

Oct 3, 2013

## Chapter 6: A Closer look at Cell Division

1) DNA

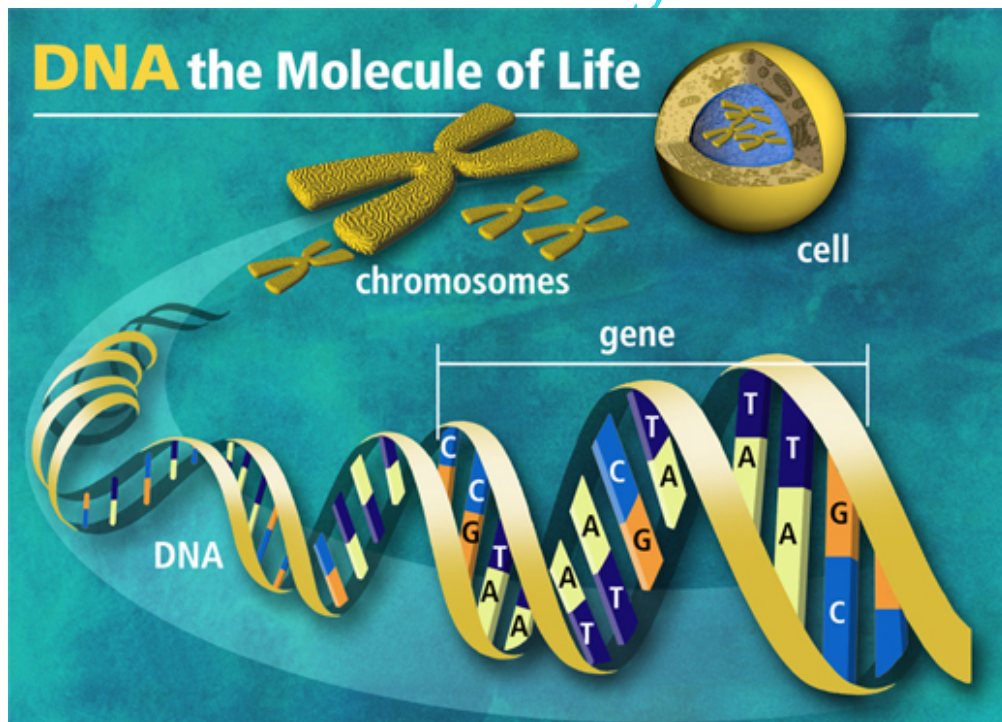
2) Genes and Heredity/Inherited Traits

### *Warm-up*

How long (in meters) is DNA from one cell if it were stretched in a straight line?

**DNA from one cell would stretch about**

*2 meters or 6 feet.*



## DNA: The Master Molecule of Life Video





# Chromosomes

threadlike structures that contain the genetic information. Inside the chromosomes there is a chemical called DNA.

Chromosome

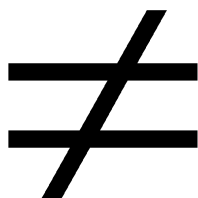


DNA



ADAM.

**DIFFERENT SPECIES HAVE  
DIFFERENT CHROMOSOMES.**



**BUT ALL SPECIES ARE COMPOSED OF  
THE SAME CHEMICAL, DNA. OUR  
GENES MAKE US DIFFERENT.**

How many chromosomes do each of the following have?:

Humans?

2n, 42, 2n  
32.

Dogs?

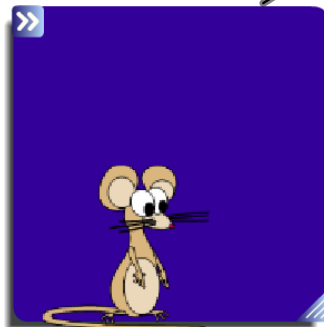


156, 132  
80

Mouse?

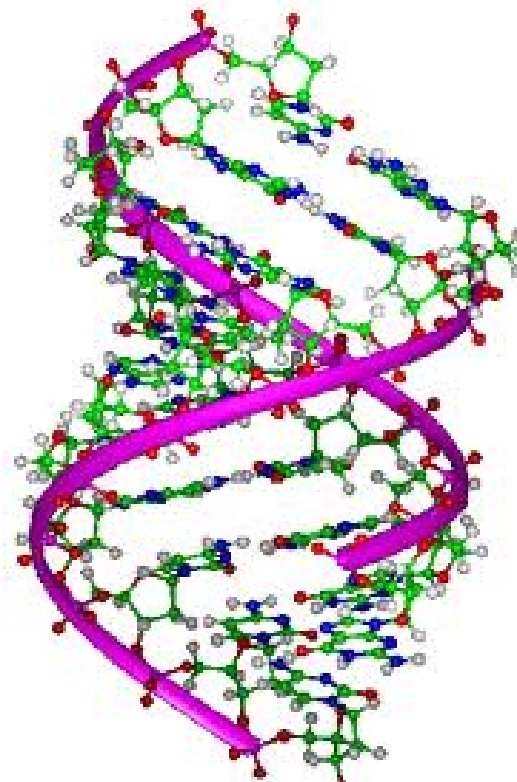
10, 20, 18, 23  
17  
132

Horse?



