

Forensic Science
Introduction to DNA/RNA Worksheet

Name_____

1. The portion of a DNA molecule (chromosome) that contains the instructions to make a protein is called a _____.
2. The sides of the “ladder” of a DNA molecule (its “backbone”) are formed by alternating molecules of _____ and _____.
3. The organic bases that form the “rungs of the ladder” of a DNA molecule are _____, _____, _____, and _____.
4. Adenine will only bond to _____ and cytosine will only bond to _____. This is called _____.
5. How is DNA Fingerprinting possible?
6. There are _____ different amino acids, which are strung together in a particular sequence to make each type of protein.
7. How does RNA differ from DNA?
8. When a cell needs to make a particular protein, _____ moves to the base sequence on DNA that contains the instructions to make that protein.
9. When the DNA molecule separates along this area, the enzyme listed above copies the information, forming a molecule of _____ in a process called _____.
10. Once the newly formed _____ (abbreviation) is completed, it moves out of the nucleus and associates with _____ out in the cytoplasm.
11. _____ follows the instructions on the molecule listed above to join amino acids in the cytoplasm in the correct order to form the needed protein. This process is called _____.
12. Whenever we need cells replaced in our body, old cells divide to form 2 new ones. At this time, DNA must be replicated. Describe the process of DNA replication.
13. Sometimes errors occur in DNA replication—an adenine attaches where there should be a cytosine—this is called a _____, which can cause a hereditary disease. They may occur spontaneously or be caused by exposure to _____.
14. What is the Human Genome Project?