

Cell Web Quest

- 1.) Use our MOODLE page to navigate through WEB sites.
- 2.) Go to all 3 sites

Part I: Structure and Function

- 1.) Read and **summarize** the main functions
- 2.) Record whether the structure is in a plant cell, animal cell, or both.
- 3.) **LEAVE ROOM** for revisions after each one.

Part of Cell	Main Function (Job) (summarize)	Plant cell, Animal cell or Both
Required		
1) Cell Membrane		
2) Cell Wall		
3) Cytoplasm		
4) Nucleus		
5) Chloroplasts		
6) Mitochondrion		
7) Lysosomes		
8) Vacuole		
Extend Yourself		
9) Ribosome		
10) Endoplasmic Reticulum		
11) Golgi complex		

Part II: Drawings-use construction paper

- 1.) Draw an large ANIMAL CELL and a PLANT CELL (use about one page for each)
 - Notice the shape when researching on the websites
- 2.) Include ALL of the REQUIRED (#1-8) structures you researched in PART I
 - Remember some are NOT in both
- 3.) Color each structure a DIFFERENT color
- 4.) Make a KEY

Part III: Looking Through a Microscope

- 1.) Using the middle website (Parts of a Cell), click on “looking through a microscope” at the top.
- 2.) Examine all 8 types of cells; notice how they are the same and how they are different.
- 3.) Choose 3 out of the 8 slides and DRAW what you see. Be sure to LABEL the slide and the magnification. The black line is a pointer, do NOT draw it.
- 4.) Explain at least three similarities AND three differences between the 3 slides you chose.

Part IV: 3-D cell

You will be constructing a 3-dimensional cell out of play-doh and/or other materials. More direction on this at a later date.

