

1. Which enzyme is primarily responsible for adding methyl groups to DNA?
 - A. Helicase
 - B. DNA polymerase
 - C. DNA methyltransferase
 - D. RNA polymerase

2. In which of the following diseases is DNA hypomethylation a known contributing factor?
 - A. Alzheimer's disease
 - B. Cancer
 - C. Rheumatoid arthritis
 - D. All of the above

3. During prolonged fasting, the liver produces _____ from fatty acids to supply energy to the brain.

4. **True/False**
Cholesterol increases membrane permeability in all cases.

5. In lipid metabolism, the _____ cycle is essential for the complete oxidation of acetyl-CoA to produce energy.

6. Which of the following is a characteristic of unsaturated fatty acids?
 - A. They have only single bonds between carbon atoms.
 - B. They are usually solid at room temperature.
 - C. They contain one or more double bonds in their hydrocarbon chains.
 - D. They are more commonly found in animal fats.