

Q: Which chromosome shape has the centromere near the "tip" of the chromosome?	Q: Which chromosome shape has the centromere at or near the middle?
A: Telocentric	A: Metacentric
Q: What is the term for a heterozygote that does not show the dominant allele yet, but may in the future?	Q: What is the term for non-sex chromosomes?
A: Asymptomatic carrier	A: autosomes
Q: What is the term for a prokaryote that is defective in synthesizing a key metabolite?	Q: What is the term for crossing an individual by an individual with the same genotype as its parent?
A: auxotroph	A: backcross

<p>Q: With respect to mapping eukaryotic traits, what is a "c"- "M"?</p>	<p>Q: What is the repetitive region at the "center" of a chromosome where the kinetochore is present?</p>
<p>A: Centimorgan</p>	<p>A: centromere</p>
<p>Q: If a double-heterozygote has the dominant allele for one trait on one chromosome, and the dominant allele for a second trait on the opposite chromosome, what phase is it in?</p>	<p>Q: If a double-heterozygote has the dominant alleles for two traits on the same chromosome, what phase is it in?</p>
<p>A: trans or repulsion</p>	<p>A: cis or coupling</p>
<p>Q: What is the name of the protein that binds sister chromatids together during cell division?</p>	<p>Q: What is the term for two alleles both being expressed distinctly in a heterozygote?</p>
<p>A: cohesin</p>	<p>A: codominance</p>

<p>Q: What is the term for two twins or siblings showing the same phenotype for a given trait?</p>	<p>Q: What is the term for mating between two closely related individuals?</p>
<p>A: concordance</p>	<p>A: consanguinity</p>
<p>Q: What is the process by which one prokaryotic cell can transfer an episome to another cell?</p>	<p>Q: What is the term for a simple tandem repeat decreasing in size by one or more repeat units?</p>
<p>A: conjugation</p>	<p>A: contraction</p>
<p>Q: What is the term for crossing two double-heterozygotes?</p>	<p>Q: What is the term for an organism that has two of each homologous chromosome?</p>
<p>A: dihybrid cross</p>	<p>A: diploid</p>

<p>Q: What is the term for two twins or siblings showing the opposite phenotypes for the same trait?</p>	<p>Q: What is another term for a Mendelian trait?</p>
<p>A: discordant</p>	<p>A: discrete OR qualitative</p>
<p>Q: What is another term for non-identical, or fraternal, twins?</p>	<p>Q: What is the term for a phenotype that can be observed if an individual is homozygous recessive for either of two loci?</p>
<p>A: dizygotic</p>	<p>A: duplicate recessive epistasis</p>
<p>Q: What molecule is shared during conjugation of prokaryotes?</p>	<p>Q: What is the term for the genotype of one locus overriding the phenotype dictated by the genotype at another locus?</p>
<p>A: episome OR F-factor</p>	<p>A: epistasis</p>

<p>Q: What is the term for a simple tandem repeat increasing in size by one or more repeat units?</p>	<p>Q: What is the term for the degree to which a trait is observed?</p>
<p>A: expansion</p>	<p>A: expressivity</p>
<p>Q: What is the full name of FISH ("F"- "I"- "S"- "H")?</p>	<p>Q: What is the term for a new allele which becomes the only one in a population? (Hint: "the population is...for the allele")</p>
<p>A: Fluorescent In Situ Hybridization</p>	<p>A: fixed</p>
<p>Q: What is the type of mutation where a coding region is increased/decreased by a number of nucleotides that is not a multiple of three?</p>	<p>Q: What type of mutation causes a new structure to appear at an inappropriate time or location?</p>
<p>A: frameshift</p>	<p>A: gain-of-function</p>

<p>Q: What is the sex-determination system of <i>Drosophila</i>, where the ratio of the number sex chromosomes to the number of each autosome is determining?</p>	<p>Q: What is the Hardy-Weinberg equation?</p>
<p>A: genic balance system</p>	<p>A: <math>p^2 + 2pq + q^2 = 1</math></p>
<p>Q: When heterozygous females express different alleles in a given tissue or location due to X-inactivation, they are referred to as being...?</p>	<p>Q: What is the term for an individual having multiple mitochondrial alleles at a given locus within individual cells?</p>
<p>A: hemizygous</p>	<p>A: heteroplasmy</p>
<p>Q: What is the term for a prokaryotic cell in which the F-factor has incorporated into the host genome?</p>	<p>Q: Are female birds homogametic or heterogametic?</p>
<p>A: Hfr OR High Frequency Donor</p>	<p>A: heterogametic</p>

