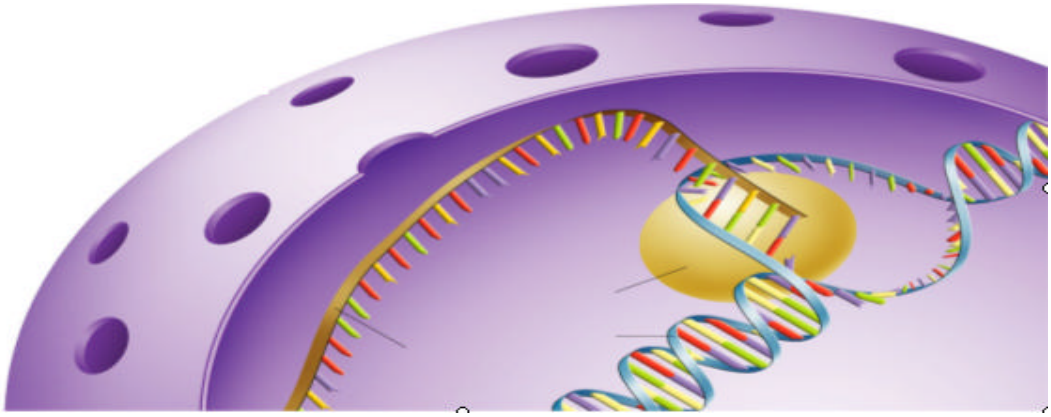
Name _____pd._____ Date _____

RNA Base Pairing Worksheet

When a cell makes RNA from a DNA molecule:

1. DNA is unzipped.
2. The complementary RNA bases are added to one template strand.
3. The new RNA strand released.



When a cell creates RNA (transcription), the original DNA ladder is broken apart and new RNA nucleotides are added to one of the strands (template strand). This creates a single stranded RNA molecule.

- RNA polymerase (the enzyme which builds RNA) will only attach bases which match with the original strand of DNA.
- In translation, **Adenine bonds to Uracil, Thymine bonds to Adenine, Cytosine and Guanine** will bond with each other.
- When creating the matching strand, the following pairing rules must be used:

A? U

T? A

C? G

Directions: Use the base pairing rules above to figure out the sequence of the new strand of RNA for the original DNA (template) strands below.

1. **AACGTACGATCGATGCACATGCATGGCTACGC**

2. **CCCGGGTATGCATGTACGTACGTCGTATATCG**

3. **CGCGATCGAGCGATCGACGAATGCCTAGTTTT**

4. **TTAAACGAGCTGCTAGCTATTTTTAAAACCCCG**

5. **CCGCTTTCGCTATTATAAAAAGGGCTATAACTA**