Lesson 2 The Cell

Scan *Lesson 2 in your book. Think of three questions you have about cells. Write those questions in your Science Journal. Then try to answer your questions as you read.*

Main Idea

Cell Shape and Movement

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Details

Compare *cell parts by completing the chart. Put a check mark in the* Plant *or* Animal *column to indicate which types of cells contain the cell part listed. You might need to reference the cell diagrams to decide.*

Cell Part		Plant	Animal
Cell membrane	Description: **a flexible covering around the cell**	√	√
	Purpose: **protects the inside of a cell from the environment outside a cell**		
Cell wall	Description: **a stiff structure outside the cell membrane**	√	
	Purpose: **maintains cell's shape; protects cell from harmful organisms**		
Cytoplasm	Description: **fluid inside a cell that contains salts and molecules**	√	√
	Purpose: **provides water environment in which cell processes take place**		
Cytoskeleton	Description: **threadlike proteins joined together**	√	√
	Purpose: **gives a cell shape and helps it move**		

Main Idea

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Details

Identify and describe *2 examples of cell appendages.*

1.	Example: **cilia**	Description: short, hairlike structures	Purpose: **can move a cell or move molecules away from a cell**
2.	Example: flagella	Description: **whiplike structures**	Purpose: **movement**

Cell Types

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Classify *cells as prokaryotic or eukaryotic by writing* "E" *or* "P" *in the right-hand column.*

Characteristic	Cell Type
Cell's genetic material is surrounded by a membrane.	**E**
Cell is usually a unicellular organism.	**P**
It is usually the smaller of the two types of cell.	**P**
Cell contains organelles.	**E**

Cell Organelles

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Identify *four facts about* organelles. **Sample answers shown.**

1. **surrounded by a membrane**
2. **have a specialized function**
3. **inside eukaryotic cells**
4. **enable a cell to carry out many functions at once**

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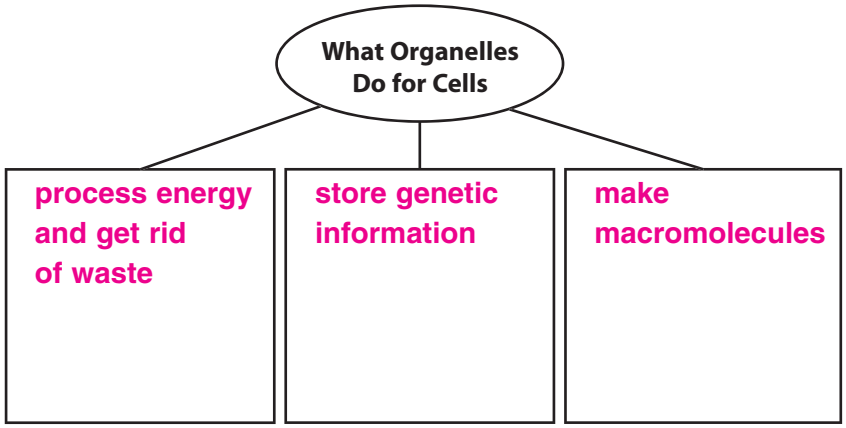
Describe *some functions of* organelles.



Main Idea

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Details

Classify *information about* organelles. *In the right-hand column, indicate whether the* organelle *is in a plant cell, an animal cell, or both.*

Organelle	Function Sample answers are shown.	Plant, Animal, or Both?
Nucleus	directs all cell activity and stores genetic information	both
Nucleolus	makes ribosomes	both
Ribosome	makes proteins	both
Rough endoplasmic reticulum	provides a site for making proteins	both
Smooth endoplasmic reticulum	makes lipids and helps remove harmful substances from cell	both
Mitochondria	releases energy from ATP molecules	both
Chloroplast	uses energy from sunlight and makes glucose	plant
Golgi apparatus	prepares proteins for their specific jobs and packages them into vesicles	both
Vesicle	transports substances to different areas within the cell	both
Central vacuole	stores food, water, and waste material	plant
Lysosome	helps break down and recycle cellular components	animal

Synthesize It Some cells contain chloroplasts that use light energy and produce food. Do cells without chloroplasts also depend on sunlight for their food? Explain.

Sample answer: Yes; cells without chloroplasts also depend on sunlight for their food. They use the sugars made by cells with chloroplasts for energy.