Chapter 1 Review Questions

1. Mitochondrion
2. Nucleus
3. Chloroplast
4. Cell wall
5. Cell membrane
6. Both describe how many cells an organism has. Unicellular consists of a single cell whereas multicellular consists of many cells
7. Cell is basic unit of life, many cells have smaller structures called organelles
8. Both refer to types of organisms. A prokaryote is an organism whose cells do not have a nucleus, whereas a eukaryote is an organism whose cells do have a nucleus
9. A tissue is a group of similar cells that are specialized to do a particular function. An organ contains different types of tissues that work together to do a particular function.
10. D
11. B
12. C
13. A
14. B
15. C
16. All living things are made up of cells, they develop and grow, they respond to their environment, and they can reproduce
17. All living things need energy, materials, and living space
18. Fat cells provide insulation to keep the bears from freezing as they sleep and store energy rich material
19. Polar bears have muscles that enable them to move, a nervous system that allows them to respond to the environment to get food, a digestive system to break food down, a circulatory system that delivers food to the body and a system to remove waste.
20. The cells in both organisms need to support life. Bacterium: a single cell carries out all of the functions needed for survival. Polar bear: fat cell is specialized. It works together with other cells to support life. Both have a cell membrane, but the bacterial cell is prokaryotic and the fat cell is eukaryotic.
21. All living things are made up of one or more cells. Cells carry out the functions needed to support life. Cells come only from other living cells. You are made up of many cells that carry out the functions you need to live, grow, and develop. The cells in your body came from a single living cell that divided many times. As you grew, cells continued to specialize.
22. If bacteria can appear spontaneously, then they should appear in the broth of both flasks, whether or not the broth was boiled. If not bacteria appear in sterilized broth, that suggests heat has killed the living cells.
23. Bacteria will start to grow in the flask. These bacteria come from the air, into the broth.
24. Bacteria in the air will get into milk and cause it to spoil.
25. Cytoplasm: animal and plant

Nucleus: animal and plant

Central Vacuole: plant

Chloroplast: plant

Mitochondria: animal and plant

1. Should identify nucleus, mitochondrion, or chloroplast. Light microscope; shows the whole cell
2. We wash our hands and face to remove germs. We generally keep everything cleaner. We pasteurize milk.