

Microbiology Learning Objectives C10
Classification of Microorganisms

1. Define taxonomy, phylogeny, and taxa.
2. From the time of Aristotle, how were living organisms categorized?
3. What criterion was used to discover the three cell types?
4. What are the three domains? When did the three cell lineages emerge?
5. List the characteristics of each domain.
6. Most microorganisms are not readily fossilized. What are three exceptions?
7. What is a molecular clock? Explain
8. What is binomial nomenclature? What is the significance of the first and second name? Give examples.
9. What is taxonomic hierarchy? (see figure 10.5)
10. What is a pure culture?
11. What is a strain?
12. What is a cladogram? What is a clade
13. What is a virus? Are virus alive or dead or neither? How should you define virus?
14. List the major characteristics used to differentiate the three kingdoms of multicellular Eukarya.
15. What is a protist?
16. What is the oldest known fossil?
17. What is the significance in knowing two organisms have similar rRNA?
18. What methods are used to identify microbes?
19. What is the significance of the model of the origin of eukaryotes?
20. What is unique about the three domains?

