

WHAT IS DNA & HOW IT WAS DISCOVERED

DNA is made up of molecules known as nucleotides. Each nucleotide contains a sugar and phosphate group as well as nitrogen bases. These nitrogen bases are further broken down into four types.

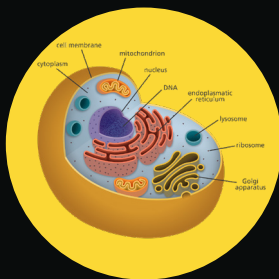


DNA is self-replicating material that's in every living organism. In simplest terms, it is a carrier of all genetic information. It contains the instructions needed for organisms to develop, grow, survive, and reproduce.

Although most DNA is found in the nucleus, a small amount of DNA can also be found in the mitochondria. The mitochondria produce energy, so the cells can function normally.



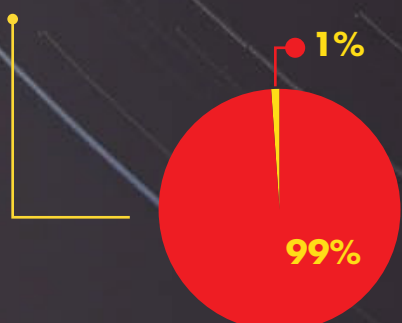
Cells (from the Latin "cella", meaning "small room") are the basic structural, functional, and biological units of all known organisms. The cell is the smallest unit of life. Cells are composed of cytoplasm wrapped in a membrane, which contains many biological molecules, such as proteins and nucleic acids.



DNA is essentially a recipe for any living organism. It contains vital information that's passed down from one generation to the next.



The uniqueness of human DNA is that it consists of nearly 3 billion base pairs, of which about 99% of each person is the same. However, it is the order of these bases that determines the information that can be used to construct and maintain any organism.



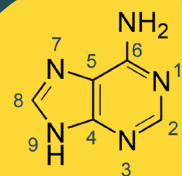
1940
It was not until the early 1940s that the role of DNA in genetics was studied and understood.

1869
DNA was discovered by Swiss researcher Friedrich Miescher in 1869. He initially tried to study the composition of lymphoid cells (leukocytes).

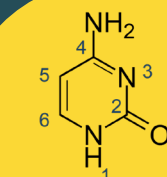
1869
He isolated a new molecule from the nucleus, called a nuclear protein (DNA with related proteins).

1866
Before many major discoveries and discoveries, Gregor Mendel, known as the "father of heredity", was actually the first person to propose characteristics to be passed down from generation to generation. Mendel coined the terms implicit and explicit that are well known today.

1869
Friedrich Miescher identified a "nuclear protein" by isolating a molecule (later called DNA) from the nucleus.



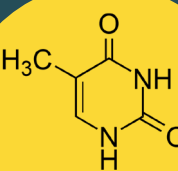
adenine (A)



cytosine (C)



guanine (G)



thymine (T)

Adenine (A)
Cytosine (C)
Guanine (G)
Thymine (T)

They are the basic unit of the genetic code

1881
Albrecht Kossel, the Nobel Prize winner and German biochemist, is known for his DNA. He identified nuclein as nucleic acid. He also isolated the five nitrogen bases that are now considered to be basic components of DNA and RNA: adenine (A), cytosine (C), guanine (G) and thymine (T) Pyrimidine (U) in RNA.