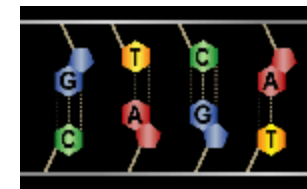
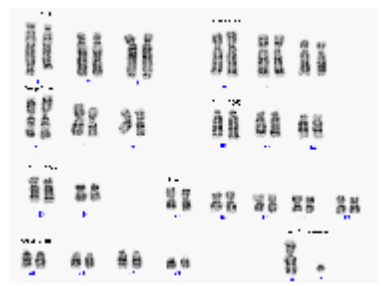
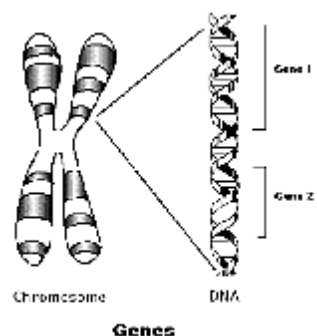
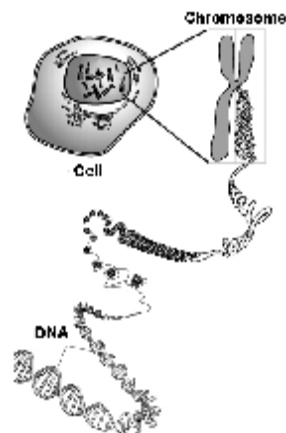
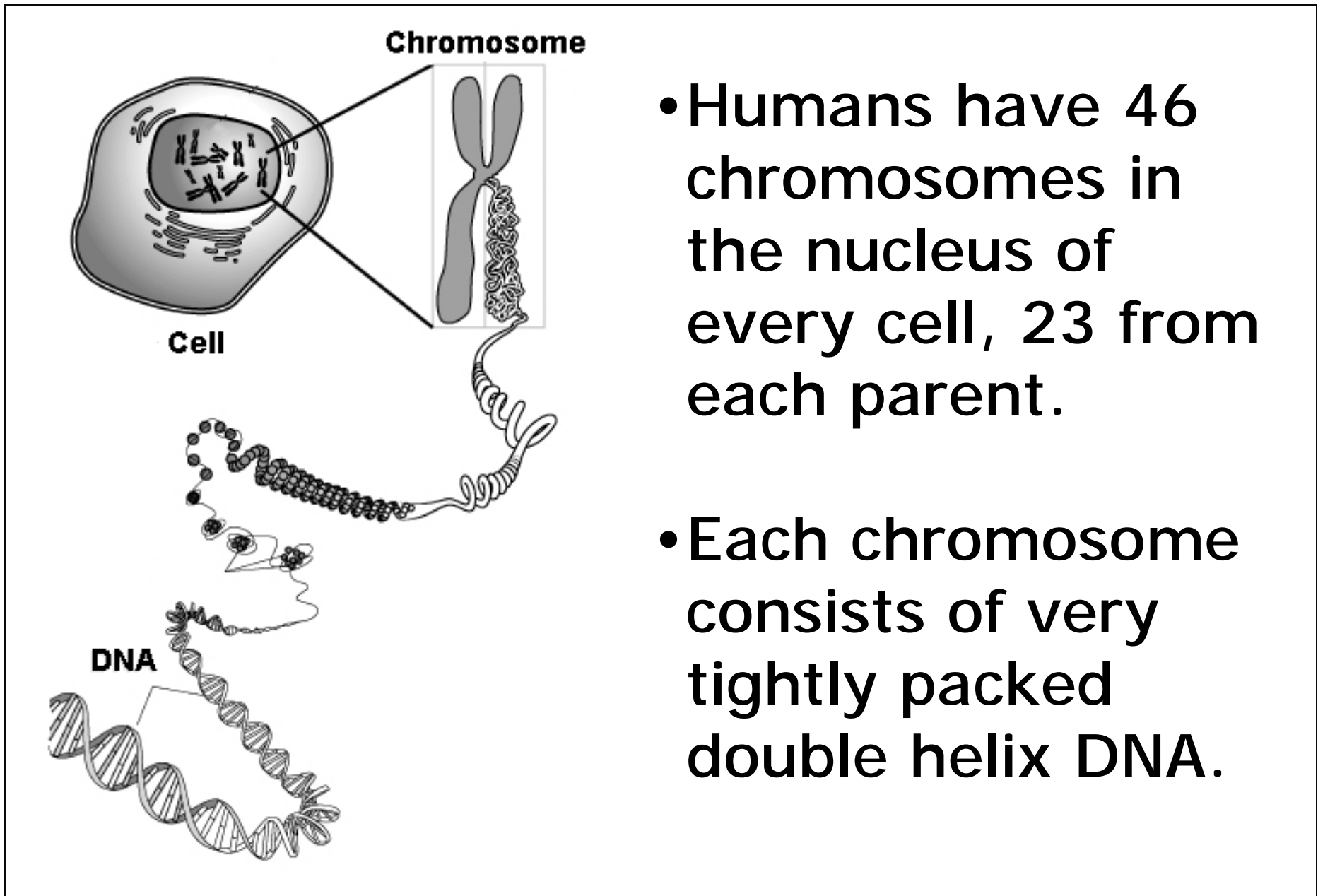


