

6. (4pts) Why is DNA replication much slower in eukaryotes versus prokaryotes?
Give two reasons.

7. (6pts) Describe a) the four stages of mitosis, b) generally, what is occurring during each phase, and c) what distinguishing feature of each phase allows you to distinguish it from the others?

8. (4pts) Why does horizontal gene transmission make cladistics and phylogenetic tree determination difficult?

9. (4pts) Why does symbiosis increase the likelihood of horizontal gene transmission?

10. 11 (4pts) Briefly describe an experiment that would allow a scientist to identify a gene homolog in humans and yeast, given the DNA sequence for the yeast gene.

11. (4pts) For humans, list a) the major folding levels of DNA, b) what molecules are involved in each, and c) the approximate width of each structure.

12. (4pts) Discuss two distinct cell processes that utilize ubiquitin.