

Learning Goal: describe the structure and functions of the cell's organelles

The parts of the typical eukaryotic cell:

- A eukaryotic cell can be a plant or animal cell. A eukaryotic cell is defined as a cell that has a nucleus and membrane bound organelles.
- What are membrane bound organelles? (don't confuse the word organelle with the word organism, a living thing, or organ)
- There are many different types of eukaryotic cells (muscle cells, nerve cells, blood cells, leaf cells) that all look very different because they all carry out different functions. However, there are some parts of a cell that all cells possess. For example, even though there is usually only one mitochondria in the cell diagram, cells usually have many mitochondria in them. If the cell uses a lot of energy for its function (or job), then it will have large number of mitochondria so it can produce a lot of energy. Two types of cells that need many mitochondria to carry out their particular cell jobs or functions are muscle cells and sperm cells.

Activity:

1. Find and write the function of the cell part (use your textbook, past worksheets, or the internet)
2. Cut out each part of the cell and fold in half to make an index card that can be used to self-test yourself when studying.

nucleus	function:
nucleolus	function:
DNA (deoxyribonucleic acid)	function:

nuclear membrane (nuclear envelope)	function:
cytoplasm	function:
cytoskeleton	function:
mitochondria	function:
chloroplast	function:
vacuole (small & large)	function:
lysosome	function:

vesicles	function:
golgi apparatus golgi body golgi complex	function:
smooth endoplasmic reticulum (S.E.R.)	function:
rough endoplasmic reticulum (R.E.R.)	function:
ribosomes	function:
centrioles	function:
cell membrane (cell plasma)	function:

cell wall	function:
-----------	-----------

Directions: Choose a colour for each of the parts below and fill in the square with the colour of your choice. Colour the cell part to match.

1. Cell membrane

7. Ribosomes

13. Golgi Body

2. Cytoplasm

8. Chromatin

14. Vacuole

3. Nucleus

9. Nucleolus

15. Vesicle

4. Cytoskeleton

10. Centrioles

16. Smooth Endoplasmic Reticulum

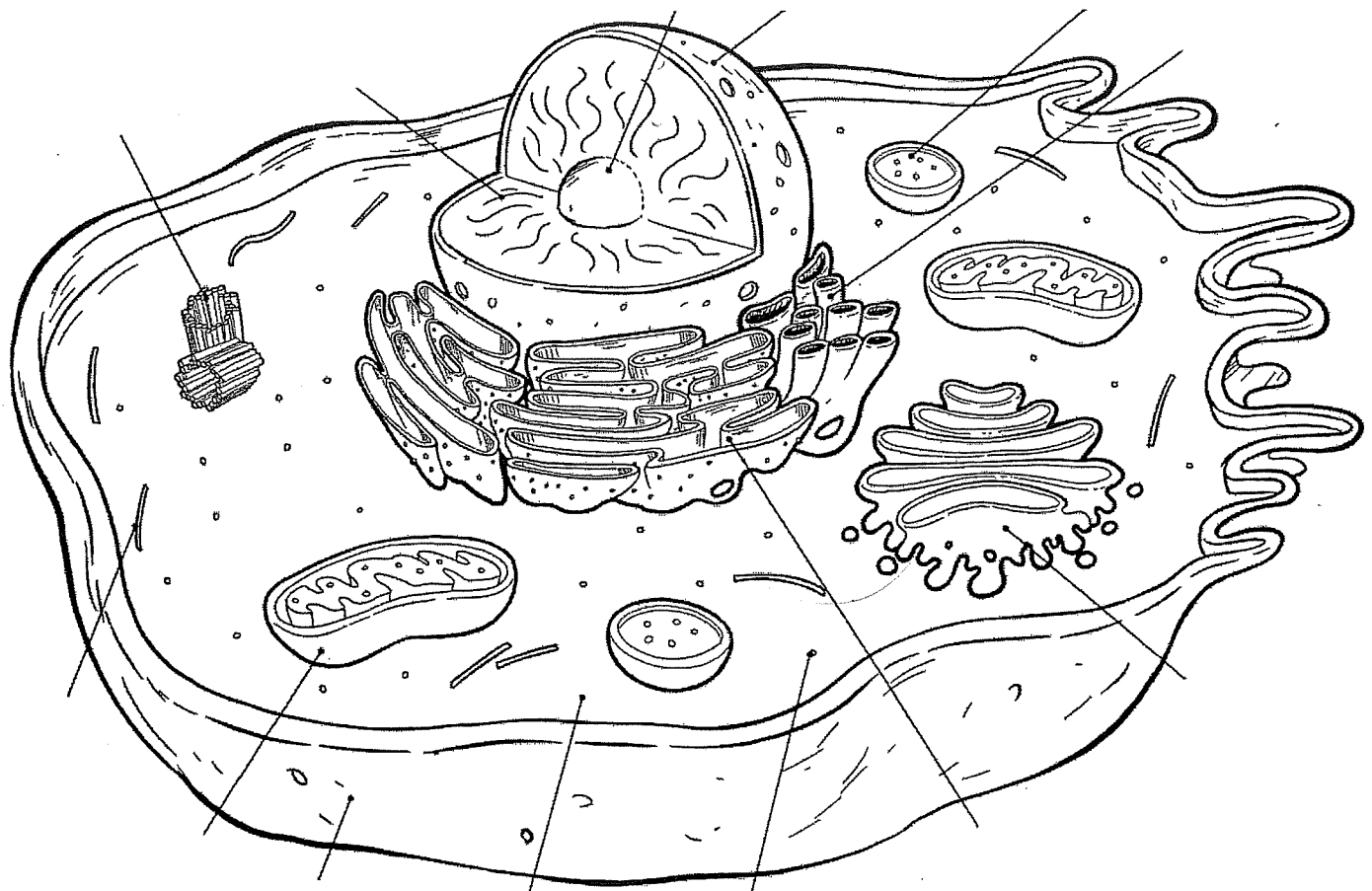
5. Mitochondria

11. Lysosomes

17. Rough Endoplasmic Reticulum

6. Cell Wall

12. Chloroplasts



Directions: Choose a colour for each of the parts below and fill in the square with the colour of your choice. Colour the cell part to match.

