CHAPTER 18
ANSWER KEY

Mutations Worksheet Answer Key

BLM 18.3.2A

1. a) mutation

   b) somatic cell mutations

   c) germ line mutations

   d) cancer

   e) mutagen

   f) physical mutagen

   g) chemical mutagens

   h) induce

2. a) A nonsense mutation results. A premature stop codon (UAG) has replaced the codon coding for leucine (UUG), resulting in the non-functional polypeptide val–his-stop.

   b) A silent mutation results. Both codons CAU and CAC code for the amino acid histidine. There is no change in the polypeptide.

   c) GUU-CAU-UUG-UCC-CGA-AG; val-his-leu-ser-arg; a frameshift mutation results as the entire amino acid sequence following the deletion has been altered. A mis-sense mutation will occur if the new nucleotide sequence only results in an altered protein, while a nonsense mutation will occur if the protein is non-functional.