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Chapter 13-1: Human Inheritance

1. What are some patterns of human inheritance?
2. Single genes with two alleles.
3. Two distinct phenotypes
4. Examples: Widow’s peak, dimples, cleft chin, ability to roll tongue.

Dimples is controlled by the dominant allele (D).

A man who is homozygous for dimples marries a woman who is heterozygous for dimples.

What are the possible genotypes of the offspring?

What are the possible phenotypes?

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1. Single genes with multiple alleles.
2. 3 or more forms of a gene.
3. Examples: blood types: A, B,O
4. A and B are dominant
5. O is recessive
6. A and B together are co-dominant

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|  | A man who is heterozygous for Type A blood marries a woman who is homozygous Type B.  What are the possible genotypes of the offspring?  What are the possible phenotypes? |
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|  | A woman who has type AB blood marries a man who is homozygous for type A.  What are the possible genotypes of the offspring?  What are the possible phenotypes? |
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|  | A man who is type O marries a woman who is heterozygous for type B.  What are the possible genotypes of the offspring?  What are the possible phenotypes? |
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1. Traits controlled by many genes.
2. Examples: Height and skin color
3. What are the functions of the sex chromosomes?
4. Sex chromosomes and fertilization.
5. One of the 23 pairs of chromosomes.
6. Don’t always match.
7. XX is a female
8. XY is a male
9. 50% chance each time for a male or female
10. Sex-linked genes.
11. Examples: colorblindness, male pattern baldness, hemophilia, Duchene Muscular Dystrophy,

ALD

1. Alleles are dominant and recessive
2. Usually carried on the X sex chromosome
3. Females can be normal ,carriers, or affected
4. Males can be normal or affected

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|  | A man who is colorblind marries a woman who is homozygous for normal vision.  What are the possible genotypes of the offspring?  What are the possible phenotypes? |
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|  | Dad has muscular dystrophy and mom is healthy and not a carrier.  What are the possible genotypes of the offspring?  What are the possible phenotypes? |
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