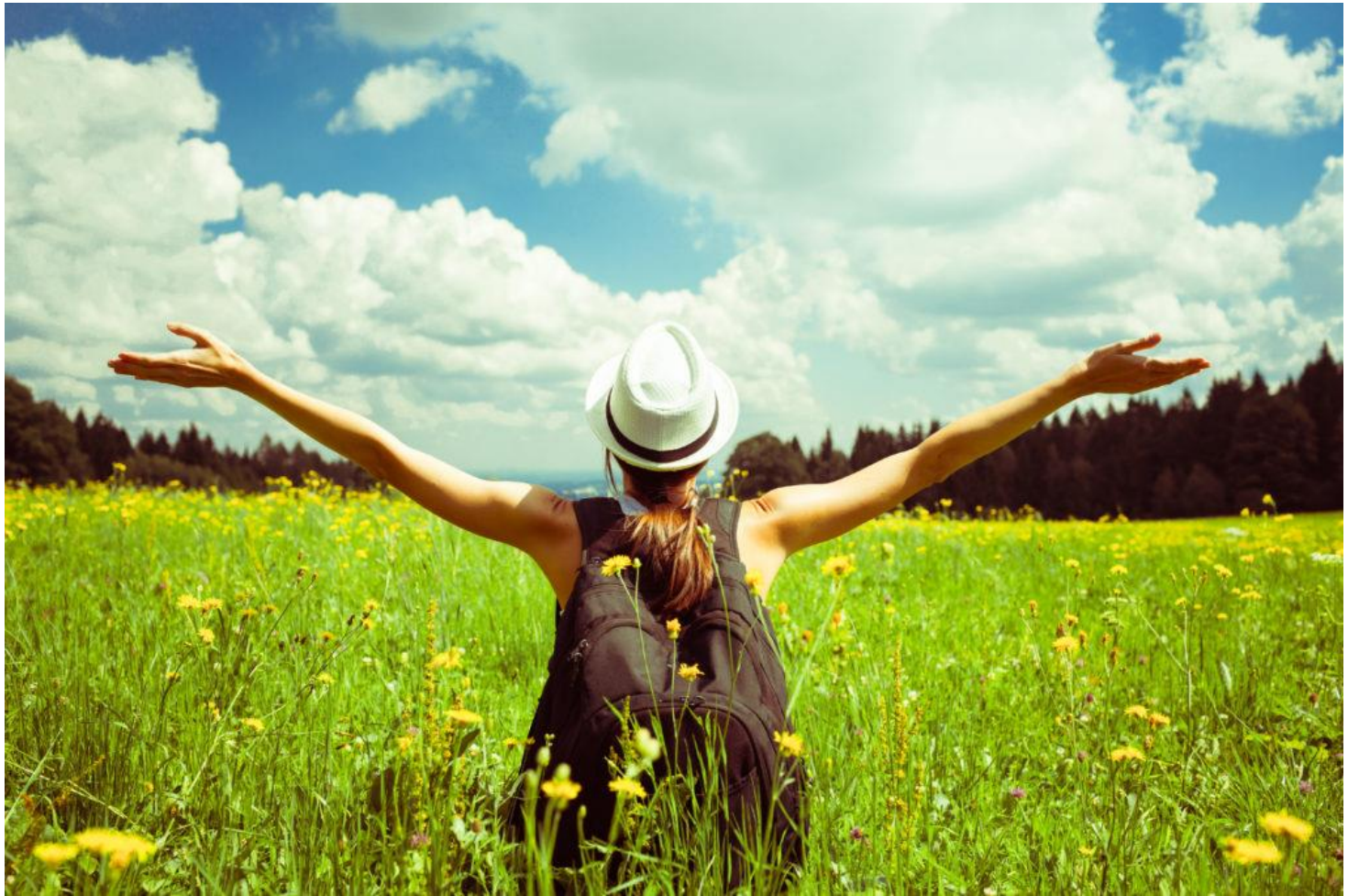
What makes us different?

