

Genetics Vocabulary Worksheet 2 Answers

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Define these terms:

Meiosis This is a process where a parent cell divides into four sex cells with half the chromosomes.

Pedigree A chart that shows the relationships within a family.

Phenotype The physical expression of genes.

Transcription This is the process of copying DNA to RNA.

Translation This is the second step of production of proteins where mRNA is decoded to produce a specific polypeptide.

Match the term on the left with its definition on the right:

- | | |
|------------------------|--|
| N Incomplete Dominance | A. This is a situation in which genes are attached to an organism's sex chromosomes; the sex of an organism influences the expression of a gene. |
| Independent Assortment | B. This is the result of nondisjunction of chromosomes during meiosis. This mutation results in three copies, instead of the normal two. It can happen with sex or autosomal chromosomes. |
| K Insertion | C. This is a random error/change in the DNA sequence. These may be inherited or occur in cells during the lifetime of the organism. |
| Inversion | D. This is Mendel's first law. For each inherited trait, there are at least one pair of alleles. This states that during gamete formation each member of an allelic pair separates from the other member to form the genetic make-up of a gamete (sex cell). |
| O Jumping Genes | E. This is a genetic disorder where the red blood cells change their shape and can get stuck in capillaries. |
| J Karyotype | F. This is an undifferentiated cell whose "job" within the organism is yet to be determined. |
| W Law Of Dominance | G. This is the failure of chromosome pairs to separate properly during meiosis. |
| D Law Of Segregation | H. This is a two-part process that ends in the assembly of proteins at the ribosomes within cells. The first part, transcription, begins in the nucleus, when the DNA code is transferred to mRNA. The second part, translation, takes place at the ribosomes, where both mRNA and tRNA work to assemble proteins. |
| Mendelian Inheritance | I. This is a fatal genetic disorder, inherited in an autosomal recessive pattern, in which harmful quantities of a fatty substance called ganglioside accumulate in the nerve cells in the brain. |
| X Monohybrid Cross | J. This is the complete set of all chromosomes of a cell of any living organism. They are often displayed in a photograph of chromosomes that have been grouped into matching pairs. |
| Z Monosomy | K. This is a type of mutation that occurs when a nucleotide base pair is added into a genetic sequence. |
| L MRNA | L. This is one form of RNA that that serves as a template for protein synthesis. It is transcribed from DNA and then translated at ribosomes to produce a protein. |
| Multiple Alleles | M. This moves a segment from one chromosome to another, nonhomologous |

one.

C Mutation	N. This is a trait that is a blend of the dominant and recessive gene
G Nondisjunction	O. These are sequences of DNA that can move around to different positions within the genome of a single cell. This process is called transposition. The moving DNA sequences can cause mutations.
P Point Mutation	P. This is a genetic mutation caused by the replacement of a single base nucleotide with another nucleotide. This term also includes insertions or deletions of a single base pair.
T Polygenic Traits	Q. The process of developing a cultivated group of domesticated animal.
H Protein Synthesis	R. This is plant or crop that contains a gene or genes which have been artificially inserted instead of acquiring them through fertilization. The inserted gene sequence is known as a transgene and may come from an unrelated plant or from a completely different species.
Y Recessive Allele	S. This is an artificial genetic sequence from combining two other sequences in a plasmid.
S Recombinant DNA	T. This is the inheritance pattern controlled by more than two genes.
Q Selective Breeding	U. This is the biological determination system for the sex of an offspring.
U Sex Chromosomes	V. These are organisms produced with externally introduced genes.
A Sex Linked	W. One of Mendel's Laws of Inheritance. This law states an organism has two different alleles for a trait and the allele that is expressed in the phenotype, masking the expression of the other allele, is said to be dominant. The allele whose expression is masked is said to be recessive.
E Sickle Cell Anemia	X. This is the inheritance of a single pair of contrasted characteristics.
F Stem Cell	Y. This is a form of a gene that is hidden by another, dominant, form of the same gene.
I Tay-Sachs Disease	Z. This is a chromosomal abnormality consisting of the absence of one chromosome from the normal diploid number.
V Transgenic Animals	. This is one of Mendel's principles that govern the process of genetic inheritance. It states that allele pairs separate independently during the formation of gametes (sex cells). This means that traits are passed to offspring independently of one another.
R Transgenic Crop	. This reverses a segment within a chromosome.
M Translocation	. This is the concept that organisms pass traits to offspring through genes.
B Trisomy	. This is the possibility of one of many different genes on a chromosome.