Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_

Cell Unit Test 1st period\_\_\_\_\_\_\_\_\_\_\_ 4th and 8th periods\_\_\_\_\_\_\_\_\_\_\_

**I. Terms and Topics**

A. Topic: Cell Theory

1. Concepts: 7 parts of the cell theory.

Scientists whose findings helped develop the cell theory, including

Anton Von Leeuwenhoek, Robert Hooke, Matthias Schleiden,

& Theodor Schwann

The difference between prokaryotic and eukaryotic cells.

Importance of the microscope in developing the cell theory.

Parts and functions of the compound light microscope.

2. Vocabulary: prokaryotic eukaryotic

B. Topic: Eukaryotic Cell Organelles

1. Concepts: Be able to distinguish between plant and animal cells.

Label organelles on diagrams.

Describe the functions of cell organelles.

Compare cell organelle function to function of human body parts/systems.

2. Vocabulary ribosomes vacuole

cell wall mitochondria

lysosomes chloroplast

endoplasmic reticulum nucleus

cytoplasm cytoskeleton

centrioles

Golgi Body(apparatus or complex)

cell membrane(plasma membrane)

C. Topic: Cell Transport

1. Concepts: Describe how different solution types affect osmosis in plant and

animal cells.

Compare and contrast different types of passive and active transport.

Describe the structure and function of different components of the cell membrane.

Describe how the cell membrane helps to maintain homeostasis.

2. Vocabulary: active transport passive transport

hypertonic solution hypotonic solution

isotonic solution osmosis

diffusion endocytosis

exocytosis pinocytosis

phagocytosis plasmolysis

concentration gradient cytolysis

**II. Vocabulary:** Fill in the statements below with the correct term.

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells are composed of a cell membrane, a nucleus and various membrane bound

organelles.

B. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ describes the complex structure of the eukaryotic cell membrane.

C. Cells were first named when\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ observed cork slices under the microscope.

D. During diffusion, particles travel down the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from an area of high concentration

to an area of low concentration.

E. Plant cells contain large\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which store water and minerals.

F. A solution that has more dissolved solutes than a cell is considered\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

G. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the location where coded messages from the nucleus are used to produce

proteins.

H. Bacteria are simple, single celled organisms composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells.

I. The plasma membrane of a cell is considered\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, because it allows some materials

to pass into or out of the cell.

J. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are two small structures found only in animal cells, that are involved in cell division.

K. If animal cells are are placed in a hypotonic solution, they will burst or undergo the process

of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

L. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_microscope allows observation of cells using two lenses to increase

magnification.

M. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ modifies, detoxifies, and carries substances through the

cell, and can be rough or smooth.

N. Endocytosis can involve the taking in of dissolved particles, called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

or taking in larger solid particles, known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

O. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be described as “bean” shaped, and is the site where ATP is produced.

P. Homeostasis is maintained by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which helps to regulate what enters and

leaves the cell.

Q. A plant cell will contain many\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; small green structures where photosynthesis takes

place.

R. Most of the DNA in a cell is found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

S. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ discovered plant and animal cells.

