Crossword Puzzle for Basic Principles of Genetics

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | | **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. | |

Copyright © 2005 by Dennis O'Neil. All rights reserved.