

## Chapter 12 Nucleic Acids and Protein Synthesis

### 12.1 The Genetic Material

1. Early researchers knew that the genetic material must be:
  - a. able to *store information* used to control both the development and the metabolic activities of cells;
  - b. stable so it *can be replicated* accurately during cell division and be transmitted for generations; and,
  - c. able to *undergo mutations* providing the *genetic variation*.

6. Justify why DNA replication is important?

### Part 2: RNA vs. DNA

Directions: Answer the questions below.

1. What is RNA?
2. What do the letters RNA stand for?
3. Compare and contrast RNA and DNA in three different ways:
4. What processes use DNA?
5. What processes use RNA?
6. What are the 3 kinds of RNA?
7. Fill in the chart below:

### Part 3: Transcription

1. What is transcription?
2. Where does transcription occur?
3. What bases are involved in transcription?