Two things make us different:

1. Inherited information (from our parents)

Two things make us different:

2. The Environment (scars, diet, etc)

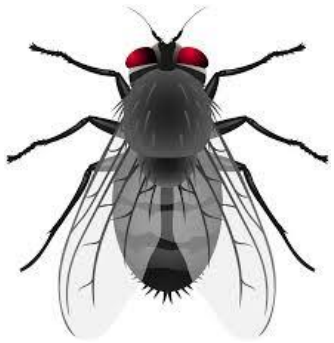
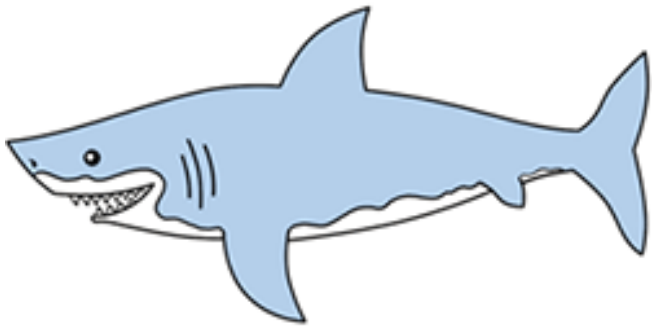
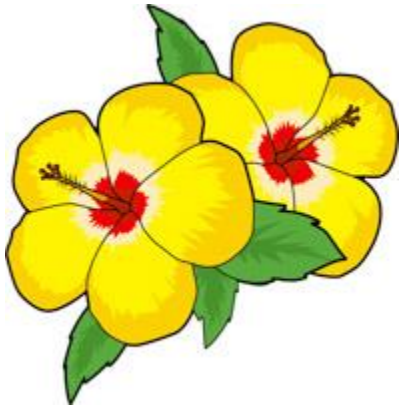


