

Name _____ Date _____ Period _____

Biology Homework 1-3.1 Cells

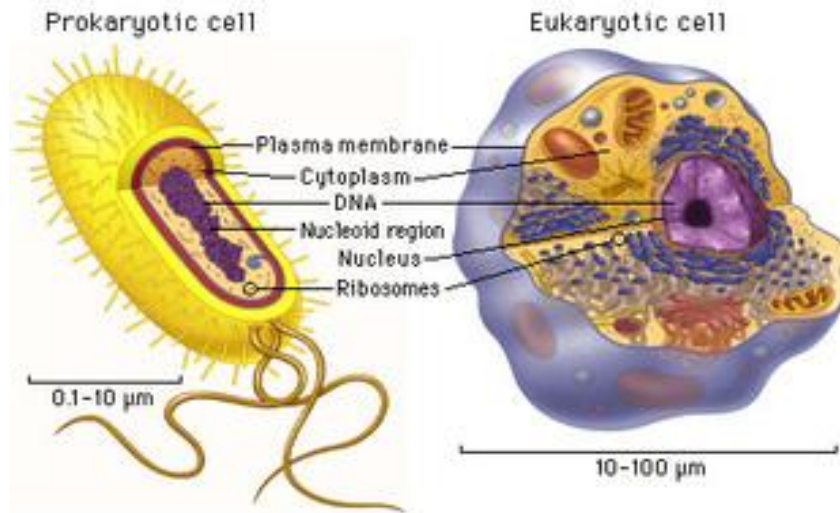
Use your **journal** as a reference tool in addition to the information provided below. Circle your answer choices and justify your answers.

The **cell theory** states that:

1. Cells are the basic unit of life.
2. All living things are made of one or more cells.
3. Cells can only come from other living cells.

Cells are either eukaryotic or prokaryotic.

Eukaryotes	Prokaryotes
<ol style="list-style-type: none">1. Large cells2. Many organelles; complex cells3. Have a nucleus with DNA inside4. Plants; animals	<ol style="list-style-type: none">1. Smaller than eukaryotes2. No organelles; simpler cells than eukaryotes3. No nucleus; DNA is circular and floats in middle of cell.4. Bacteria
Both have a cell membrane, cytoplasm, DNA, and ribosomes.	



1. All cells of living organisms share similar characteristics. Which of the following is not true?
 - a. All cells contain DNA.
 - b. All cells contain cytoplasm.
 - c. All cells come from pre-existing cells.
 - d. All cells contain nuclear membranes.

2. Which of the following biomolecules are major energy sources for cells?
 - a. carbohydrates
 - b. lipids
 - c. proteins
 - d. nucleic acids

3. Which of the flow charts correctly depicts the levels of organization from most simple to most complex?
 - a. Cell → tissue → stomach → digestive system → organism
 - b. Tissue → stomach → cell → digestive system → organism
 - c. Organism → digestive system → stomach → cell → tissue
 - d. Stomach → tissue → cell → organism → digestive system

4. Bacteria cells can be classified as primitive and lacking a nucleus. Animal cells can be classified as having a nucleus and membrane bound organelles. Based on the examples, all cells are classified into which two categories?
 - a. animal, plant
 - b. eukaryotic, prokaryotic
 - c. multicellular, unicellular
 - d. none of the above

5. Which characteristic describes eukaryotes but not prokaryotes?
 - a. Genetic information stored in DNA
 - b. Presence of ribosomes
 - c. DNA stored in a nucleus
 - d. Presence of a cell membrane

6. The simplicity of prokaryotic cells prevent them from
 - a. growing and reproducing
 - b. responding to their environment
 - c. forming specialized tissues and organs
 - d. maintaining homeostasis

7. Loriciferans are microscopic multicellular animals that live in various marine sediments. Scientists have discovered genera of Loriciferans in a deep-sea habitat that lacks oxygen. Before this discovery, some prokaryotes and some unicellular eukaryotes were known to inhabit anaerobic environments. Among the newly discovered Loriciferans is *Spinoloricus* sp. nov., which is pictured below. Scientists determined that organisms of the genus *Spinoloricus* were eukaryotes and not prokaryotes. **Identify the characteristics scientists would look for to classify organisms from the genus *Spinoloricus* as eukaryotes.** Justify your answer.