Take Inventory of Your Genetic Traits

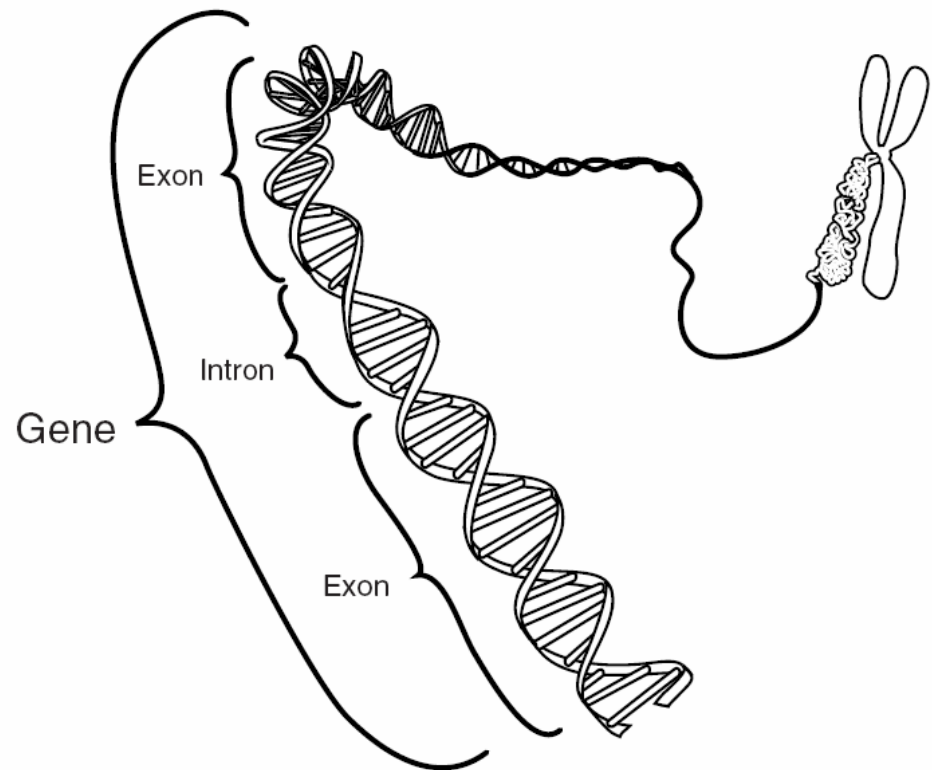


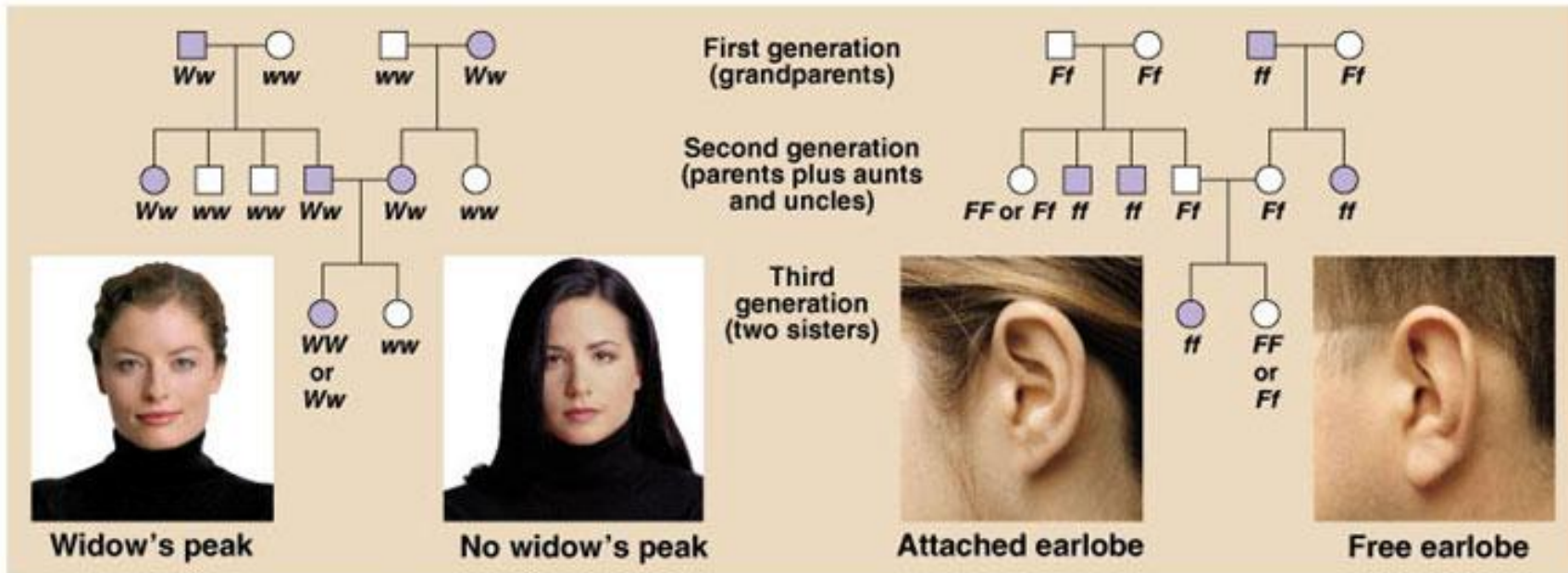


- Humans have 46 chromosomes in the nucleus of every cell, 23 from each parent.