DNA and Genes

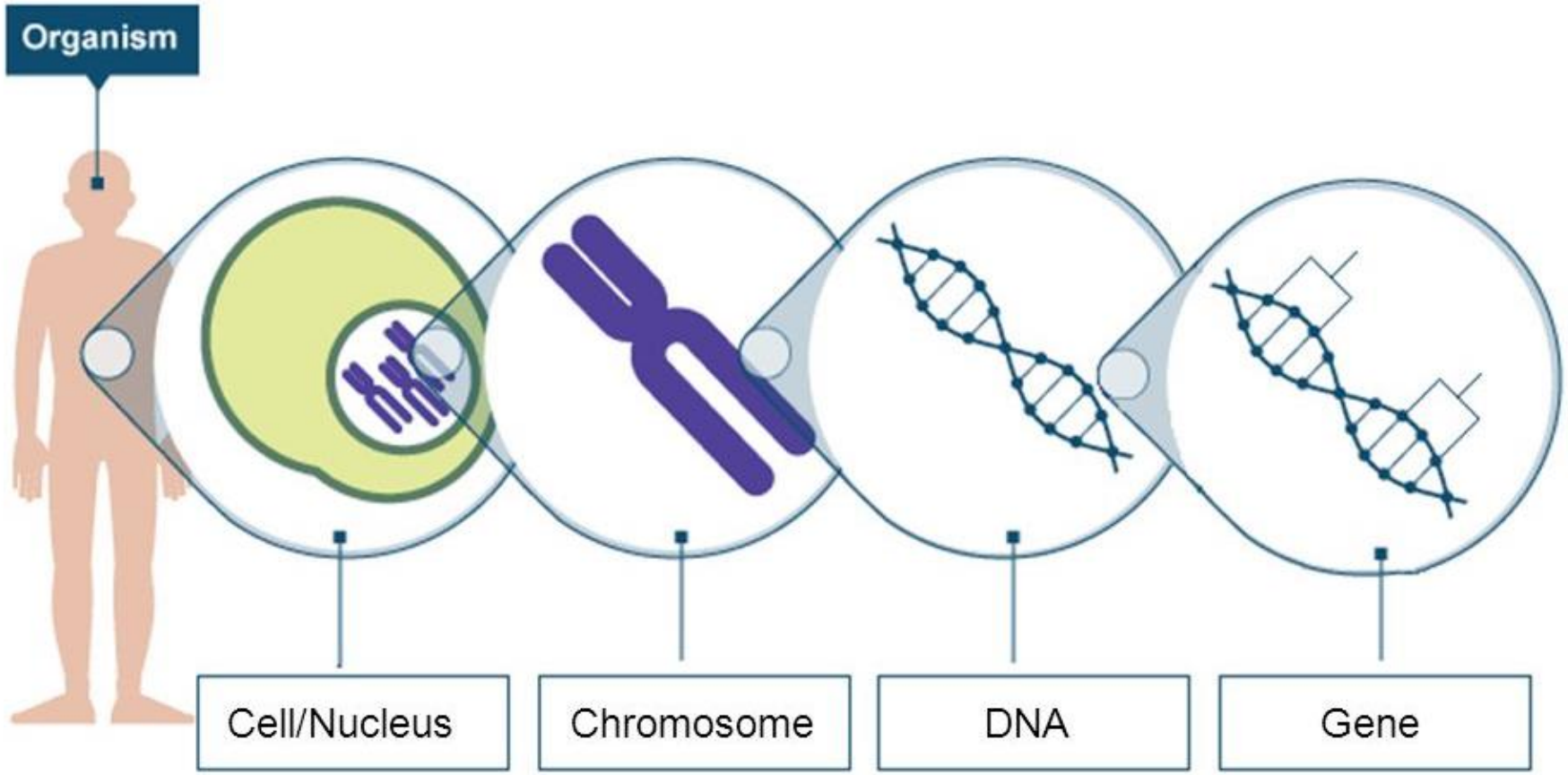
(DeoxyriboNucleic Acid)

What is DNA?

- DNA is a **molecule**.
- It carries genetic information and acts as a ‘recipe’ for all living organisms.