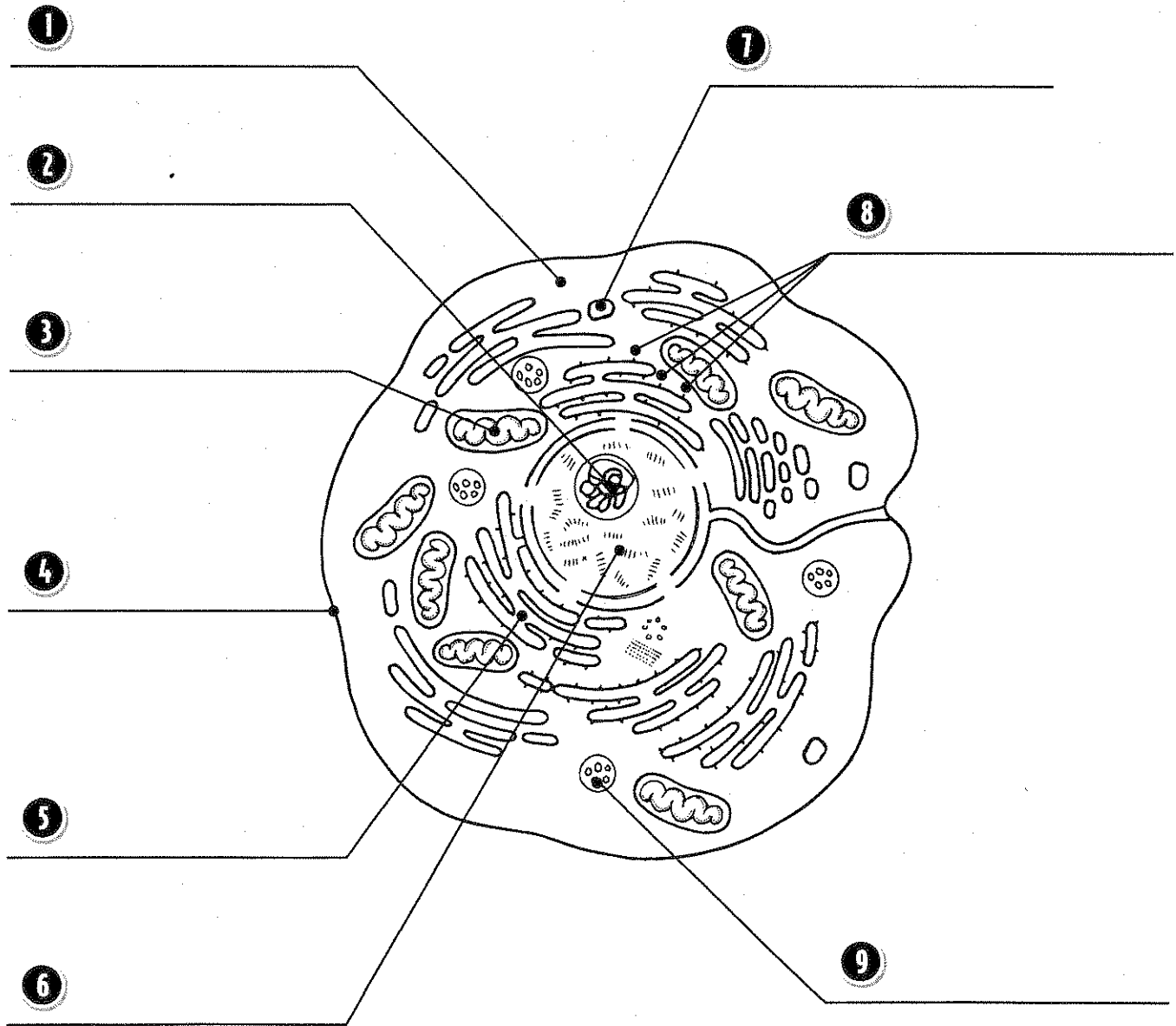
HANDOUTS TO BE TURNED IN: DUE: _____

1. Typical Animal Cells
2. Functions within an Animal Cell
3. Typical Plant Cells
4. Functions within a Plant Cell
5. Cloze Evaluation Questions

A Typical Animal Cell

While the cells found in various tissues of animals are unique and specialized, the basic structure of animal cells is the same. Animal cells lack the rigid cell wall found in plant cells. Use the terms in the word box to label the diagram.

cytoplasm	nucleolus	lysosome
cell membrane	nucleus	ribosomes
endoplasmic reticulum	mitochondrion	vacuole



Functions within an Animal Cell

The parts within a cell are called organelles. Each organelle has a unique function that it serves for the cell. Match each term in the word box to its definition.