- Each chromosome consists of very tightly packed double helix DNA.

- Genes are stretches of DNA found on chromosomes.

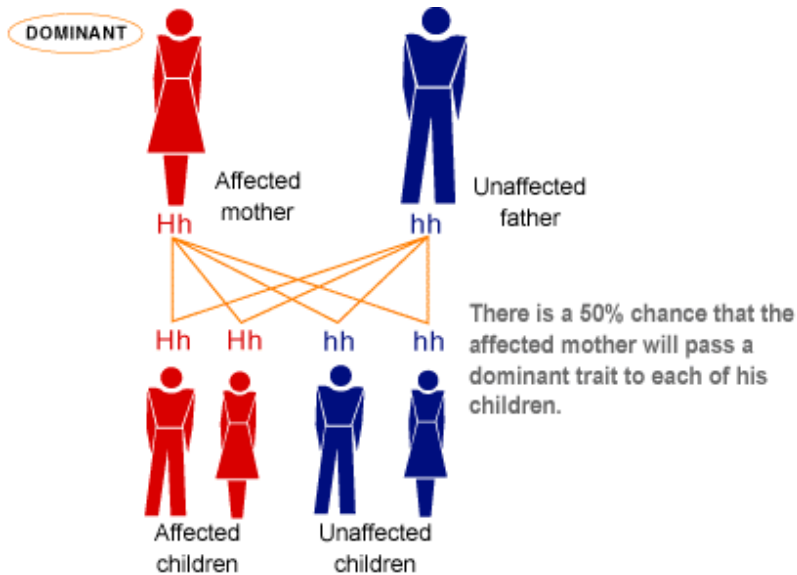
- Each gene codes for a different physical trait.