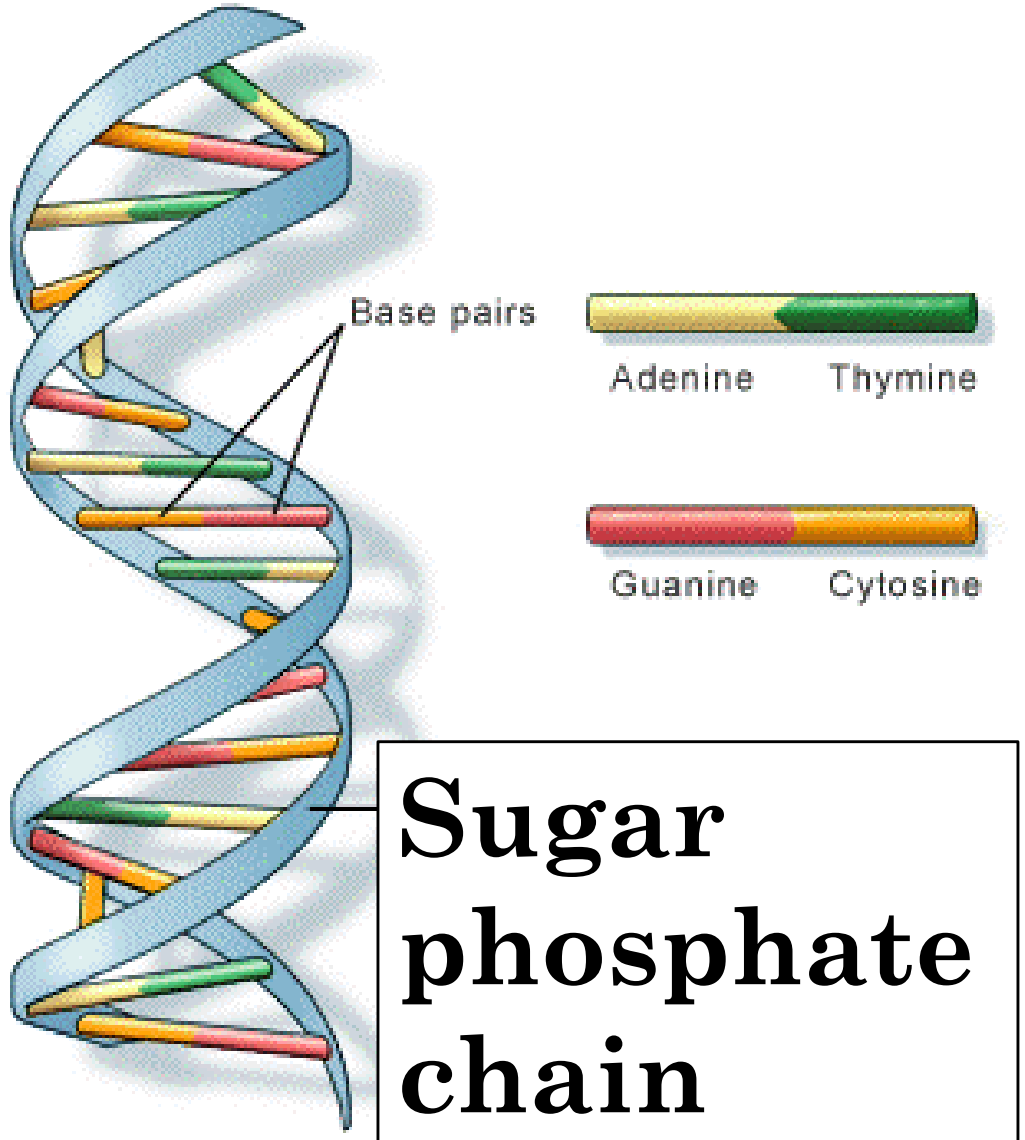
Where is DNA?



From bbc.com/education

What does it look like?

