Crossword Puzzle for Basic Principles of Genetics

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| **Across** **2.**Mendel's principle of genetic inheritance stating that, for any particular trait, the pair of genes of each parent separate and only one gene from each parent passes on to an offspring.**5.**Mendel's principle of genetic inheritance stating that different pairs of genes are passed to offspring independently so that new combinations of genes, present in neither parent, are possible.**9.**An alternate form of the same gene.**11.**The genetic makeup of an individual for a trait or for all of his/her inherited traits—not the observable or detectable characteristics.**12.**An inheritance pattern in which a gene will have a different effect depending on the gender of the parent from whom it is inherited.**13.**Genes whose effect does not normally occur unless certain environmental factors are present.**16.**The observable or detectable characteristics of an individual organism; the detectable expression of a genotype.**17.**Genes that are inherited by both men and women but are normally only expressed in the phenotype of one of them.**18.**The inheritance pattern in which a single allele is responsible for a variety of traits.**21.**The term for a genotype in which there are two recessive alleles.**22.**Genes that can alter how certain other genes are expressed in the phenotype.**23.**Genes that can either initiate or block the expression of other genes.**24.**The general term for an allele that is masked in the phenotype by the presence of another allele. | **Down** **1.**The general term for an allele that masks the presence of another allele in the phenotype. **3.**A unit of inheritance usually occurring at a specific location on a chromosome.**4.**Twins that come from the same fertilized egg**6.**A trait that is determined by the combined effect of more than one gene.**7.**An inheritance pattern in which a gene has more than two alleles.**8.**The inheritance pattern in which two different alleles for a trait are expressed unblended in the phenotype of heterozygous individuals.**10.**He acquired his understanding of genetics mostly through pea plant breeding experiments.**14.**A genotype consisting of two different alleles of a gene for a particular trait.**15.**A genotype consisting of two identical alleles of a gene for a particular trait.**19.**A theory that inherited traits blend from generation to generation. Most of the leading scientists in the 19th century accepted it. However, Gregor Mendel proved that it was not correct.**20.**The study of gene structure and action and the patterns of inheritance of traits from parent to offspring. |

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