

Name _____

CELL ORGANELLES

LOOKING AT FUNCTIONS OF CELL ORGANELLES (PARTS)

All cells have a purpose. If they don't do anything productive, they are not needed anymore. In the big picture, a cell's **purpose** is much more important than acting as small organizational pieces of larger organisms. When alone, a cell's main purpose is to survive. Even if you were a single cell, you would have a purpose. You would have to survive. You would be moving around (probably in a liquid) and just trying to stay alive. You would need to have all of the pieces that make you function inside of you. If you were missing a piece you needed to survive, you would die. Scientists call those pieces organelles.



ORGANELLES are groups of complex molecules that help a cell survive. Today we will be looking at some of the organelles or parts of cells-keep in mind, there are many more we will not discuss today!

DIRECTIONS: Visit each station. Read the information about each cell part and answer the corresponding questions below. **Then label each part on the cell diagram.**

CELL MEMBRANE:

1. The cell membrane is like a plastic bag with tiny holes.
2. What is NOT true of the cell membrane?
 - a. it surrounds the cell
 - b. it keeps all the cell parts inside the cell
 - c. ☒ it is stiff (not flexible)
 - d. It lets some things in and nasty things out.

REMEMBER TO LABEL THE DIAGRAM!

CELL WALL:

3. In what type of cells are cell walls found?
 - a. ☒ plant cells
 - b. animal cells
 - c. plant and animal cells
4. What is the purpose of the cell wall? more protection, helps keep shape, helps grow to great heights
5. Where is the cell wall located in a cell? outside the membrane
6. The cell wall is to a plant like what is to us (in our bodies)? skin, skeleton, skull

REMEMBER TO LABEL THE DIAGRAM!

CYTOPLASM:

7. What is NOT true about cytoplasm?

- a. it is made up of mostly water
- ☒ b. it is found inside the nucleus

- c. it is jelly like
- d. it holds all the parts of the cell

8. Structures found inside the cytoplasm are called Organelles

9. How does the cytoplasm move? jello-like: constantly ^{moves} flows and streams

REMEMBER TO LABEL THE DIAGRAM!

NUCLEUS:

10. The nucleus is like the brains of the cell that does what? controls movement,

eating and reproduction

11. The nucleus is often called the control center of the cell- why do you think that is? it is

dangerous- if the nucleus dies, the cell dies - in case something gets through the membrane.

12. Why is the nucleus usually **not** found near the cell membrane? _____

13. What important thing does the nucleus hold? DNA - chromosomes

REMEMBER TO LABEL THE DIAGRAM!

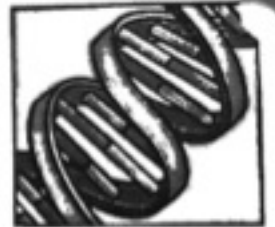
CHROMOSOMES:

14. Inside what part of the cell are chromosomes found? nucleus

15. How many pairs of chromosomes are found inside our cells? 23

16. What is DNA? Set of instructions that tell what you will look like

17. What do chromosomes do for a cell? help to grow and survive



REMEMBER TO LABEL THE DIAGRAM!

MITOCHONDRIA:

18. What is **NOT** true about Mitochondria?

- a. they provide energy for the cell
- b. they break nutrients down to turn into energy
- ☒ c. the more energy a cell needs, the less mitochondria they have
- d. cells can have many mitochondria

19. Why does a muscle cell need lots of Mitochondria? because muscles require
LOTS
energy.

20. Why are mitochondria called the powerhouses of the cell? They provide energy that each cell needs to grow.

VACUOLES:

REMEMBER TO LABEL THE DIAGRAM

21. List 2 things vacuoles do for a cell.

- a. Store food, water, and nutrients
- b. Stores waste to protect the rest of the cell

22. What do vacuoles have to do with plants drooping? Vacuole lost water and is shrinking

REMEMBER TO LABEL THE DIAGRAM

CHLOROPLAST:

23. In which types of cells are chloroplasts found?

- ☒ a. plant cells
- ☐ b. animal cells
- ☐ c. plant and animal cells

24. What process happens in the chloroplast? photosynthesis

25. What is the waste product of that process? Oxygen

REMEMBER TO LABEL THE DIAGRAM

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ANIMAL CELL

Identify each of the labeled organelles shown in the diagram below.

