1. What is the difference between a monohybrid and a dihybrid cross?

A. A monohybrid cross only involves one gene, while a dihybrid cross involves two genes.
B. A monohybrid cross only involves two alleles, while a dihybrid cross involves four alleles.
C. A monohybrid cross only involves one phenotype, while a dihybrid cross involves two phenotypes.
D. A monohybrid cross only involves one genotype, while a dihybrid cross involves two genotypes.

2. What is the difference between a homozygous and a heterozygous genotype?

A. A homozygous genotype only has two alleles of the same type, while a heterozygous genotype has two alleles of different types.
B. A homozygous genotype only has one allele of each type, while a heterozygous genotype has two alleles of each type.
C. A homozygous genotype only has two alleles of the same phenotype, while a heterozygous genotype has two alleles of different phenotypes.
D. A homozygous genotype only has two alleles of the same genotype, while a heterozygous genotype has two alleles of different genotypes.

3. What is the difference between a dominant and a recessive allele?

A. A dominant allele only shows up in the phenotype when it is present in the genotype, while a recessive allele only shows up in the phenotype when it is not present in the genotype.
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4. What is the difference between a phenotype and a genotype?

A. A phenotype is the physical appearance of an organism, while a genotype is the genetic makeup of an organism.
B. A phenotype is the physical appearance of an organism, while a genotype is the combination of alleles for a particular trait.
C. A phenotype is the expression of a gene, while a genotype is the gene itself.
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5. What is the difference between a gene and an allele?

A. A gene is a stretch of DNA that codes for a particular protein, while an allele is a variant form of a gene.
B. A gene is a stretch of DNA that codes for a particular protein, while an allele is a variant form of a protein.
C. A gene is a unit of inheritance, while an allele is a variant form of a gene.
D. A gene is a unit of inheritance, while an allele is a variant form of a protein.

6. What is the difference between independent assortment and segregation?

A. Independent assortment is the random distribution of alleles into gametes, while segregation is the separation of alleles during meiosis.
B. Independent assortment is the random distribution of alleles into gametes, while segregation is the separation of alleles during fertilization.
C. Independent assortment is the random distribution of alleles into gametes, while segregation is the separation of alleles during mitosis.
D. Independent assortment is the random distribution of alleles into gametes, while segregation is the separation of alleles during replication.

7. What is the difference between a Punnett square and a pedigree?

A. A Punnett square is a diagram that shows the possible genotypes of offspring from a genetic cross, while a pedigree is a diagram that shows the inheritance of a particular trait over several generations.
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