

Cell Parts Detectives

Compare structures that plant and animal cells share or do not share.

S5L3 "Obtain, evaluate, and communicate information to compare and contrast the parts of plant and animal cells."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each detail about a part shared by plant and animal cells, circle each plant-only part, and write A beside each detail that describes animal cells.

Cells With Different Tools

- ① Plants and animals are made of cells, tiny living units that carry out life jobs. A cell has parts that work together, much like rooms in a busy building. Plant and animal cells share several important structures. Their cell membranes control what enters and leaves. Their cytoplasm is a jellylike material where many activities happen. Their nuclei direct cell activities and contain genetic material.
- ② Plant cells have a stiff cell wall outside the cell membrane. This wall supports and protects the cell, helping a plant keep its shape. Plant cells also contain chloroplasts, which use energy from sunlight to help make food. A large central vacuole stores water and other materials. When it is full of water, the vacuole helps support the plant cell.
- ③ Animal cells do not have cell walls or chloroplasts. Without a cell wall, an animal cell can change shape more easily than a plant cell. Animal cells often have smaller vacuoles, rather than one large central vacuole. Both kinds of cells need energy, materials, and directions to live. Comparing shared and different parts helps scientists explain why plants make food from sunlight while animals must get food by eating.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Name two structures that plant and animal cells share. What job does one of those structures do?

2 How does a cell wall help a plant cell, and which kind of cell does not have one?

3 Contrast the vacuoles in plant and animal cells.

4 Use two details from the passage to explain why plants can make food from sunlight but animals must get food by eating.

3 YOUR TURN _____ Your own words

Create a comparison chart for a new student. Choose three cell parts, tell where each part is found, and describe its job or effect.

CELL PART	FOUND IN	JOB OR EFFECT

PART 1 • READ AND MARK

Underline each detail about a part shared by plant and animal cells, circle each plant-only part, and write A beside each detail that describes animal cells. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Name two structures that plant and animal cells share. What job does one of those structures do?	Answers include cell membrane, cytoplasm, and nucleus. The cell membrane controls what enters and leaves, cytoplasm is where many activities happen, or the nucleus directs cell activities and contains genetic material.
2	How does a cell wall help a plant cell, and which kind of cell does not have one?	A cell wall supports and protects a plant cell and helps it keep its shape. Animal cells do not have cell walls.
3	Contrast the vacuoles in plant and animal cells.	Plant cells have one large central vacuole that stores water and other materials. Animal cells often have smaller vacuoles.
4	Use two details from the passage to explain why plants can make food from sunlight but animals must get food by eating.	Plant cells have chloroplasts that use energy from sunlight to help make food. Animal cells do not have chloroplasts, so animals must get food by eating.

PART 3 • YOUR TURN (SAMPLE ANSWER)

CELL PART	FOUND IN	JOB OR EFFECT
Cell membrane	Plant and animal cells	Controls what enters and leaves the cell.
Chloroplast	Plant cells	Uses sunlight energy to help make food.
Cell wall	Plant cells	Supports and protects the cell and helps it keep its shape.

Accept any three accurate parts and locations from the passage. A strong chart includes at least one shared structure and at least one structure found only in plant cells.