Name _____

Unveiling the Mysteries of Epigenetics

Multiple Choice Questions

1. What is epigenetics?

a) The study of rocks and minerals.

b) The study of how external factors can influence gene expression and inheritance without changing the underlying DNA sequence.

c) The study of weather patterns.

d) The study of stars and galaxies.

2. What are epigenetic marks?

a) Chemical modifications to the DNA or the proteins associated with DNA that can alter gene activity.

b) Patterns of DNA sequence variations.

c) The number of chromosomes in a cell.

d) The size of a cell.

3. What is DNA methylation?

a) The process of adding methyl groups to specific regions of the DNA molecule.

b) The process of removing methyl groups from DNA.

c) The process of changing the DNA sequence.

d) The process of replicating DNA.

4. How do histone modifications influence gene expression?

a) By altering the structure of chromatin and regulating gene accessibility.

b) By changing the DNA sequence.

c) By increasing the number of chromosomes.

d) By decreasing the size of a cell.

5. Why is understanding epigenetics important?

a) It provides insights into the complex interplay between genes and the environment.

b) It helps scientists study the behavior of birds.

c) It helps scientists understand the formation of planets.

d) It helps scientists develop new types of computers.