

Unit 2 Life Processes and the Cell Review Sheet

1. Define Homeostasis:

The ability to maintain a constant, stable internal environment

2. Life Functions Review: List the life function represented by each of the following statements

Growth, Excretion, Nutrition, Transport, Regulation,
Respiration (make & use energy), Reproduction,

- a) The night before, a runner ate a meal of pasta **Nutrition**
- b) The pasta was broken down the next day to make energy for the run **Respiration**
- c) As the runner exercises, muscle cells are making copies of themselves **Reproduction**
- d) As the runner makes new cells, his muscle increase in size **Growth**
- e) A runner is sweating to keep their body temperature constant **Regulation**
- f) The blood of the runner carried CO₂ to the lungs **Transport**
- g) CO₂ in the lungs is released when the runner exhales **Excretion**

3. The sum of all chemical activities above is called **Metabolism**

Questions 4-5 – Living vs. Non-Living, answer the following question based on pictures A and B

A



B



4. Choose the letter of the above pictures that represents a living thing **A**

5. Give evidence that this is living

It is made up of cells

6. What contribution did Van Leeuwenhoek and Hooke have to the cell theory and why was it important?

Developed the first microscopes which allowed cells to be discovered.

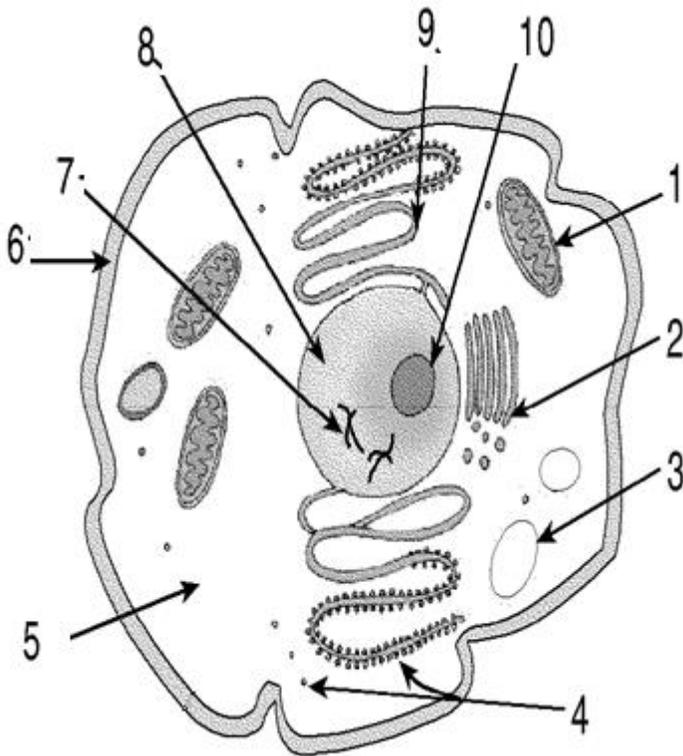
7. What are the 3 parts of the Cell theory?

- A. All living things are made of cells.
- B. Cells are the basic unit of structure and function.
- C. All cells come from other pre-existing cells.

8. What “organisms” do scientists debate whether they are truly living or not?

Viruses

9. Label the animal cell below by writing the matching number next to the name of the organelle.



- a) Golgi Body 2
- b) Ribosome 4
- c) Cytoplasm 5
- d) Chromosomes 7
- e) Nucleus 8
- f) Vacuole 3
- g) Mitochondria 1
- h) Endoplasmic Reticulum 9
- i) Cell Membrane 6
- j) Nucleolus (not on test) 10

10. In which organelle is energy released in both the plant and animal cell? Mitochondria

11. In which organelle does photosynthesis take place? Chloroplast

12. What are the main differences between an animal and plant cell?

Plant – chloroplast and cell wall, rectangular, one large vacuole

Animal – lysosome, circular, many small vacuoles

13. What special term do we use to describe how only some molecules can move across the cell membrane?

Semi- or selectively permeable

14. Use the word bank to define the words:

cell wall	cytoplasm	vacuole	cell membrane
golgi body	chloroplast	mitochondria	lysosome
ribosomes	nucleus	endoplasmic reticulum	

- a) **Cell Membrane** Controls the movement of materials in and out of the cell.
- b) **Cell Wall** Surrounds the plant cell and gives it its shape.
- c) **Cytoplasm** Jelly-like material that contains cell materials.
- d) **Nucleus** Controls the cell's activities, controls growth and reproduction.
- e) **Mitochondria** Processes food for energy and releases energy for the cell to use.
- f) **Chloroplast** Contains chlorophyll to help the plant cell trap sunlight to make food.
- g) **Vacuole** A large round sac that stores water, food, wastes.
- h) **Endoplasmic Reticulum** A series of tubes throughout the cell that transport materials.
- i) **Ribosomes** Builds proteins that are used by the cell
- j) **Golgi Body** Packages the material in the cell and ships them out to the cell for use.
- k) **Lysosome** Breaks down (digests) larger food molecules into smaller molecules

15. List the levels of organization from simplest to most complex: **Organ, organ system, cell, tissue**

Cell, Tissue, Organ, Organ System