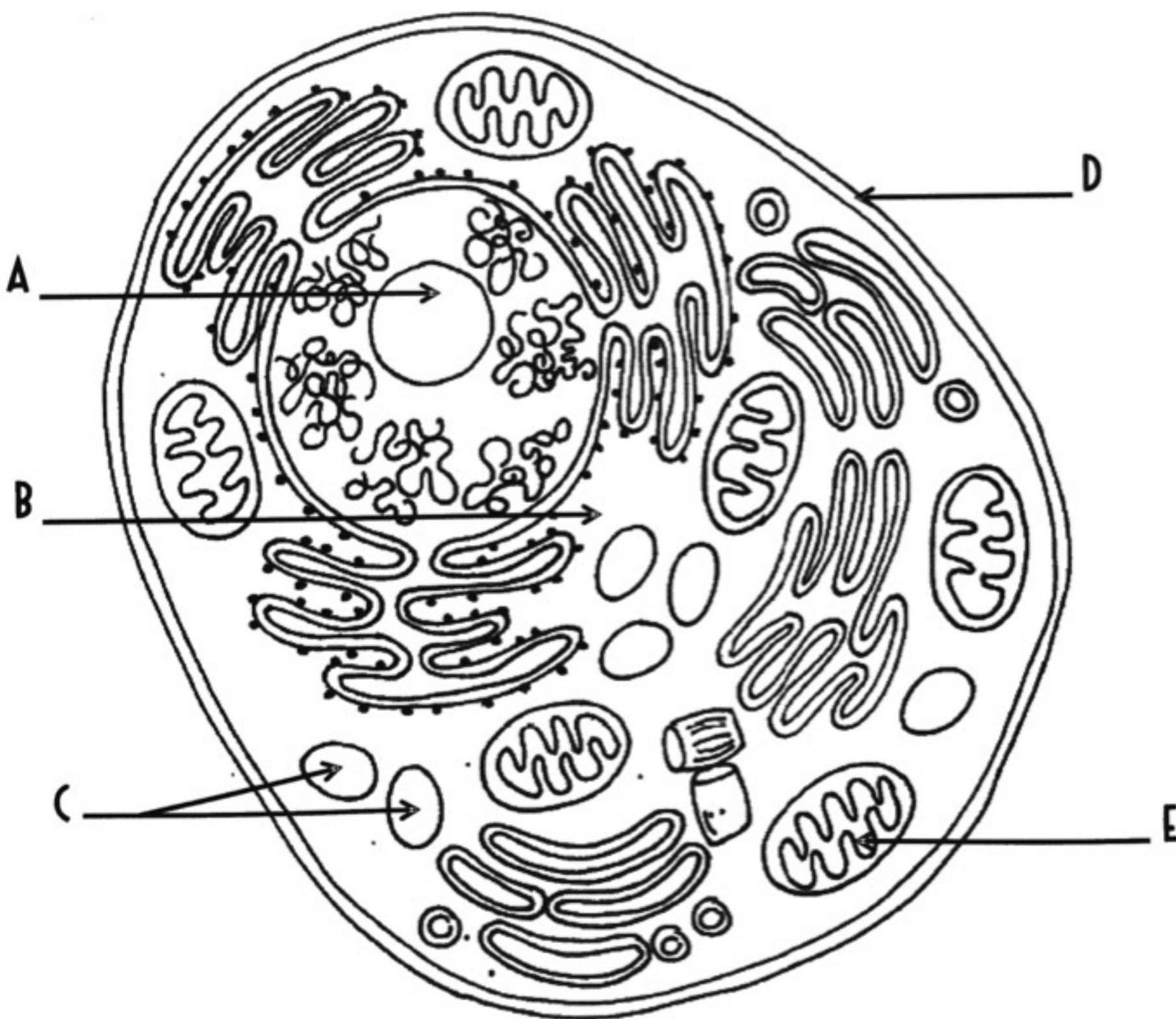
A. _____ NUCLEUS _____

D. _____ CELL MEMBRANE _____

B. _____ CYTOPLASM _____

E. _____ MITOCHONDRIA _____

C. _____ VACUOLES _____



NAME: _____

DATE: _____

PLANT CELL

Identify each of the labeled organelles shown in the diagram below.

A. _____ CELL MEMBRANE _____

E. _____ CYTOPLASM _____

B. _____ CELL WALL _____

F. _____ MITOCHONDRIA _____

C. _____ VACUOLE _____

G. _____ NUCLEUS _____

D. _____ CHLOROPLAST _____

