

## Mendelian Genetics Quiz PDF

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**What is a dihybrid cross, and how does it differ from a monohybrid cross?**

**Discuss the role of polygenic inheritance in determining human traits. Provide examples.**

**How did Mendel's experiments with pea plants contribute to our understanding of genetics?**

**In a dihybrid cross, which of the following genotypic ratios is expected? (Select all that apply)**

9:3:3:1

- 1:1:1:1
- 3:1
- 1:2:1

**What tool is used to predict the outcome of genetic crosses?**

- Pedigree Chart
- Punnett Square
- Genetic Map
- Karyotype

**Which of the following traits are examples of polygenic inheritance? (Select all that apply)**

- Skin color
- Height
- Blood type
- Eye color

**In a monohybrid cross, what is the expected phenotypic ratio of the offspring?**

- 1:1
- 3:1
- 9:3:3:1
- 1:2:1

**What is the expected genotypic ratio in a monohybrid cross of heterozygous parents?**

- 1:1
- 3:1
- 1:2:1
- 9:3:3:1

**What is the phenotype of an organism?**

- The genetic makeup
- The observable characteristics
- The location of a gene on a chromosome
- The sequence of DNA

**Which of the following are Mendel's laws of inheritance? (Select all that apply)**

- Law of Segregation
- Law of Independent Assortment
- Law of Genetic Linkage
- Law of Dominance

**Which of the following statements about alleles are true? (Select all that apply)**

- Alleles are different forms of a gene
- Alleles are always dominant
- Alleles can be recessive
- Alleles are found on different chromosomes

**Which of the following can be determined using a Punnett Square? (Select all that apply)**

- Phenotypic ratios
- Genotypic ratios
- Chromosome number
- Probability of traits

**Explain Mendel's Law of Independent Assortment and its significance in genetics.**

**Describe the difference between incomplete dominance and codominance, providing an example for each.**

**Which of the following is an example of codominance?**

- A pink flower from red and white parents
- A black and white spotted cow
- A tall plant from tall and short parents
- A green pea from yellow and green parents

**Which of the following principles is NOT one of Mendel's laws?**

- Law of Segregation
- Law of Independent Assortment
- Law of Dominance
- Law of Genetic Linkage

**Which term describes an organism with two identical alleles for a trait?**

- Heterozygous
- Homozygous
- Dominant
- Recessive

**Which of the following are characteristics of a pedigree chart? (Select all that apply)**

- Shows inheritance patterns
- Predicts genetic outcomes
- Identifies carriers of genetic disorders
- Displays chromosome structure

**Which of the following best describes Mendel's Law of Segregation?**

- Alleles of different genes assort independently
- Alleles separate during gamete formation
- Dominant alleles mask recessive alleles
- Genes are linked on chromosomes

**Why are pedigree charts important in studying human genetic disorders? Explain with an example.**

