**February Notes: Day Protein Synthesis**

Name: Period: Date:

**Aim: How is DNA used to make protein?**

**Do now: What is DNA? Where is DNA found? Why is DNA important?**

**From DNA to Protein**

* DNA is a molecule
* It instructs a molecule called to make .



**What is RNA?**

* RNA ( ) is a molecule that the DNA to instruction to make proteins.
* Because DNA is a molecule, DNA cannot the is enough to leave the nucleus.

**What are the difference between DNA and RNA?**

|  |  |
| --- | --- |
| DNA | RNA |
| It’s a stranded molecule | It’s a stranded molecule |
| It leave the  | It leave the  |
| Its bases are  | It’s bases are  |
| Base as follows:  | Base as follows:  |

**How to Make a Protein?** Making a protein occurs in 2 steps:

* Transcription process where a RNA molecule is from a segment of molecule. Occurs in .
* Transcription process where RNA is used to synthesize from . Occurs in the .

**Transcription**

1. A section of DNA “ ” at a gene.
2. RNA begin to to one side of the unzipped DNA strand. Starting at one end and finishing at the other.
3. Once the RNA is , it detaches from the and the .
4. The DNA “ ” back up.
5. of transcription

**Translation**

Translation begins the nucleus.

1. The RNA goes to a .
2. The ribosome the code letters at a time. These 3 letters are referred to as a

3) begin to based on the codons.

4) Amino Acids bind together forming a

A  is a segment of DNA whose of bases contain the information to make a protein (which will result in a ).

**Base pairing in RNA**

 pairs with U

 pairs with G

Example:

* RNA G U A C
* DNA

A single DNA strand is shown below. Write the RNA strand that would be synthesized against the DNA strand above.

RNA→

DNA →G C C A T T A G G C A A T C C C
A single DNA strand is shown below. Write the RNA strand that would be synthesized against the DNA strand above.

RNA→

DNA →A T A T G C G C C A A T T G C G