<p>Q: What is exhibited when some percentage of individuals do not show the phenotype predicted by their genotype?</p>	<p>Q: Semi-dominance and Co-dominance are examples of...?</p>
<p>A: Incomplete penetrance</p>	<p>A: Incomplete dominance</p>
<p>Q: What is the term for a coding region undergoing an insertion or deletion of a number of nucleotides that is a multiple of three?</p>	<p>Q: What is the specific term for a cross of siblings (not consanguinity)?</p>
<p>A: inframe</p>	<p>A: intercross</p>
<p>Q: What is the term for a mutation at a gene that "overrides" the mutation at a different locus, restoring the wildtype?</p>	<p>Q: What is the term for a mutation at a gene that "overrides" the mutation at the same locus, restoring the wildtype?</p>
<p>A: intergenic suppressor</p>	<p>A: intragenic suppressor</p>

<p>Q: What is the term for the protein complex that forms around the centromere during cell division?</p>	<p>Q: A male with one or more extra X chromosomes has which syndrome?</p>
<p>A: kinetochore</p>	<p>A: Klinefelters</p>
<p>Q: What is the name for the DNA strand that undergoes continuous synthesis during cell replication?</p>	<p>Q: What is the name for the DNA strand that undergoes discontinuous synthesis during cell replication?</p>
<p>A: leading strand</p>	<p>A: lagging strand</p>
<p>Q: If two traits are not segregating independently, they are potentially...?</p>	<p>Q: What is the name for any specific nucleotide or set of nucleotides at a given position in the genome?</p>
<p>A: linked</p>	<p>A: locus</p>

<p>Q: What is the full name of a LOD score?</p>	<p>Q: How would you classify a LOD score of greater than three but less than four?</p>
<p>A: Log of Odds</p>	<p>A: significant evidence of linkage</p>
<p>Q: How would you classify a LOD score of greater than two, but less than three?</p>	<p>Q: How would you classify a LOD score of less than or equal to negative two?</p>
<p>A: Suggestive evidence of linkage</p>	<p>A: exclusion of linkage</p>
<p>Q: What is the term for mutation that results in a structure or function not appearing?</p>	<p>Q: What is the term for an allele that through evolution has disappeared from a population?</p>
<p>A: loss-of-function</p>	<p>A: loss/lost</p>

<p>Q: What is the term for a continuous trait with discrete outcomes?</p>	<p>Q: What is the term for a mutation in a coding region that causes a change in the amino acid coded for?</p>
<p>A: Meristic characteristic</p>	<p>A: missense</p>
<p>Q: What is the term for a mutation in a coding region that causes a change in coding from an amino acid to a stop codon?</p>	<p>Q: Which common model organism may be good for studying human immune response?</p>
<p>A: non-sense</p>	<p>A: Mus musculus</p>
<p>Q: Which common model organism would be good for studying the development of flowers in plants?</p>	<p>Q: Which common model organism would be good for studying a generic process of cell migration during development?</p>
<p>A: Arabidopsis thaliana</p>	<p>A: C. elegans</p>

<p>Q: Which common model organism would be good for studying the development of backbones?</p>	<p>Q: What is another term for identical twins?</p>
<p>A: Danio rerio</p>	<p>A: monozygotic</p>
<p>Q: What is the term for an unphosphorylated nucleosugar plus base?</p>	<p>Q: What is the term for the nitrogenous ring on a nucleotide/nucleoside?</p>
<p>A: nucleoside</p>	<p>A: base</p>
<p>Q: What is the term for an individual who shows the dominant and unaffected phenotype, but must be a heterozygote based upon other familial genetic evidence?</p>	<p>Q: What is the term for the percentage of individuals who show the phenotype dictated by their genotype?</p>
<p>A: obligate carrier</p>	<p>A: penetrance</p>