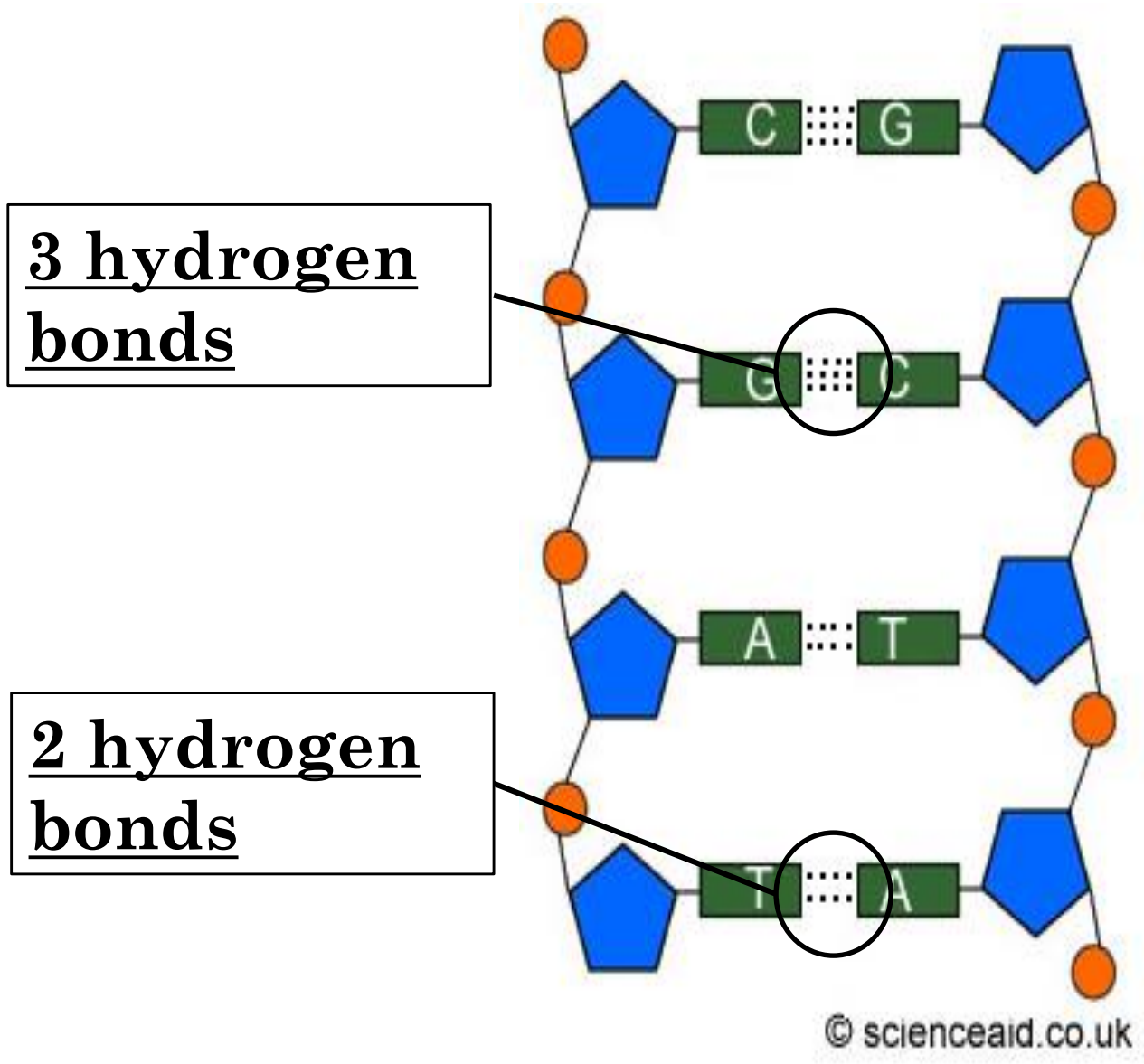
- DNA forms a **double helix** structure
- The ladder in the DNA is made of 4 base pairs known as nucleobases:
  - **Adenine** (A)
  - **Thymine** (T)
  - **Guanine** (G)
  - **Cytosine** (C)
- The sugar phosphate chains are the **backbone** of DNA



