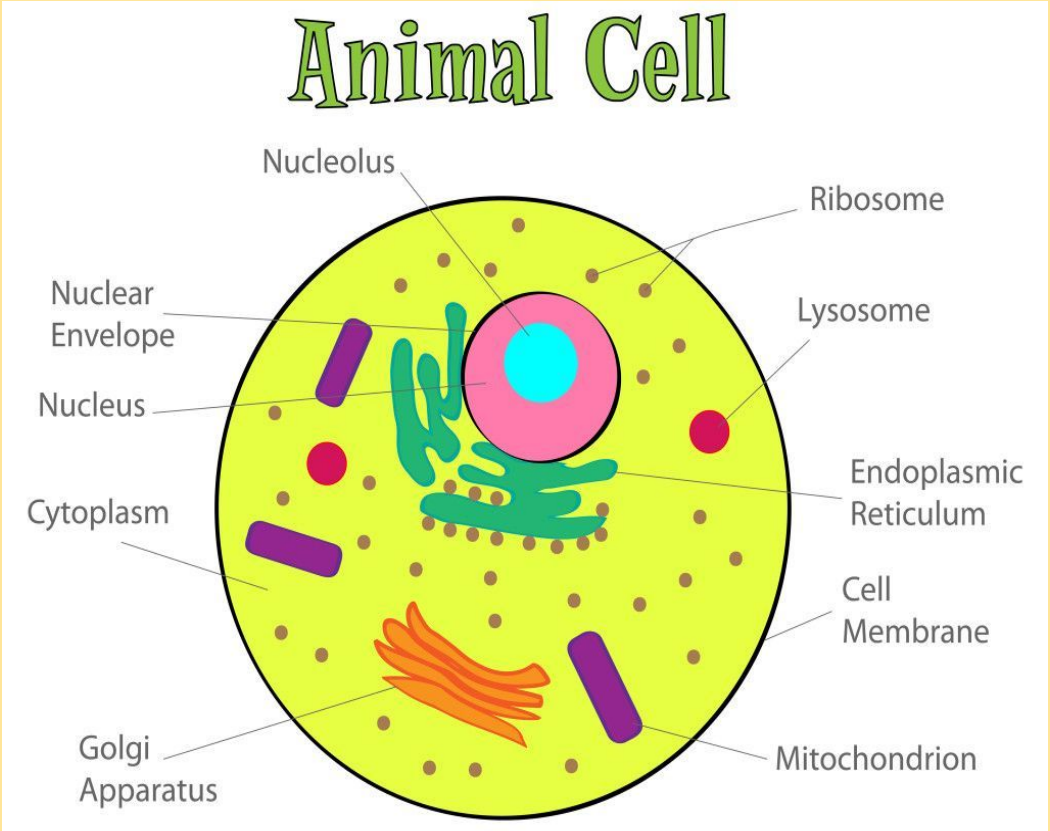

DNA: LIFE'S COOK BOOK

Cells: The Building Blocks

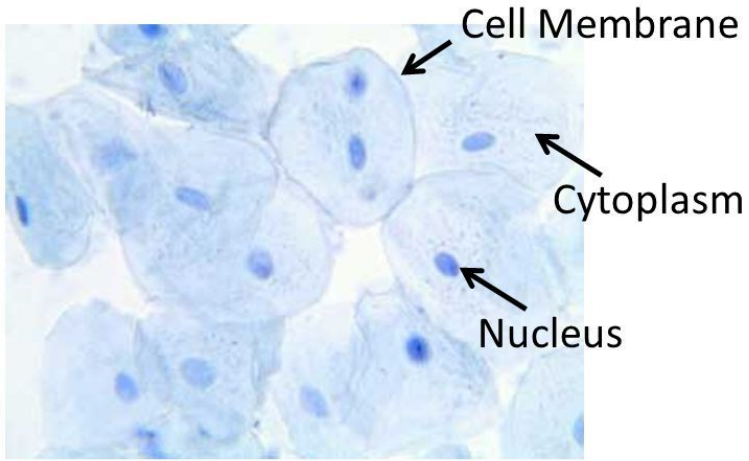
- Humans, animals, and plants are made up of cells
- Specific parts of a cell are called **organelles**.
- Each cell has its own job, just like humans.
- There are over 200 cell types in our body. That means there's 200 different jobs.
- But how does each cell know what job to do?
- Well in each cell, there is an organelle called the **nucleus,** which is like the brain of the cell.
    - The nucleus contains **DNA**