## DNA

Stores the genetic information and provides the directions to guide repair and construct new cells





What do you think the complete name for DNA is?  
Write your answer in your notebook.

The complete name for DNA is

D N A  
deoxyribonucleic acid

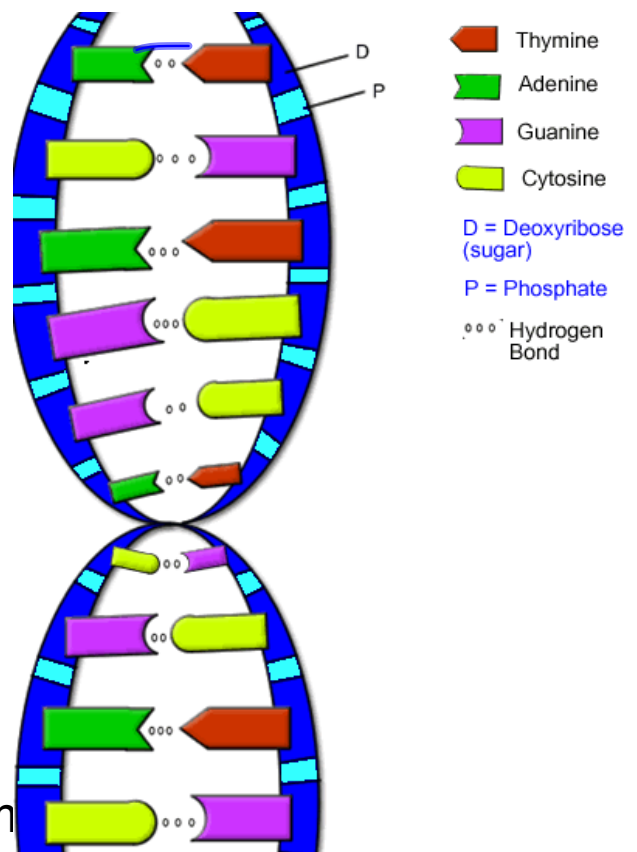


DNA is a double helix that contains a series of chemicals.

These chemicals are arranged like letters in a code. DNA has a four character code

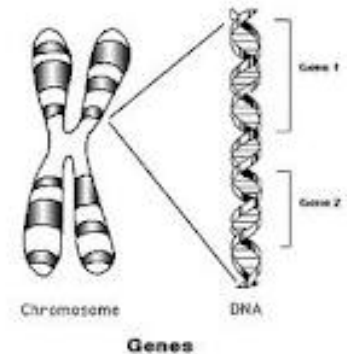
A = Adenine  
 T = Thymine  
 C = Cytosine  
 G = Guanine

These codes combine to form genes.



A Gene is a long section of DNA that determines a specific characteristic i.e. hair color, skin color, height, nose length etc Each of us has thousands of genes, which are made of DNA and are found within our chromosomes.

The passing of these traits from parent to offspring is the basis of heredity.



What are some other traits you think you inherited from your parents??

# Inherited Traits Activity

Trait	Frequency Form 1	Frequency Form 2
Gender	Female – approximately 50%	Male – approximately 50%
Earlobes	Unattached (free) – more frequent	Attached – less frequent
Thumb extension	Straight thumb – 64-75%	Hitchhiker's thumb – 25-36%
Tongue rolling	Can roll tongue – 65%	Cannot roll tongue – 35%
Cheek dimples	Dimples – more frequent	No dimples – less frequent
Hand clasping	Left over right – 55%	Right over left – 44%
Hair curl	Curly hair – more frequent	Straight hair – less frequent
PTC Tasting	Can taste PTC – 70%	Cannot taste PTC – 30%
Hairline	Widow's peak – more frequent	Straight hairline – less frequent
Color vision	Normal color vision – females 100%; males 92%	Color blind – males 8%

Pg. 176-178

Qu. 1-4.