U.S. National Library of Medicine

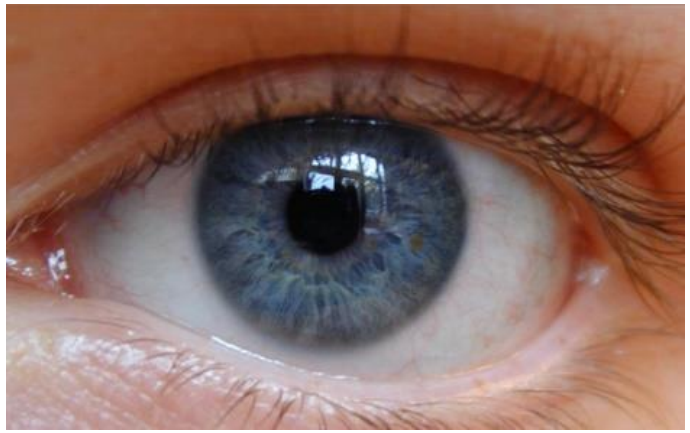
Bonds

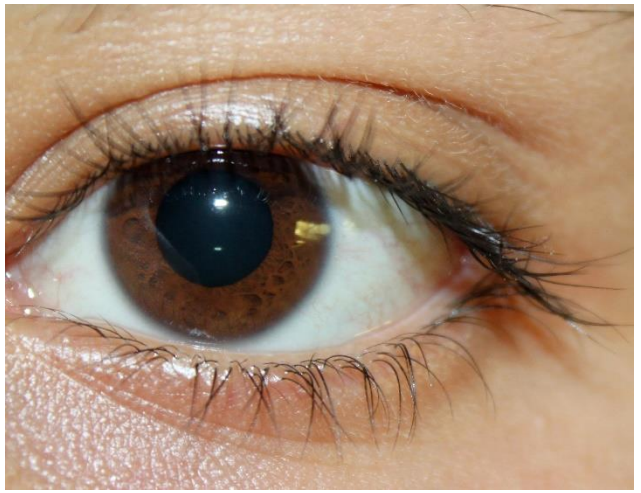
- The base pairs are joined together by **<u>hydrogen bonding</u>.**
- Guanine – Cytosine
  - **3 hydrogen bonds**
- Thymine – Adenine
  - **2 hydrogen bonds**



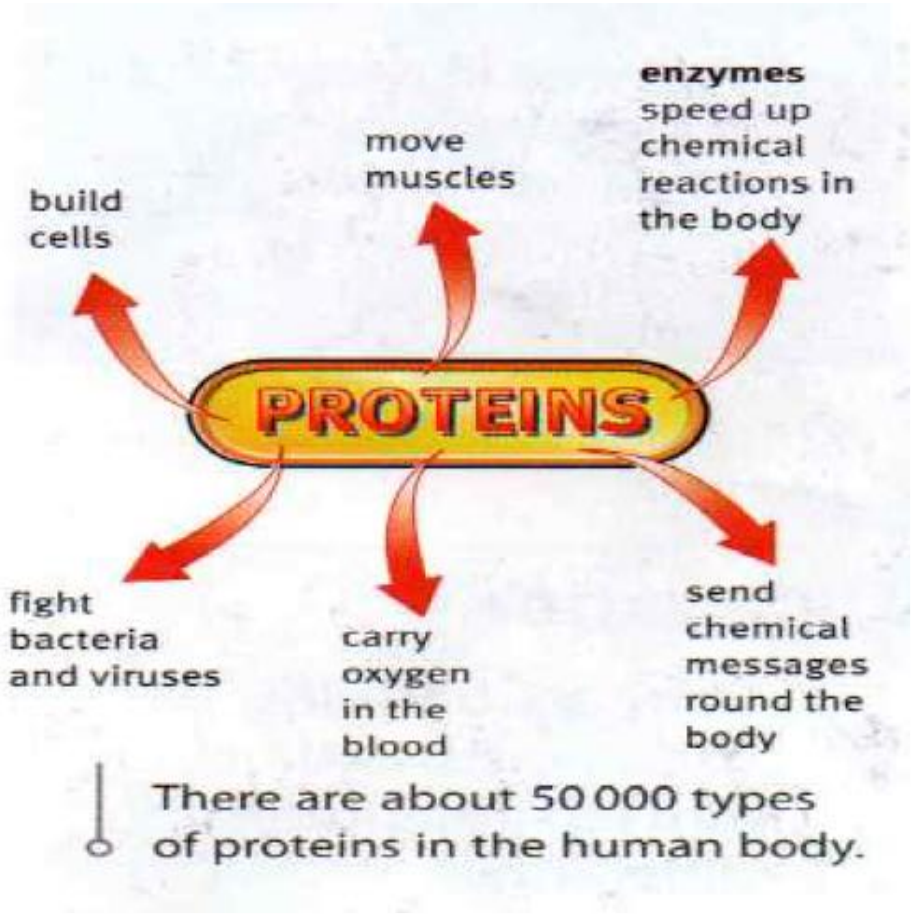
Why is DNA important?

- The order of these base pairs create a **code** for genetic information.
- These codes are the instructions for making **proteins**.





What do Proteins do?



From Textbook: Twenty First Century Science, GCSE Science Foundation, pg. 17