**Taxonomy and Microbes Partner Test Review**

1. What is the main advantage of scientific naming rather than common naming? It is universal and less confusing
2. In binomial nomenclature, the first word refers to \_\_\_\_\_\_ and the second word refers to \_\_\_\_\_\_? ***Genus (like a last name), and species (like a first name)***
3. *An organism’s scientific name is Keratella cochlearis.* Keratella is the \_\_\_\_\_ and cochlearis is the \_\_\_\_\_\_\_.***Genus, species****.*
4. What are the levels of organization in Taxonomy? **Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species**
5. What is the pneumonic to remember the levels of taxonomy? **Dear King Phillip Came Over For Great Spaghetti (Dumb Kids Playing Catch On Freeways Get Smashed)**
6. What taxonomic group would contain organisms that have the least number of similarities? **Domain**
7. Which taxonomic group is most specific? **species**
8. What is a biological species? **A group of natural populations that are interbreeding and that are reproductively isolated from other such groups.**
9. What is hybrid? **Offspring of two different species**
10. What are the 3 domains? **Archaea, Bacteria, and Eukarya**
11. What are the 4 kingdoms in the domain Eukarya? **Protista, Animalia, Plantae, and Fungi**
12. Classify this organism in the correct kingdom: **It is single-celled, prokaryotic organism whose cell wall contains peptidoglycan, reproduces asexually by binary fission. *Eubacteria***
13. Classify this organism in the correct kingdom: It is a salt-loving prokaryote, found in salted fish, hypersaline lakes, and salt-evaporation basins whose cells walls do not contain peptidoglycan. ***Archaebacteria***
14. Classify this organism in the correct kingdom: It is photosynthetic, multicellular, reproduces sexually, and sessile. ***Plantae***
15. What is a dichotomous key? ***It is a tool that allows biologists to determine the identity of organisms in the natural world based on the organism’s characteristics. Dichotomous means “divided into two parts”***
16. What are Cladistics? ***It is a method of analysis that reconstructs phylogenies by inferring relationship based on shared characteristics.***
17. Phylogenetic trees are made by arranging organisms according to their evolutionary history and similar characteristics. What is an effective way that can scientists test how closely related organisms are? ***Compare their genes. The more similar their DNA is, then the more closely related they are.***
18. What is the difference between a heterotroph and chemoautotroph? ***Heterotrophs- depend on other organisms while Chemoautotrophs- use chemicals to synthesize their food***
19. *Compare an obligate anaerobe to an obligate aerobe****. Obligate anaerobe has to be in an environment without oxygen, and the obligate aerobe has to be in an environment with oxygen***
20. I’m plant like but not a plant and belongs to a very diverse kingdom. Who am I and what kingdom do I belong to? **Kelp or Algae, Protista**
21. I’m sessile, multicellular and have chitin in my cell wall. People also eat me. **Mushroom, Fungi**
22. What is the main difference between Archaebacteria and Eubacteria? **Cell wall composition and environmental conditions they live in**
23. Which type of bacteria has peptidoglycan in its cell wall? **Eubacteria**
24. What are the main differences between kingdom Animalia and Plantae? **Cell wall and Chloroplast are present in organisms in Plantae kingdom.**
25. What are some differences between eukaryotes and prokaryotes? **Prokaryotes have no nucleus, and the only membrane-bound organelle is ribosomes. Eukaryotes have nuclei and many membrane-bound organelles; they are larger and more complex**



1. Based on the cladogram, which organism is most closely related to the chimpanzee? ***Bonobo***
2. What are the 2 structures that all viruses have? **Capsid (protein coat) and nucleic acid**
3. Explain what a retrovirus is and why its called ‘retro’? **A virus that has RNA which must be transcribed backwards to DNA. retro=reverse**
4. What are some examples of retroviruses? **HIV, flu, ebola**
5. HIV attacks what type of cells? **Helper T cells (white bloods cells, part of our immune system)**
6. How do you treat Viral infections? **Antivirals**
7. How do antivirals treat infections? **They stop viruses from entering cells**
8. How can you prevent viral infections? **With vaccines**
9. What are vaccines made of? **Weakened versions of the virus or parts of the virus**
10. How do vaccines help your body fight off viruses or bacteria? **They develop antibodies against the virus or bacteria so they can fight it faster the next time it is introduced to the body**
11. Explain the lytic cycle. **Virus invades and takes over a host cell (using its viral DNA), reprogramming the cell to reproduce viruses (turns it into a virus factory), and then lyses the cell releasing its clone army**
12. Explain the lysogenic cycle. **Virus inserts its DNA into a host cell’s DNA. The viral DNA integrates into the host cells DNA becoming a permanent part of the host’s DNA.**
13. How does a virus enter a cell? **The surface proteins on the virus (keys) match the receptors on the cell (locks) and it tricks the cell to let it in.**
14. Can you treat viral infections with antibiotics? **Why or why not? No, Antibiotics affect the cell wall of bacteria and viruses do not have a cell wall (nonliving).**
15. If you have strep throat and your doctor prescribes antibiotics, can you stop taking the antibiotics as soon as you feel better? Why or why not? **No, you must complete the whole course to kill all the bacteria (your immune system can take care of the resistant ones**