

**Mutations Worksheet** Name \_\_\_\_\_ Date: \_\_\_\_\_ Per. \_\_\_\_\_

During replication, transcription and translation there can be a mistake made in the bonding of complementary bases. These mistakes will lead to mutations. There are three main types of mutations: point mutations, insertion, and deletion mutations (the latter two are both frameshift mutations). In each of the following DNA sequences, you will use the mRNA and amino acid sequences to identify the mutation that occurred. Amino acid chains will become proteins. Remember back to the function of enzymes, which are proteins, and how a change in the shape of proteins will change their ability to work. Now add to this thought, changing the sequence of amino acids in a chain can change how the protein is folded and shaped, therefore ch

G G A A U C G C U G C U G A  
sn-Arg-Cys-STOP

Mutated mRNA #3: A U G U  
Mutated AA Sequence: Met-Trp-A  
Likely Effects: none  
Mutation Type: silent muta

tion

Mutated mRNA #4: A G C U

Mutated AA Sequence: Met-Trp-A