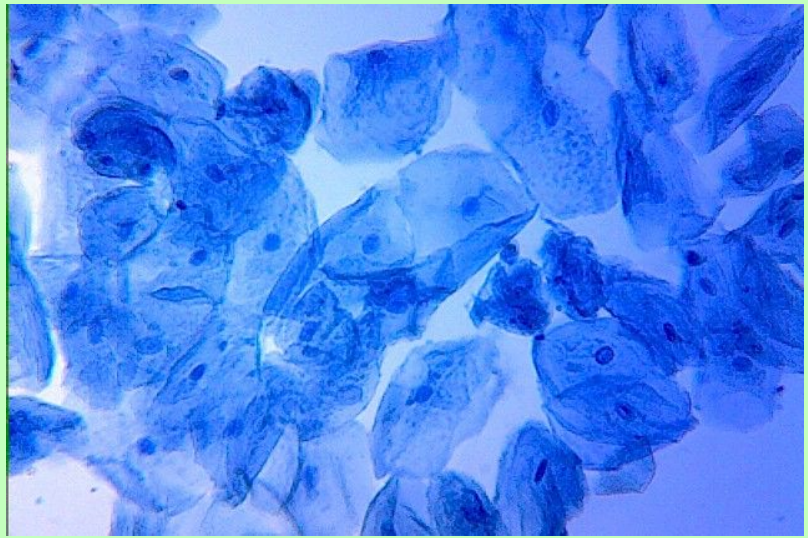


Cells Under A Microscope

Animal Cells: Cheek Cells

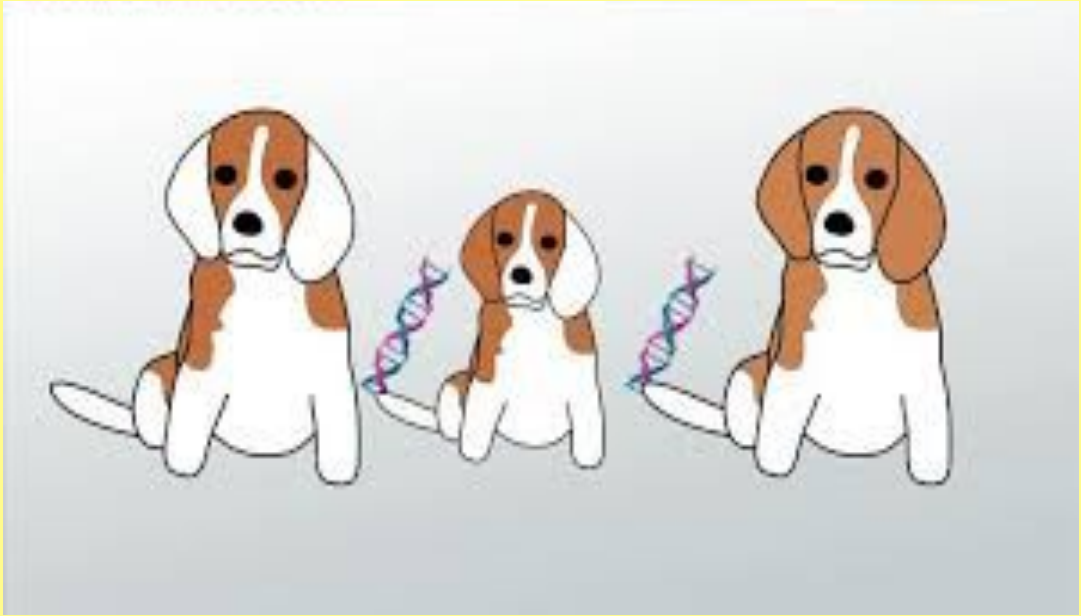
(stained with Methylene blue)





WHAT IS DNA?

- DNA stands for **Deoxyribonucleic acid**
- DNA is the shape of a twisted ladder
  - We call this shape a **double helix**
- Inside DNA there is a list of instructions called **genes**.
- Genes tell a cell what its job is going to be.
- Genes code for all of our traits
  - Hair color, eye color, height, freckles
- DNA is passed from each parent to their child
- Half of a child's genes come from each of their parents

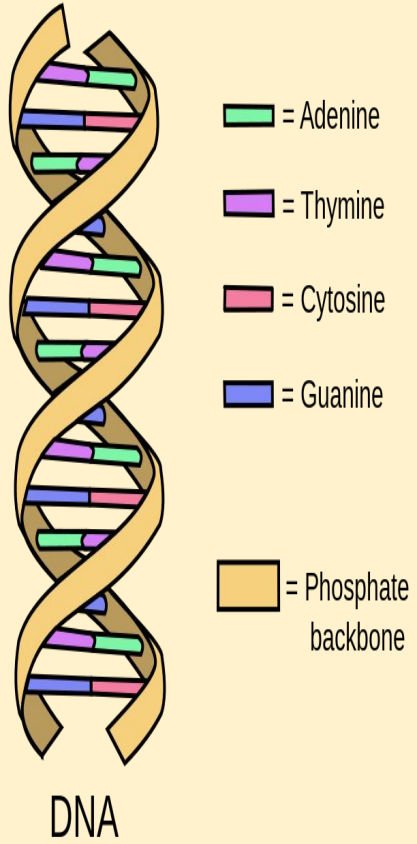


Brainstorm a list of traits that you think you got from your mom and a list of traits you think you got from your dad.

The Double Helix

The Four Letter Alphabet

- DNA is written in a special alphabet that is only 4 letters long.
  - A, T, G, C
- The letters of the DNA alphabet are called **bases**
- The bases always pair up together.
  - A always pairs with T
  - G always pairs with C
- When the two bases pair up together they form **base pairs**
- Depending on how we arrange the letters of the alphabet we can make new words
- If you look at the length of DNA you can read all the letters in a row
  - **ATGCGTGGTCAGTCGATATATGGCCCC**
- The letters make up words that are always three letters long. These words are called **codons**.
- **ATG-CGT-GGT-CAG-TCG-ATA-TAT-GGC-CCC**
  - These words make up sentences that the cell can understand
    - These sentences are called **genes**



A:T G: C = AT GULF COAST!!