Chapter 3 Concept Review

B I O L O G Y

Directions: Answer the following questions using your notes and textbook (pages 96-125)

1. Robert ______________ (1665)-Used compound microscope to look at cork cells. Gave name “cells”

2. Anton van ______________ (1674)- made powerful single lens microscope. One of first to look at and describe living cells

3. Rudolf Virchow (1855)- Proposed that all __________ come from pre-existing __________.

4. Accumulated research summarized as __________ Theory (one of first unifying concepts in biology)
   a. All organisms are made of __________
   b. All existing __________ are produced by other ______________ cells
   c. The cell is the most basic __________ of __________

5. All cells are filled with ________________

6. ________________ cells- do not have a nucleus or other membrane-bound organelles.

7. ________________ cells- have a nucleus and other membrane bound organelles. May be single or multicellular organisms

8. ______________ - storehouse for genetic material

9. ______________ and ______________ are produced in ER.

10. Rough ER- studded with ________________ - makes proteins and lipids

11. Golgi Apparatus- cells “__________ ____________”

12. ________________ - cells “powerhouse”

13. ________________- fluid-filled storage sac. Stores water, food molecules, inorganic ions, and enzymes.

14. Cell _________- found in plants, algae, fungi, and most bacteria. Strong ______________ layer that surrounds cell membrane

15. Chloroplasts- carries out ________________.
16. Contain _______________ (disc-shaped sacs) with light-absorbing chlorophyll for photosynthesis. (give plants _______________ color)

17. Cell membrane Controls passage of materials into and out of cell. Is selectively _______________ (allows some things but not others) Helps to maintain the cells homeostasis

18. Cell membrane Consists of _______________ layer of phospholipids interspersed with other molecules (proteins and carbohydrates)

19. Fluid Mosaic Model- describes arrangement of molecules in ______ membrane. Flexible “fluid like” lipid embedded with “mosaic” of other _________________.


21. _______________ transport- allows cell to move materials across cell membrane without using energy

22. _______________ - Movement of materials (fluid or gas) from region of ______ concentration to region of ______ concentration

23. Osmosis- Diffusion of _______________ molecules.

24. Facilitated diffusion- larger molecules can still diffuse through openings formed by transport _________________.

25. Many types of transport proteins- most allow only certain _______________ to travel into cell

26. _______________ Transport- requires energy by cell to move materials in or out of cell.

27. Can use transport proteins to move molecules against _________________ gradient (from low to high).

28. Endocytosis- Movement of liquids or large molecules _____________ a cell by engulfing them in a membrane.

29. Phagocytosis- “cell _________________ ”

30. _________________ - opposite of endocytosis.