



Intro to Genetics

Vocabulary

Genetics - the study of genes; genetic variation (changes in genes) and heredity

Heredity - the passing of genes from parents to offspring; from generation to generation

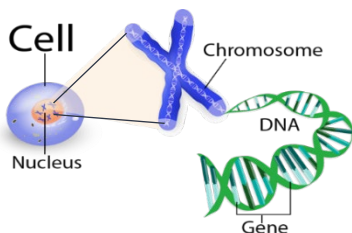
Inheritance - another word for the "passing of genes" or traits from parents to offspring

Traits - a physical characteristic that is inherited from a parent; Examples: eye color, hair color, height, hairline shape, tongue rolling/folding, ... etc.

Chromosome - the structure made of DNA found in the nucleus of a eukaryotic cell that carries the genetic code of an organism

DNA - DeoxyriboNucleic Acid; makes up the chromosomes; double helix shape

Genes - the basic units of genetic information found on specific regions of DNA



The Father of Genetics

Gregor Mendel is known as the "Father of Genetics" for well documented experiments using pea plants – he looked for patterns in the reproduction of plants. He followed seven traits, or genes, through his pea plant crosses (plant reproduction). These studies lead to the science of Genetics.

Genetics & Heredity

How does heredity happen?

Cell Type:









Chromosomes in each cell:

Genetic Material from:

What happens?

Example:

Traits Chart – Part 1

Hairline	 Widow's Peak Hairline	 Straight Hairline	Tongue Rolling	 Can Roll Tongue	 Can't Roll Tongue
Yes/No	Do you have a widow's peak?		Yes/No	Can you roll your tongue?	
Earlobe Attachment	 Attached Earlobes	 Detached Earlobes	Hand Clapping	 Cross Left Thumb Over Right	 Cross Right Thumb Over Left
Yes/No	Are your earlobes attached?		Yes/No	Does your right thumb sit on top?	

Traits Chart – Part 2

Freckles	 Freckles	 No freckles	Handedness		
Yes/No	Do you have freckles?		Yes/No	Are you right handed?	
Cleft Chin			Dimples	 Dimples	 No Dimples
Yes/No	Do you have a cleft chin?		Yes/No	Do you have dimples?	