

All twins are clones, but not all clones are twins. (From Clone age Video)

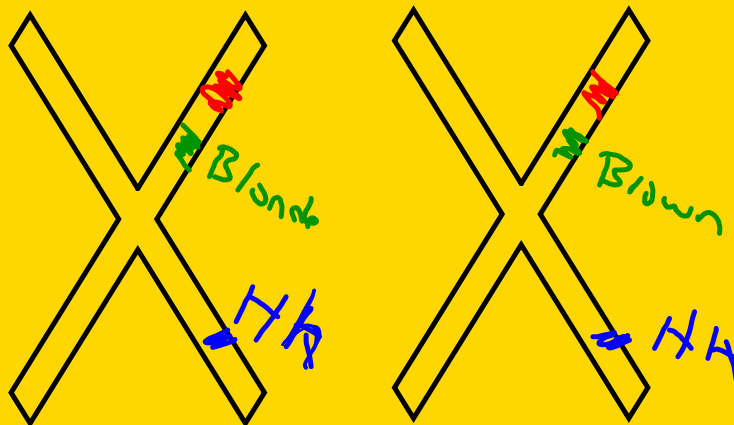
-Clones are genetically identical, meaning they have the exact same DNA (So does Twins) (Genetic replication of an organism)

- Twins are born at the same time and live through similar situations so this in turn effects their behavior and in most cases they act very similar.

- Clones can be born 10-20 years apart and can act very different since they are brought up in different decades. Different environmental factors can change their behaviors.

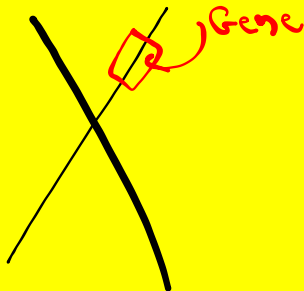
Gene:

A part on the chromosomes that holds the information for a trait. Remember, you get one gene from your mother and one from your father.





Each chromosome in the pair contains genes for the same biological features, such as eye color, at the same locations on the chromosome. However, each can contain either the same allele (e.g., both alleles for blue eyes) or different alleles (e.g., one allele for blue eyes and one allele for brown eyes) for each feature



DNA → chromosome → Genes → Allels






DOMINANT: H

When a **DOMINANT** gene is present, it is expressed.

Recessive: h

Can only be expressed when there is no **DOMINANT** gene.

	DOMINANT TRAITS	RECESSIVE TRAITS
eye coloring	brown eyes H	grey, green, hazel, blue eyes
vision	farsightedness normal vision normal vision normal vision	normal vision nearsightedness night blindness color blindness*
hair	dark hair non-red hair curly hair full head of hair widow's peak	blonde, light, red hair red hair straight hair baldness* normal hairline
facial features	dimples unattached earlobes freckles broad lips	no dimples attached earlobes no freckles thin lips
appendages	extra digits fused digits short digits fingers lack 1 joint limb dwarfing clubbed thumb double-jointedness	normal number normal digits normal digits normal joints normal proportion normal thumb normal joints
other	immunity to poison ivy normal pigmented skin normal blood clotting normal hearing normal hearing and speaking normal- no PKU	susceptibility to poison ivy albinism hemophilia* congenital deafness deaf mutism phenylketonuria (PKU)

Mom Brown Eyes
HH, Hh, or hH

Dad
has
hazel
hh

Heterozygous Pair: (Hh) \rightarrow H
A DOMINANT and Recessive gene.

H \rightarrow Br
h = Bl

Homozygous: $\begin{matrix} Br \\ \uparrow \end{matrix}$ (HH) or $\begin{matrix} Bl \\ \uparrow \end{matrix}$ (hh)
Either two DOMINANT genes or two recessive genes.

Attachments

Biologically_Speaking__Genetics_and_Hereditiy.asf