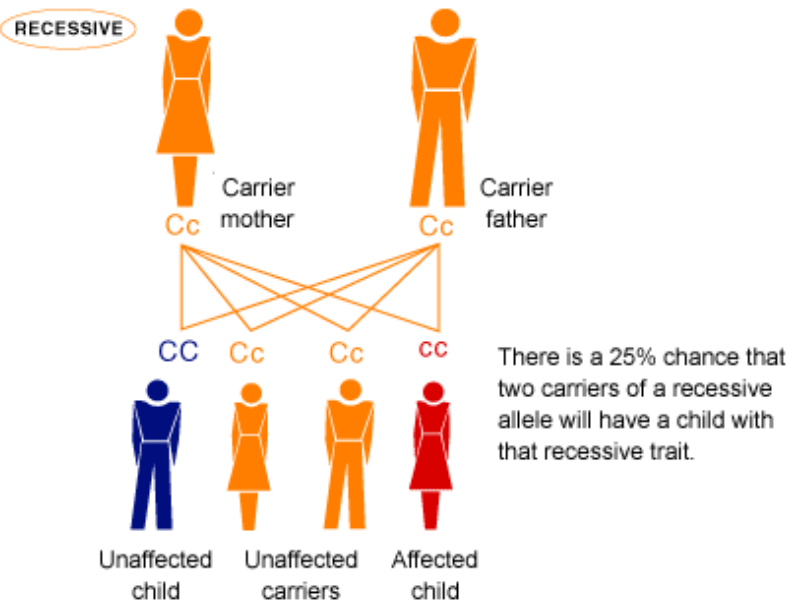


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- The genes you inherit from your parents determine your physical traits.
- Genes and traits are considered dominant or recessive, although in some cases it is not always clear.

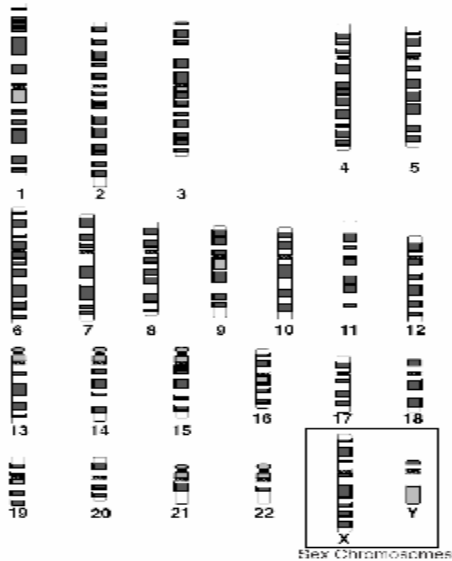


- Dominant traits occur when only one copy of the dominant gene is inherited.

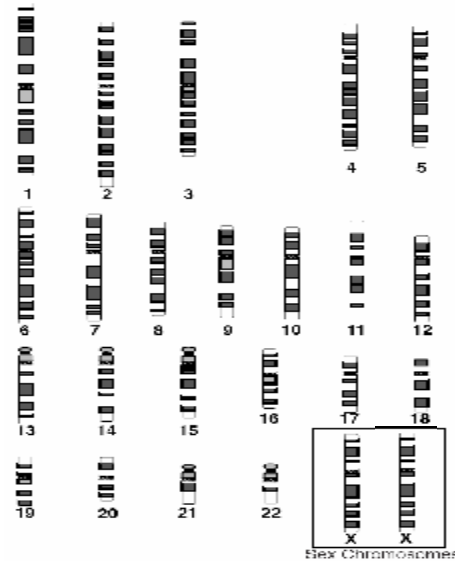


- Recessive traits are usually rare because you need to inherit a both parents.

Male or Female?