**III. Short Answer Questions:** Answer each question using complete sentences.

A. What invention allowed cell theory to develop?

B. Compare and contrast eukaryotic and prokaryotic cells.

C. Describe the function of proteins and carbohydrates in the cell membrane.

D. Compare and contrast animal and plant cells.

E. Compare and contrast passive and active transport over the cell membrane(be sure to

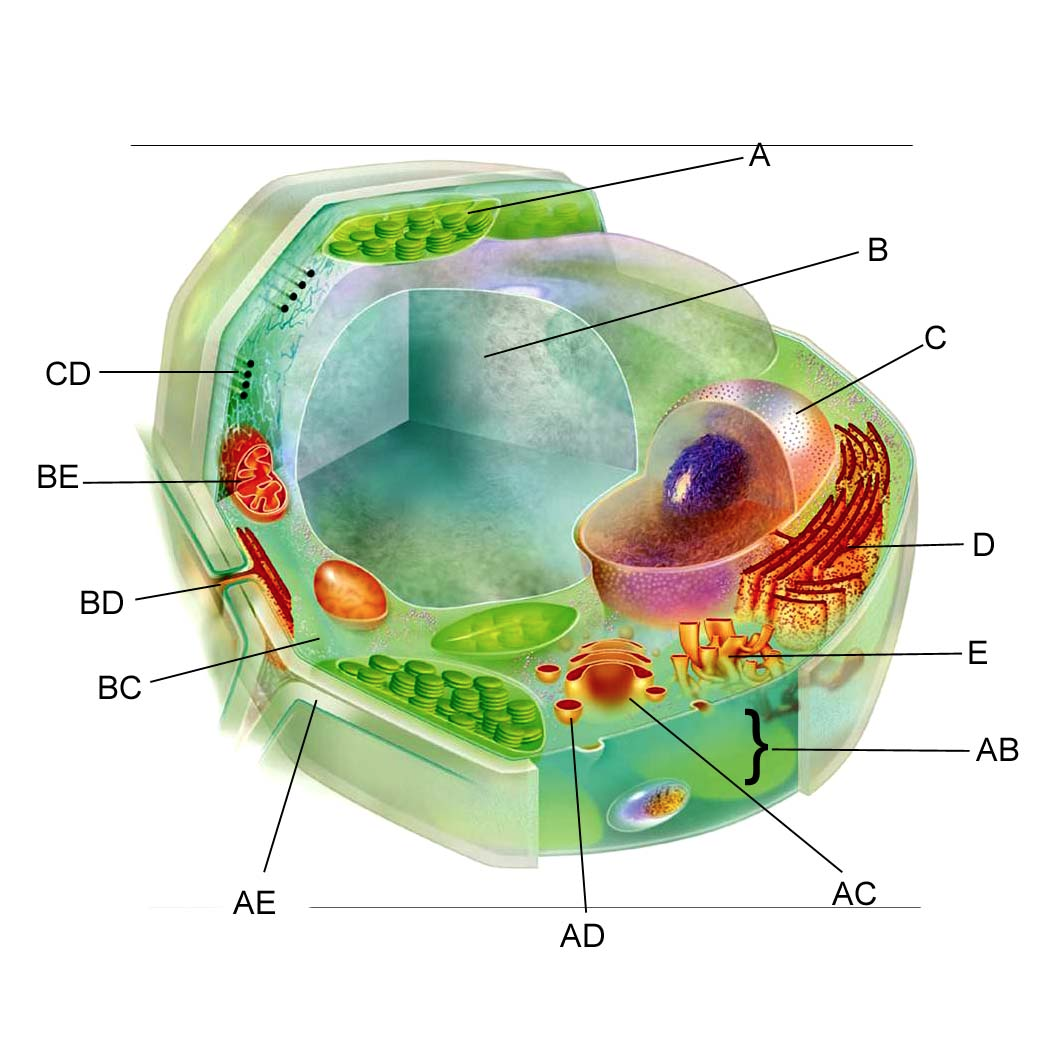
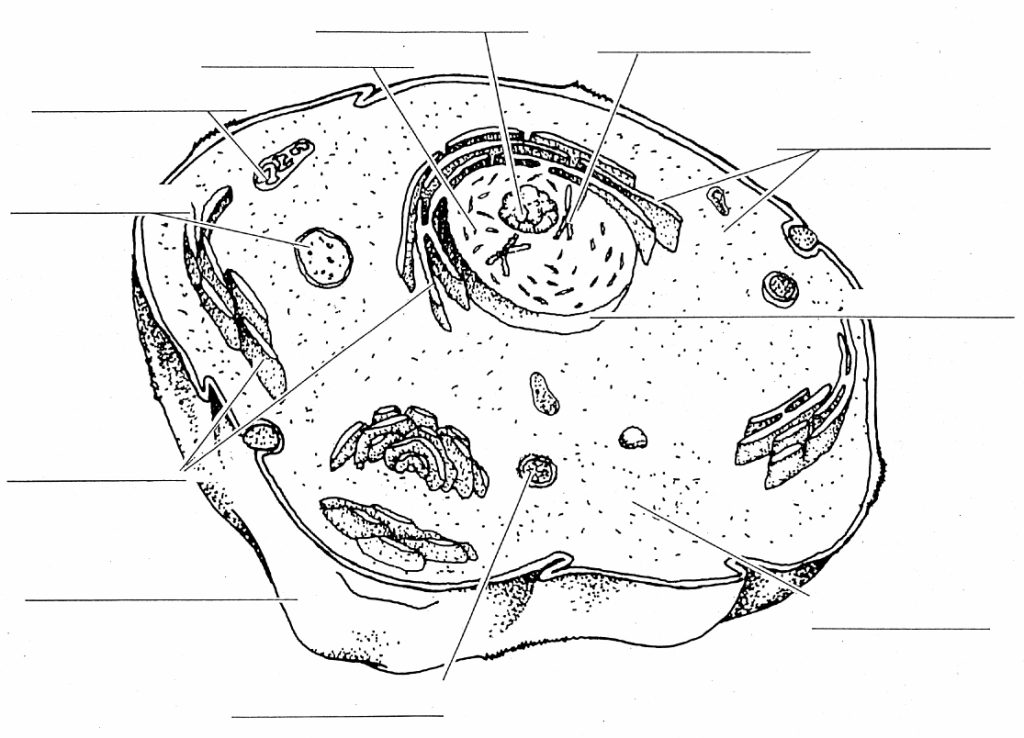
use the term concentration gradient).

