

1. Describe the structures involved in passing hereditary information from one generation to the next.

2. Outline the process of DNA replication. Include a brief description of each enzyme's role in replication.

3. Outline the three processes involved in protein synthesis.

4. Explain how a genotype determines an organisms phenotype.

5. Outline at least three ways in which cells regulate gene expression.

6. Explain the connection between gene regulation of gene expression and phenotypic differences in cells and organisms.

7. Describe three types of gene mutations. Explain which would likely be the most detrimental to the cell or organism.

8. Outline one of the following biotechnology techniques: Gel Electrophoresis, Polymerase Chain Reaction, or Bacterial Transformation.