Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period:\_\_\_\_\_\_\_\_\_\_\_

**DNA to RNA to Protein**

**Base Pair Rules**

|  |  |  |
| --- | --- | --- |
| **DNA** | **DNA** | **RNA** |
| **G** | **C** | **C** |
| **C** | **G** | **G** |
| **A** | **T** | **U** |
| **T** | **A** | **A** |

Use the rules of base pairing to first synthesize a complementary strand of DNA from the template strand given. Then, use the synthesized strand of DNA to code for a new strand of RNA. After synthesizing the RNA code, draw a bracket for every 3 bases. Please refer to the example below.

|  |  |
| --- | --- |
| DNA | T A T G A C T A T |
| DNA | A T A C T G A T A |
| RNA | U A U G A C U A U |

**Independent Practice:**

|  |  |
| --- | --- |
| DNA | T T A G G T C A T C A T |
| DNA |  |
| RNA |  |

|  |  |
| --- | --- |
| DNA | C G T A T G C C T T T T |
| DNA |  |
| RNA |  |

1. What is a segment of DNA that codes for a protein called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. In which organelle does both DNA replication and RNA synthesis occur?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Why is DNA an easy molecule to replicate? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_