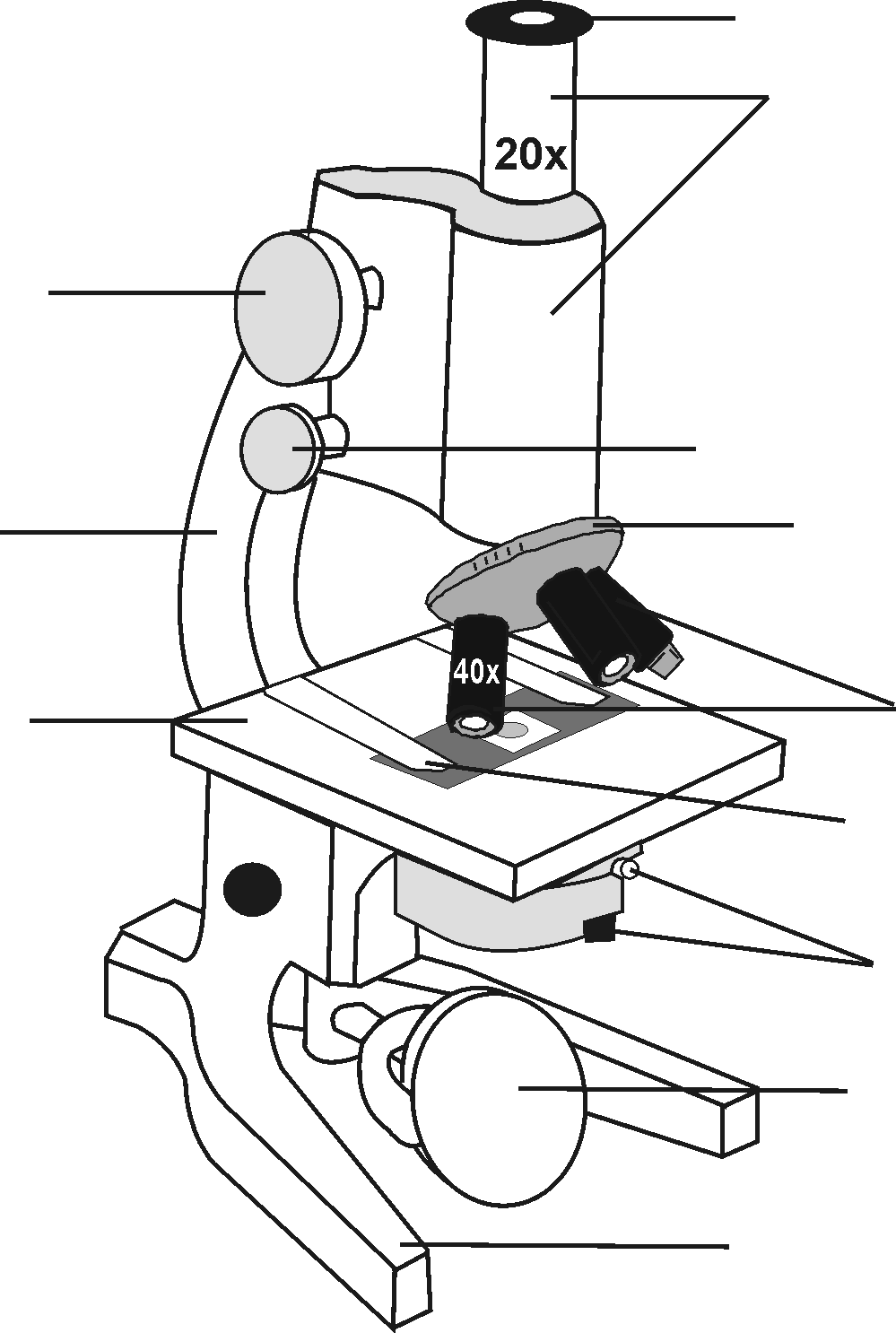
F. How do hypertonic, hypotonic, and isotonic solutions compare based on solute

concentration?

G. Compare 4 eukaryotic cell organelles to systems/structures in the human body.

**IV. Diagrams:** Label each of the following diagrams.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cell

What is the magnification of this microscope?\_\_\_\_

