What do genes look like?

What are the subunits of DNA?

DNA is made of four subunits, known as nucleotides. Each consists of a phosphate, a sugar, and a base. The three bases are:
(A) Adenine - Pairs with T
(T) Thymine - Pairs with A
(G) Guanine - Pairs with C
(C) Cytosine - Pairs with G
Because A always bonds with T and G always bonds with C, one side of a DNA sequence is complementary to the other.

How does DNA replicate?

DNA replicates by splitting down the middle. Each original molecule is like a template. A complementary molecule forms along it.

What are Chargaff's rules?

Erwin Chargaff found that the amount of adenine in DNA is equal to that of thymine, and the amount of guanine is equal to that of cytosine.

Who was Rosalind Franklin?

In the lab of Maurice Wilkins, Rosalind Franklin created X-Ray images of DNA. These suggested that DNA had a spiral shape. James Watson and Francis Crick later used this research.

Who are James Watson and Francis Crick?

Watson and Crick built on the research of others and concluded that DNA resembles a double helix shape. Upon discovery of this, Crick is said to have exclaimed, "*We have discovered the secret of life!*"

How DNA Works

How is DNA read?

DNA is read in one direction only, from one end to the other. Like a book .

What makes up the alphabet of DNA?

The alphabet of the code is made up of the four bases:**a**denine, **t**hymine, **g**uanine, and **c**ytosine. A, T, G, and C.

How does DNA tell how to make proteins?

Groups of three bases code for specific amino acids. The amino acids form a chain to form a protein.

Why are proteins significant?

Proteins act as chemical messengers and help determine your traits, such as height. They are the reason for the multitude of shapes, sizes, colors, and textures found in living things.

How are proteins made?

DNA is fed through a ribosome. Transfer molecules drop off amino acids at the ribosome. The amino acids join together to make a protein.

What are the types of mutation?

Insertion: Extra base pair
Deletion: Missing base pair
Substitution: Base pair replaced with a different, wrong one.

What is a mutagen?

Anything that causes a mutation in DNA.

What is a pedigree?

A chart used to trace a trait back through multiple generations.

What is selective breeding?

Organisms with desirable traits are mated to produce a new breed.

What is genetic engineering?

Allows scientists to transfer genes from one organism to another.

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Published 12th May, 2016.
Last updated 12th May, 2016.

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