Supplemental Test Items to accompany OpenStax College *Concepts of Biology*. Note that not all chapters of OpenStax College *Concepts of Biology* have accompanying test items. Building on the community-oriented nature of OpenStax College resources, we invite you to submit items to be considered for future inclusion.

**Chapter 12: Diversity of Life**

1. A team of scientists is trying to categorize a new life form they believe is an insect. On what criteria will the scientists base their decision on whether or not to classify the creature as an insect? (Outcome #Ic) (DOK 2)
2. The team will study insects in the phylogenetic tree and see whether their new creature matches the characteristics of one of the tree’s branches.\*
3. The team will make the decision based on whether or not the creature has six legs.
4. The team will make the decision by finding out whether or not the creature shares any properties with plants.
5. What is a phylogenetic tree? (Outcome #4b) (DOK 1)
6. It is a small desert tree that has maintained an unaltered genotype for millions of years.
7. It is a diagram that shows the evolutionary relationships among organisms.\*
8. It is a graph that shows evolutionary change versus the natural selection index.
9. The scientific discipline of classifying organisms into increasingly more inclusive groups according to an international classification standard is known as what? (Outcome #4b) (DOK 1)
10. paleontology
11. entomology
12. taxonomy\*
13. Which list is correct in descending classification (from largest to smallest grouping)? (Outcome #4b) (DOK 1) (Paired Item 1)
14. kingdom, order, family, species\*
15. kingdom, order, phylum, species
16. phylum, family, class, genus
17. In order from largest to smallest classification, which list is correct? (Outcome #4b) (DOK 1) (Paired Item 2)
18. phylum, family, order, species
19. order, family, genus, species\*
20. order, class, genus, species
21. In general, which two characteristics of an organism are used to classify it? (Outcome #4b) (DOK 1) (Paired Item 1)
22. genome and protein compliment
23. cell structure and chromosome number
24. physical features and genome\*
25. Organisms that are more closely related overlap more how? (Outcome #4b) (DOK 1) (Paired Item 2)
26. morphologically and dietarily
27. metabolically and genetically
28. genetically and morphologically\*
29. What is a clade? (Outcome #4b) (DOK 1)
30. a group of organisms that all share a common ancestor\*
31. an ancestor of a group of organisms
32. a clan led by a dominant female member
33. Which classification of life contains the highest number of species? (Outcome #1) (DOK 1)
34. domain\*
35. genus
36. kingdom
37. Why do scientists classify living organisms? (Outcome #5) (DOK 1)
38. To study their evolutionary relationship on the basis of shared characteristics\*
39. To be able to give them Latin names
40. To be able to see which organisms were more advanced than others
41. The timeline of the evolution of different species from a common ancestor, often drawn as a tree-like diagram, is known as a \_\_\_\_\_\_\_\_\_\_\_ tree. (Outcome #5) (DOK 1)
42. taxonomic
43. phylogenic\*
44. phylum-genetic
45. Which group of organisms consist of more than one cell (Outcome #5) (DOK 1)
46. eubacteria
47. archaea
48. eukarya\*