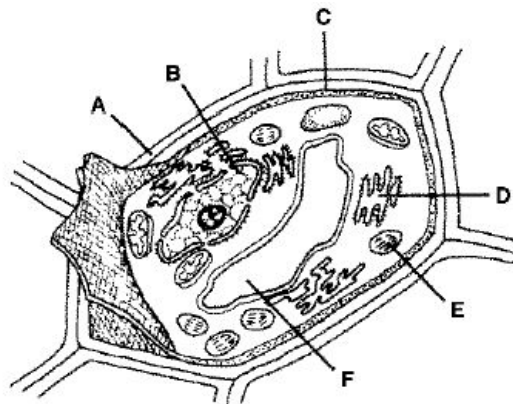
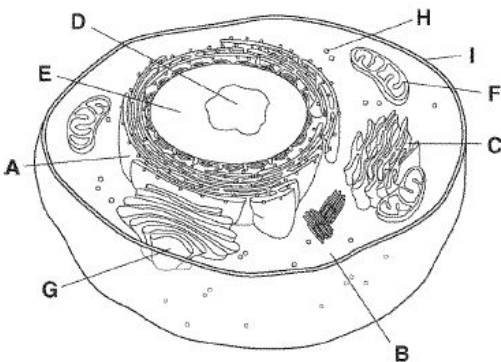


# Unit 1 Test Review - Cells

1. Should you test more than one variable at once in an experiment? And when you get your results, what are some things that you can do to make sure they are valid?
2. Know general safety rules and common pieces of lab equipment. Read over the safety contract that was signed for class. Available here:  
[http://www.flinnsci.com/documents/miscpdfs/safety\\_contract.pdf](http://www.flinnsci.com/documents/miscpdfs/safety_contract.pdf)
3. Be able to arrange the levels of organization from smallest to largest. What would be the smallest level considered living? Which levels contain non-living items?
4. How do we consider something living or non-living? What characteristics should all living organisms have (there are seven)?
5. What is homeostasis? Be able to give examples of how your body regulates this process. How can cells regulate this process?
6. Know the four types of biomolecules. Be able to give the monomers, polymers, and functions of each of the four. What kind of foods can you find each of these molecules in?
7. Be able to label the cells below and determine the functions of the organelles (you should also know what flagella, lysosomes, and centrioles do even though they are not labeled). What kinds of cells are these? How do you know?



8. What is cell specialization? Be able to give examples from your body.
9. What scientists contributed to the Cell Theory?
10. Be able to describe in detail the three main facets of the cell theory and how they relate to life.
11. What types of organisms/objects would you use an electron microscope to see? What about a compound microscope?
12. Compare and contrast prokaryotes / eukaryotes. Be able to give examples of organisms that would fit into each category.
13. What organelles / cell parts differ between plant and animal cells? What organisms will have cell walls (remember: not just plants)?
14. What is a concentration gradient? How does this apply to a cell membrane?
15. Know the 4 parts of a cell membrane and the function of each. What do hydrophobic and hydrophilic mean and how do these terms relate to the structure of a phospholipid?
16. What is diffusion and why does it occur? What is osmosis?
17. What are hypertonic, isotonic, and hypotonic solutions? Be able to determine what would happen to a plant or animal cell in each of the three solutions.
18. What are the two types of transport in cells and how do they differ? Give examples of each type.
19. Know the relative shape of an ATP molecule. How does it differ from ADP? How is energy released from ATP?
20. Be able to write the complete, balanced equation for photosynthesis.
21. Know the process of photosynthesis in detail. Be able to give the reactants and products of the reaction.
22. Understand the role of chloroplasts and pigments in photosynthesis.
23. Know the process of cellular respiration. Be able to give the reactants and products of the reaction.

24. What is the difference between aerobic and anaerobic respiration? How many ATP are produced in each process?
25. What is lactic acid and why is it created?
26. There are athletes that focus on short quick exercises like sprints. There are also athletes that focus on distance. Know which type of athlete would use cellular respiration as their main source of fuel and which would use lactic acid fermentation.