

KEY FOR GENE AND GENE EXPRESSION WORKSHEET

Part B

1. GGT ATC GTG CAA TGT TGC ACT TCC ATT
2. GGU AUC GUG CAA UGU UGC ACU UCC AUU
3. GLY ISO VAL GLU CYS CYS THR SER ISO
4. 5 codons are the same
5. 7 amino acids are the same
6. Yes, since more than one codon codes for the same amino acid. This is adaptive in that if a mutation occurs, the organism would still be able to produce insulin hormone that is functional (animal would not be diabetic)
7. UUA, UUG, CUU, CUC, CUA, CUG
- 8a. Both of these codons code for isoleucine. The person will not be diabetic since the same amino acid will occur when they make the insulin protein.
- 8b. This is a point mutation.
- 9a. GLY ISO VAL HIS VAL ALA LEU PRO
- 9b. This is a frameshift mutation
- 10a. AU- AU- UU- GG- GU- UC- UA-
or AG
- 10b. Yes, since more than one codon codes for each amino acid.
- 10c. TA- TA- AA- CC- CA- AG- AT-
or UC
- 10d. AT- AT- TT- GG- GT- TC- TA-
or AG