Mutation Types Practice Test

1. **DNA:** ACCATGCCCCGTTGATTT

**Mutation:** ACCATGCCCCGTTGATTT

**Mutation Type:**

**Why:**

1. **DNA:** ACCATGCCCCGTTGATTT

**Mutation:** ACCATGCC**U**CGTTGATTT

**Mutation Type:**

**Why:**

1. **DNA:** ACCATGCCCCGTTGATTT

**Mutation:** ACC**T**TGCCCCGTTGATTT

**Mutation Type:**

**Why:**

1. **DNA:** ACCATGCCCCGTTGATTT

**Mutation:** ACCATGC**G**CCGTTGATTT

**Mutation Type:**

**Why:**

Mutation Types - Answers

1. **DNA:** ACCATGCCCCGTTGATTT

ACC**AUG-**CCC-CGU-UGA-UUU

MET-PRO-ARG-STOP

**Mutation:** ACCATGCCCCGTTGATTT

ACC**AUG**-CCC-GUU-GAU-UU

MET-VAL-VAL…DOESN’T STOP

**Mutation Type:** Deletion that ultimately causes a **frame shift mutation**

**Why:** Because the deletion of a single base cased each codon down stream of it to shaft. Like take out a litter from a sentence

Pi~~g~~s like pie.  Pisl ikep ie

1. **DNA:** ACCATGCCCCGTTGATTT

ACC**AUG-**CCC-CGU-UGA-UUU

MET-PRO-ARG-STOP

**Mutation:** ACCATGCC**T**CGTTGATTT

ACC**AUG-**CCU-CGU-UGA-UUU

MET-PRO-ARG-STOP

**Mutation Type:** Point mutation - Silent mutation

**Why**: The single base substitution did not change the amino acid or the protein, so no functional change was made.

1. **DNA:** ACCATGCCCCGTTGATTT

ACCAUG-CCC-CGU-UGA-UUU

MET-PRO-ARG-STOP

**Mutation:** ACC**T**TGCCCCGTTGATTT

… Never starts

**Mutation Type**: Point mutation – Nonsense mutation

**Why**: Never starts because there is no ATG/AUG/Met anywhere

1. **DNA:** ACCATGCCCCGTTGATTT

ACC**AUG-**CCC-CGU-UGA-UUU

MET-PRO-ARG-STOP

**Mutation:** ACCATGC**G**CCGTTGATTT

ACC**AUG-**C**G**C-CGU-UGA-UUU

MET-**ARG**-ARG-STOP

**Mutation Type:** Point Mutation – Missense Mutation

**Why:** A single base change resulted in only one amino acid in the protein being changed.