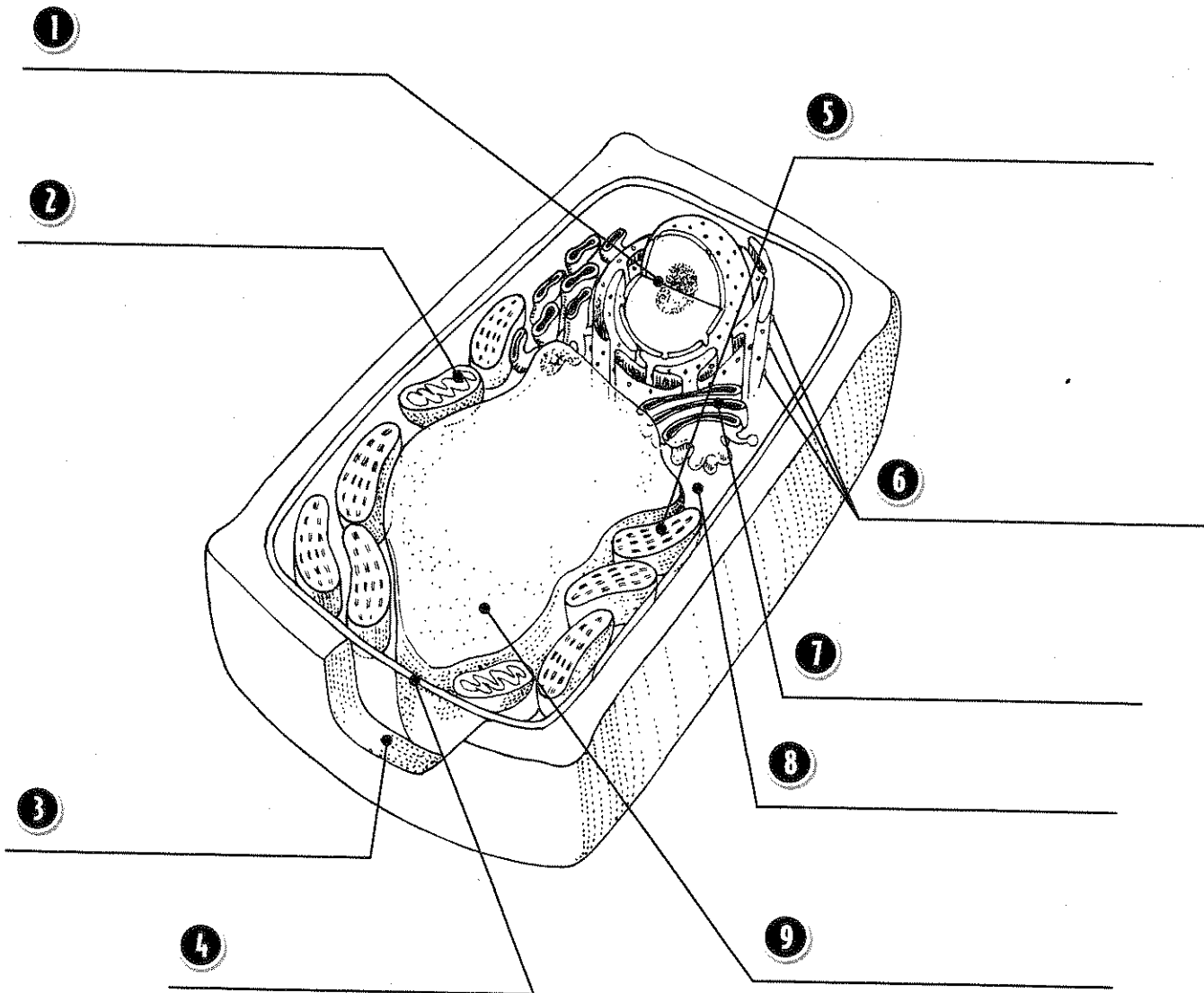
cytoplasm	nucleolus	lysosome
cell membrane	nucleus	endoplasmic reticulum
mitochondria	vacuole	

- 1 _____ Located in the nucleus, this organelle is made up of RNA and protein.
- 2 _____ These structures are passageways from the nucleus that transport proteins through the cell.
- 3 _____ This organelle is the control center of the cell. It contains chromosomes and DNA.
- 4 _____ This substance contains all the living material in the cell.
- 5 _____ These organelles break down glucose to supply the cell with energy.
- 6 _____ This small round organelle is involved in digestion.
- 7 _____ This expanding and contracting organelle stores water, nutrients, and wastes.
- 8 _____ This enclosing structure holds the cell together and controls what moves into and out of the cell.

A Typical Plant Cell

Plant cells have basic structures in common, even though plant cells are as varied as the plants themselves. Each individual plant cell is partly self-sufficient, carrying on processes contained within the cell membrane. A plant cell differs from an animal cell because it contains chloroplasts and has a cell wall made of cellulose. Use the terms in the word box to label the diagram.

cytoplasm	chloroplast	vacuole
endoplasmic reticulum	ribosomes	nucleus
mitochondrion	cell wall	cell membrane



Functions within a Plant Cell

Each of the structures, or organelles, within a plant cell serves a specific purpose. Match each term in the word box to its definition.

