Principles of Human Heredity Questions & Answers

what are genes? - ANS--basic unit of inheritance -a sequence of DNA(DEOXYRIBONUCLEIC ACID) that direct the formation of proteins and (and microRNA's)

What are alleles? - ANS-Different versions of same gene

How are alleles changed? - ANS-mutation

Comparative Genomics - ANS-Examines the degree of similarity and identifies in the genomes of different species.

What is a trait? - ANS-Any observable property of an organism.

What determines the characteristics of a trait? - ANS-Traits can be determined by one gene

-Mendelian traits result from variation in alleles of one gene.

traits can be determined by multiple genes.

Polygenic traits results from variation in several genes.

Traits can be determined by genes and development

Multifactorial traits result from effects of one or more genes and the environment (Also known as complex traits)

Human disease: How do we assess risk? - ANS-Absolute risk- the probability that an individual will develop a condition or trait, can be calculated.

Relative risk - ANS-the likelihood that an individual from one group will develop a condition in comparison to another group(Usually the general population)

Empiric risk - ANS-risk determined by observing incidence of a trait in a small specified population, typically a family, or a closed population(Amish)

Mendelian Disorders: The disease is caused by defects in a single gene - ANS-Disorders

- -Achondroplasia
- -Cystic Fibrosis
- -Duchenne's Muscular Dystrophy
- -Hemophilia
- -Familia Hypercholesterolemia

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