1. Cell membrane

7. Ribosomes

13. Golgi Body

2. Cytoplasm

8. Chromatin

14. Vacuole

3. Nucleus

9. Nucleolus

15. Vesicle

4. Cytoskeleton

10. Centrioles

16. Smooth Endoplasmic Reticulum

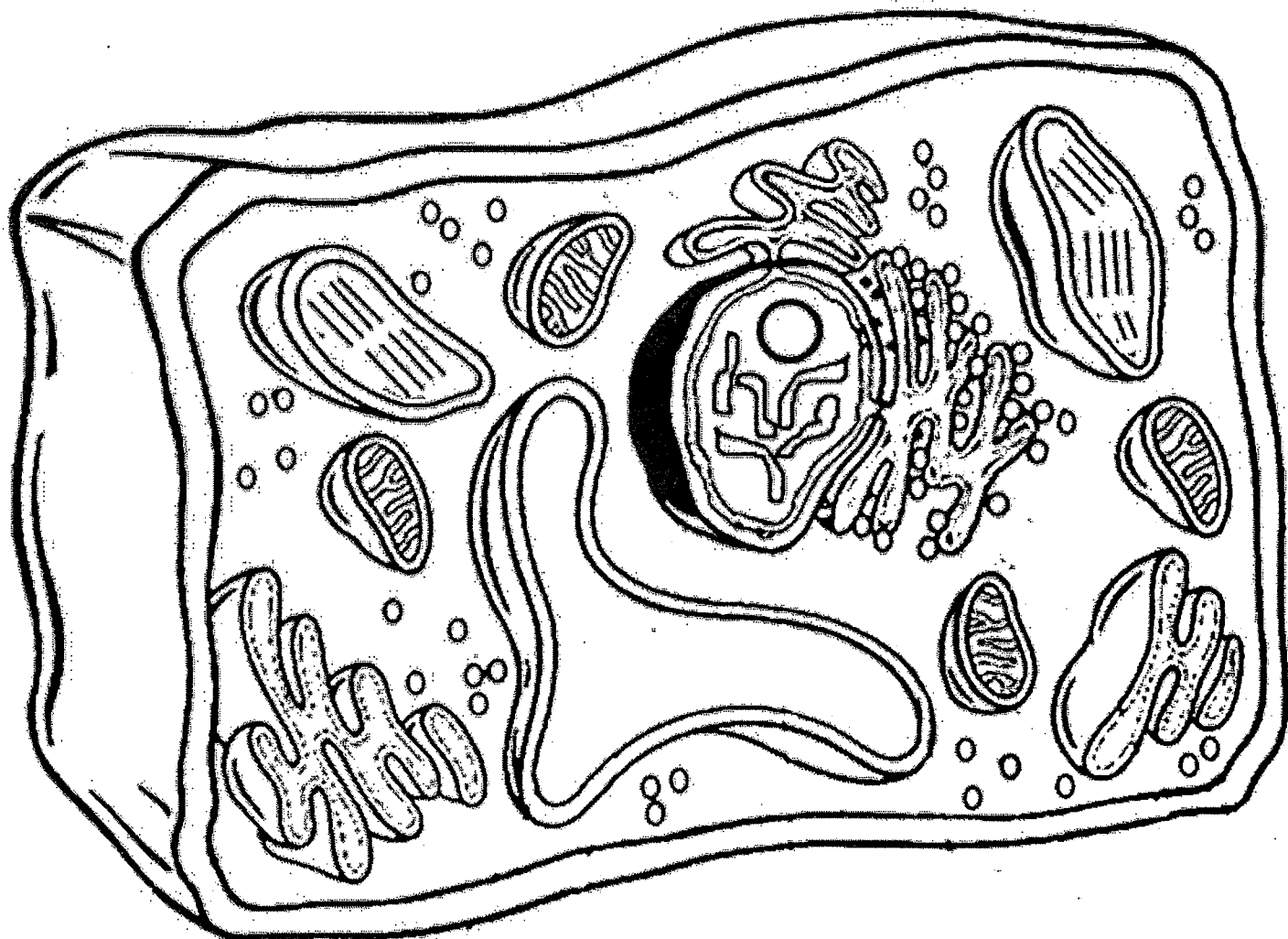
5. Mitochondria

11. Lysosomes

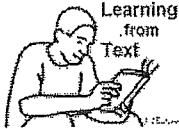
17. Rough Endoplasmic Reticulum

6. Cell Wall

12. Chloroplasts



ACTIVITY 9: THE CELL AS A SCHOOL



A cell is like our school. Each part of the cell (and school) has responsibilities that must be done and certain organelles (people or places) to do them. Identify the function of the following parts of the cell. Then, identify which person does the same job (or a place like it) in the school. The first one is done for you as an example to follow.

Organelle	Function	Part of our school that has a similar function
Cell Membrane	Controls what goes in and out of the cell	Front Office
Cytoplasm		
Golgi Body		
Lysosome		
Mitochondria		
Nucleus		
Nucleolus		
Ribosome		
Rough ER		
Smooth ER		
Vacuole		
Cell Wall (Plant only)		
Chloroplast (Plant only)		
Central Vacuole (Plant only)		