cytoplasm
endoplasmic reticulum
mitochondrion
cell membrane

chloroplast
ribosome
cell wall

vacuole
nucleus
organelle

- 1 _____ This is the tough, nonliving outer layer of each plant cell. It gives the cell shape, strength, and support.
- 2 _____ This is a structure that stores water and helps keep the plant from wilting.
- 3 _____ This is a structure that contains chlorophyll, giving the plant its green color, and traps energy from sunlight.
- 4 _____ This is a structure that moves material throughout the cell.
- 5 _____ This is a substance that fills most of the cell outside the nucleus and contains the other organelles.
- 6 _____ This is any tiny structure in the cytoplasm of the cell that performs a special job.
- 7 _____ This is an organelle that puts together proteins for the cell.
- 8 _____ This is a structure where food and oxygen react to release energy.
- 9 _____ This acts as the control center for the cell.
- 10 _____ This is a layer that holds the parts of the cell together and controls movement of materials into and out of the cell.

CLOZE EVALUATION QUESTIONS

INTRODUCING THE CELL

NAME _____

DIRECTIONS: Select the answer, from the four choices given, by circling the correct letter.

1. Living things on earth share certain similarities and differences. One basic common structure of both plants and animals is their make-up of _____, which are the basic building blocks of life and have distinct parts within them.
 1. A. air and water
 - B. cells
 - C. membranes
 - D. tissues
2. Both plants and animals are made up of a variety of cells. In order to see them, scientists use special tools. One of the most powerful instruments to view cells is the _____. This device uses magnets to focus beams of electrons on the subject.
 2. A. electron microscope
 - B. compound microscope
 - C. telescope
 - D. bioscope
3. Scientists learn how cells function by examining the very tiny parts of the inside of the cell. The _____ surrounds the outside of an animal cell. This thin structure allows food, water and oxygen to pass into the cell and waste products to pass out of it.
 3. A. cell wall
 - B. cell membrane
 - C. cell skin
 - D. cell boundary
4. Within the cell there are many different structures called organelles. This word means "little organs." One of these organelles is the _____, which is the control center of the cell. This organelle has a membrane which has pores, or holes, in it to allow certain molecules to enter and leave it.
 4. A. brain
 - B. controller
 - C. Golgi body
 - D. nucleus
5. The nucleus of a cell has various parts within it to assist it as the control center of the cell. Inside the nucleus are _____, which contain the cell's genetic information. These structures determine those physical characteristics that will be passed down to the offspring.
 5. A. pores
 - B. Golgi bodies
 - C. chromosomes
 - D. membranes
6. Plant cells have cell structures and functions different from animal cells. For example, a plant cell has a _____ which is not found in animal cells. This material surrounds the cell membrane and protects it as well. This structure also gives the cell a definite shape.
 6. A. mitochondrion
 - B. reticulum
 - C. cell membrane
 - D. cell wall
7. Plant cells have other specific parts also that help it to grow and thrive. Plant cells contain _____ which are spaces, or sacs, that hold liquids. These structures are often filled with water which helps keep a plant cell rigid. When these structures lose their water, the plant wilts or dries out.
 7. A. vacuoles
 - B. reticula
 - C. spores
 - D. water cells
8. In plants, the important food-making structures are the chloroplasts. They make it possible for _____ to take place. Inside the chloroplasts the energy of sunlight is used to convert carbon dioxide and water into glucose, a kind of sugar. Oxygen, which we breathe, is also given off.
 8. A. transpiration
 - B. photosynthesis
 - C. oxidation
 - D. digestion
9. When we look at animal cells we see that they also have cells that perform specific functions. The _____ consist of several layers of skin cells that fit closely together. These layers of cells protect the body from harmful bacteria and are constantly worn away and replaced.
 9. A. bones
 - B. teeth
 - C. epidermises
 - D. muscles
10. Unlike plants, animals are in motion and therefore must have specific cells to help them to move. The _____ are long and fiber-like. Thousands of these cells contract and expand together, making it possible to move arms and legs. The cells of plants and animals are truly unique.
 10. A. muscle cells
 - B. skin cells
 - C. bone cells
 - D. movement cells