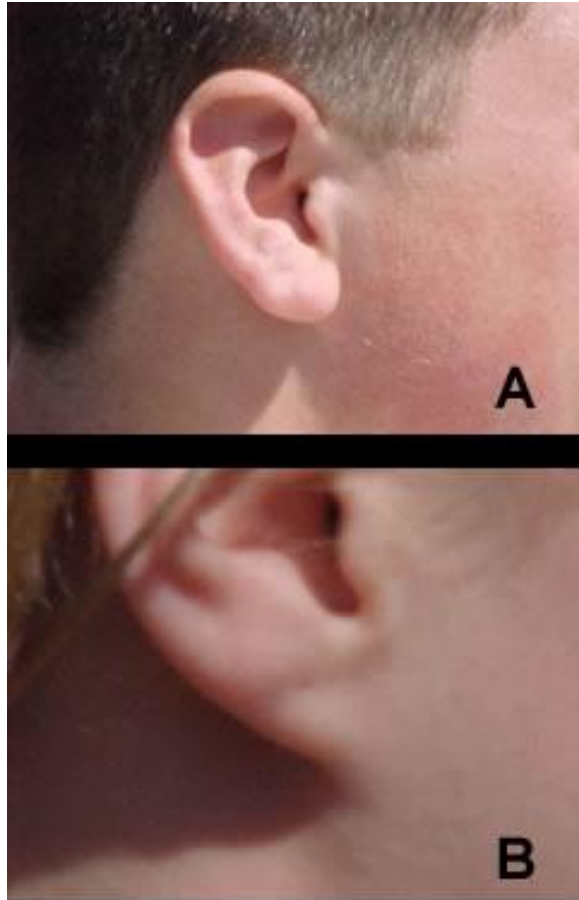
Male (XY)



Female (XX)

- Your sex is determined by whether you get an X or Y chromosome from your father. Everyone receives an X from their mother.

Earlobes



- Detached earlobes are believed to be dominant, but more than one gene may be involved.
- Attached earlobes are considered recessive.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

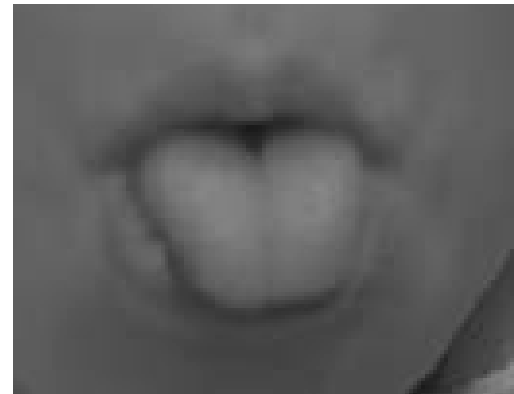
Tongue Rolling

- Rolling



- Rolling is thought to be dominant, but identical twin studies have cast doubt on this observation.

- Non-rolling



- Non-rolling is thought to be recessive.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Ear Wiggling

Ear wiggling may be connected to tongue rolling in males.

- Can move ears = Dominant (although this may be variable)
- Can't move ears = Recessive



<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Dimples

- Dimples are thought to be dominant.
- No dimples is recessive.



<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Hand Clasping

Hand clasping is believed to be determined by genetic factors, although it is unclear if one trait is dominant over the other.

- Left Thumb on Top



- 55% of people place their left thumb on top

- Right Thumb on Top



- 44% place their right thumb on top.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Cleft Chin



- Cleft chins are dominant, although variable penetrance may influence expression.

- No cleft is recessive.

Department of Genetics, Stanford University
<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Widow's Peak



- A widow's peak hairline is considered dominant.

- No widow's peak is considered recessive.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Hair on Middle Segment of Finger

- Hair



- The presence of hair on the middle segment of *any* finger is dominant.

- No Hair



- No hair is recessive.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Phenylthiocarbamide (PTC) Tasting

PTC is a bitter flavor compound that often causes people to dislike certain foods, such as broccoli, coffee, or beer.

- PTC tasting is dominant.
- Non-tasting is recessive.



- 75% of individuals can taste the bitter flavor of PTC.



- 25% of individuals find the paper tasteless.

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>

Image Sources:

Chromosomes and Genes: The National Human Genome Research Institute, www.genome.gov

Genes and Inherited Traits: Pearson Education, www.pearsoned.com

Dominant/Recessive Traits: Cooperative Research Centre, www.genecrc.org

Male or Female: The National Human Genome Research Institute, www.genome.gov

Earlobes: Windows to the Universe, www.windows.ucar.edu

Tongue Rolling, Hand Claspings: Genetic Science Learning Center at the Univ. of Utah, gslc.genetics.utah.edu

Ear Wiggling, Dimples, Cleft Chin, Widow's Peak, & PTC Tasting: Microsoft Word Clip Art, office.microsoft.com/clipart/

Hair on Middle Segment of Finger: Koshland Science Museum, www.koshlandscience.org