Name_____

Introduction to Cells Study Guide

Concept 1. Biological Levels of Organization

Questions 1-9, List the Biological Levels of Organization in order from simplest to most complex.

1._____

2._____

3._____

4._____

5._____

6._____

7._____

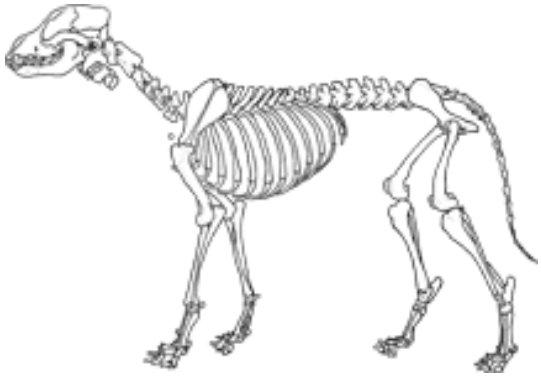
8._____

9._____

Questions 10-13, Write which level of organization is being described or shown.

10. All of the gray wolves, grizzly bears, bison, and douglas-fir that live in Yellowstone National Park. _____.

11. All of the river otters that live in Oxbow Bend, Wyoming. _____.

12. 

_____

13. 

_____

Name_____

Concept 2. Cell Theory and Microscopes

Questions 14-16, List the three parts of cell theory.

14. _____

15. _____

16._____

Questions 17 -18, Provide 3 distinct characteristics for each prokaryotic cells and eukaryotic cells. Use the word blank below.

Has Nucleus	Has DNA	Lacks Nucleus	Bacteria	Circular DNA
Includes Animals, plants, fungi, and protists.		Linear DNA	Has Organelles	

17.Prokaryotic cells

A._____

B._____

C._____

18. Eukaryotic Cells

A._____

B._____

C._____

_____.

19. Name two characteristics both Eukaryotic Cells and Prokaryotic cells have in common. Use the word bank from above.

A._____

B._____

Questions 20- 22, Calculate the Magnification of each Objective lens below.

20. Eye Piece _____x **X** Low Power _____x = _____x

21. Eye Piece _____x **X** Medium Power _____x = _____x

22. Eye Piece _____x **X** High Power _____x = _____x

Questions 23-24, Answer the following questions about the Microscope and its usage.

23. On which power(s) is the course adjustment knob used?_____

24. On which power(s) is the fine adjustment knob used?_____

Name_____

Concept 3. Structures inside the cell.

Questions 25-35, Fill in the blank with the organelle that best fits the description. Use the following terms: Lysosome, Cytoplasm, Vacuole, Ribosomes, Golgi Complex, Chloroplast, Mitochondria, Cell Wall, Cell Membrane, Nucleus, Endoplasmic Reticulum

25. The _____ is the **outermost** living layer of the cell and it controls movement into and out of the cell.

26.The _____ is the **control center** of the cell and it regulates the cells activities. Contains the DNA of the Cell.

27. The _____ is a j**elly-like substance** that contains the organelles and allows them to move throughout the cell.

28. The _____ is the site of **cellular respiration** . It is often called the **powerhouse** of the cell.

29.The _____ captures energy from **sunlight** and uses it to produce food in **plants.**

30.The _____ **packages** materials for transport outside of the cell.

31.The _____ is the organelle responsible for **transporting** materials within the cell.

32.The _____ **supports** and protects **plant** cells.

33. A small sac in the cytoplasm which **breaks down** food, old cell parts, and dead, injured, or obsolete cells is the _____.

34.A large sac in the cytoplasm which **stores** food, water, or wastes is a _____.

35. Small grain shaped organelles that produce **protein** are called_____.

Name_____

Questions 36-46, Identify the organelles depicted in the cells below. Use the following terms: Ribosomes, Cytoplasm, Vacuole, Golgi Complex, Chloroplast, Mitochondria, Cell Wall, Cell Membrane, Nucleus, Endoplasmic Reticulum, Lysosome

A. _____

B. _____

C. nuclear membrane

D. _____

E. _____

F. _____

G. _____

H. _____

I. _____

J. _____

K. _____

L. _____

47. Cell 1 is a:_____ cell

48. Cell 2 is a:_____ cell