<p>Q: What is the term for an environmental cause of a trait that mimics a known genetic cause?</p>	<p>Q: Individuals who are unable to properly metabolize phenylalanine due to mutations in the PAH locus have which disease (full name, not abbreviation)?</p>
<p>A: phenocopy</p>	<p>A: phenylketonuria</p>
<p>Q: What is the term for a genetic map determined by sequencing?</p>	<p>Q: What is the term for a genetic map determined by studying the effects of recombination and non-segregation of traits?</p>
<p>A: physical map</p>	<p>A: linkage map</p>
<p>Q: What is the name of the projections off of an F+ prokaryotic cell?</p>	<p>Q: What is the name of the protein that forms the scaffolding of the projections off of an F+ prokaryotic cell?</p>
<p>A: pili OR pilus</p>	<p>A: pilin</p>

<p>Q: What is the term for alleles of a single gene determining multiple phenotypes?</p>	<p>Q: What is the name for the daughter cell during meiosis which gives up its cytoplasm to the other daughter cell?</p>
<p>A: pleiotropy</p>	<p>A: polar body</p>
<p>Q: What is the term for a single observable phenotype that may have multiple underlying genetic causes?</p>	<p>Q: What is the term for inheritance that is influenced by the variation of multiple genes in combination?</p>
<p>A: genetic heterogeneity</p>	<p>A: polygenic inheritance</p>
<p>Q: What is the term for the first individual in a pedigree identified with a genetic trait?</p>	<p>Q: What is the term for a prokaryote capable of synthesizing all necessary metabolites from minimal media?</p>
<p>A: proband</p>	<p>A: prototroph</p>

<p>Q: What is the name for the regions of sex chromosomes that can undergo recombination?</p>	<p>Q: What is the abbreviation for a gene that has alleles that influence a continuous trait?</p>
<p>A: psuedoautosomal</p>	<p>A: QTL</p>
<p>Q: What is the term for the sex determination system in which an individual starts as one sex, then is triggered to change to another sex?</p>	<p>Q: What would be the name for a polymorphism with the sequence (GC) repeated multiple times?</p>
<p>A: sequential hermaphroditism</p>	<p>A: Short Tandem Repeat Polymorphism OR STRP</p>
<p>Q: What would be the name for a polymorphism in which one base differs between alleles (e.g. "A" for one allele and "G" for another)?</p>	<p>Q: What is the name of the protein that binds cohesin in Meiosis I and prevents the separation of sister chromatids?</p>
<p>A: Single Nucleotide Polymorphism OR SNP</p>	<p>A: Shugoshin</p>

<p>Q: What is the name for a mutation in a coding region that does not change amino acid coding?</p>	<p>Q: What is the name of the process by which polymerase can make an error causing an expansion or contraction of a simple nucleotide repeat?</p>
<p>A: silent mutation</p>	<p>A: slippage</p>
<p>Q: What is the name of the experimental method that fuses cells from two different species (typically human and mouse) to identify the chromosome a gene is on?</p>	<p>Q: What is the name for a mutation in a body (non-gametic) cell?</p>
<p>A: somatic cell hybridization</p>	<p>A: somatic</p>
<p>Q: What is the name for a chromosome shape in which the centromere is just off from center?</p>	<p>Q: What is the name of naturally forming alternative forms of a given nucleotide base?</p>
<p>A: submetacentric</p>	<p>A: tautomers</p>

<p>Q: What is the name for the mapping technique that takes advantage of non-segregation of alleles across three traits?</p>	<p>Q: What is the prokaryotic mapping technique by which a virus is utilized?</p>
<p>A: three point test cross</p>	<p>A: transduction mapping</p>
<p>Q: What is the prokaryotic mapping technique by which competent cells take up fragments of the donor genome?</p>	<p>Q: What is the name for a nucleotide mutation from a purine to a purine, or a pyrimidine to a pyrimidine?</p>
<p>A: transformation mapping</p>	<p>A: transition</p>
<p>Q: What is the name for a nucleotide mutation from a purine to a pyrimidine, or a pyrimidine to a purine?</p>	<p>Q: If an individual has one X-chromosome, and no other sex-chromosome, what condition do they have?</p>
<p>A: transversion</p>	<p>A: Turner Syndrome</p>

<p>Q: What is the name for the mapping technique that takes advantage of non-segregation of alleles across two traits?</p>	<p>Q: What is the term for an allele which is not yet fixed or lost in a population? (not "polymorphism")</p>
<p>A: two-point test cross</p>	<p>A: unfixed</p>
<p>Q:</p>	<p>Q:</p>
<p>A:</p>	<p>A:</p>