Topic 1.1 – Characteristics of Living Things

DIRECTIONS:
In the textbook, read Unit 1 Topics 1.1, 1.2, and 1.3. Once you are done, answer the questions below. To check your understanding of this unit, you may complete the Topic Reviews on pages 13, 21, and 33.

1. What is the definition of a cell?

2. All living things are made of _____ cells.

3. What are two examples of single-celled organisms?

4. List five multi-cellular organisms.

5. Why do living things need to take in nutrients?

6. What is the difference between a consumer and a producer?

7. What is cellular respiration?

8. List three ways that unicellular and multicellular living things similar and three ways they are different.

9. Why do living things need energy?

10. What is the definition of a stimulus?

11. What do multicellular organisms have to help them respond to stimuli?

12. How does "growing" differ between a multicellular and a unicellular organism?

13. How is growing different than reproducing?

Topic 1.2 – Where do Living Things Come From?

The theory in biology that explains the structure and source of all living things is called the _____

2. What three statements make up the cell theory?

A strand of genetic material surrounded by a layer of protein is called a _____

4. How do viruses work?

5. Why aren't viruses considered living things by many scientists?

Topic 1.3 – How are Cells Different From Each Other?

1. The two main types of cells are _____ and _____cells.

2. Complete the chart to compare and contrast prokaryotic and eukaryotic cells.

Prokaryotic only	Similar	Eukaryotic only

Bacteria is a type of _____

4. Some bacteria use their _____ to move.

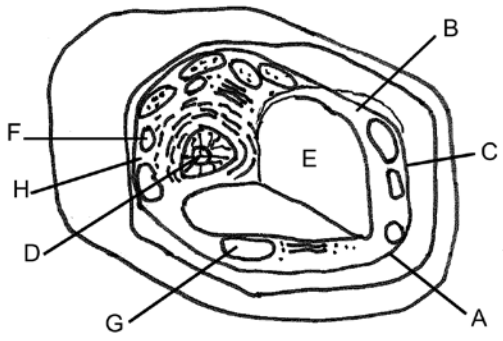
5. List two differences and two similarities between archaea and bacteria:

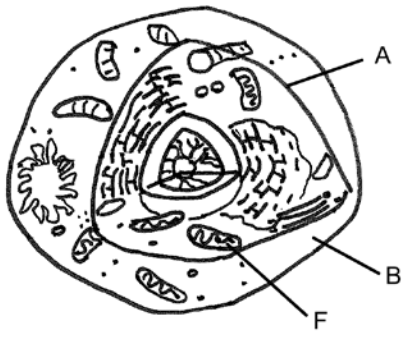
Differences	Similarities

6. Match the cell organelle to its structure and function:

_____	1. Cell membrane	A. Tough, rigid structure
_____	2. Nucleus	B. Surrounds and protects the contents of the cell
_____	3. Cytoplasm	C. Contains the genetic material that controls a cell's growth
_____	4. Cell wall	D. Bean-shaped structures that release energy from food
_____	5. Vesicles	E. Use energy from the sun to produce sugar for plants
_____	6. Mitochondria	F. Jelly-like fluid in which internal organelles float
_____	7. Vacuoles	G. Small sacs that transport materials
_____	8. Chloroplasts	H. Smaller and more numerous in animal cells

7. In the space provided below write the name of each of the indicated eukaryotic cell features.





A	
B	
C	
D	
E	
F	
G	
H	

8. Plant cells have structures that animal cells do not have, such as _____ , _____ , and _____ .

9. Chloroplasts use the _____energy to change _____and _____into sugar and oxygen.

10. Plants use the sugar produced by photosynthesis as _____ The_____ produced is released into the air.

11. In animal cells, the _____ controls what comes in and goes out of the cell.

12. _____ play an important role in cellular respiration.

13. _____is a chemical reaction in which sugar and oxygen in cells is changed into CO_2 and H_2O, which are the _____ of cellular respiration.