



Lesson Plan: Cells: The Building Blocks of Living Things

Grade Level: 4

Subject: Life Science

Duration: 45–60

NGSS 4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Learning Objectives

By the end of this lesson, students will be able to:

- **Identify** the basic parts of a cell, including the nucleus, cell membrane, cytoplasm, and cell wall
- **Compare** and contrast the structures found in plant and animal cells, noting specifically the



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

- Study Guide - Cells: The Building Blocks of Living Things (<https://newpathworksheets.com/api/guide/study-guide-science-grade-4-cells-the-building-blocks-of-living-things.pdf>)
- Activity Lesson - Build a Cell Model (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-4-cells-the-building-blocks-of-living-things-cells-building-blocks-of-living-things-4.pdf>)
- Worksheet - Cell Labeling and Functions (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-1.pdf>)



- Worksheet - Lesson Quiz (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-0.pdf>)
- Vocabulary - Definition Matching (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-cells-the-building-blocks-of-living-things-1.pdf>)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Hook students by asking: "If you built a house out of Legos, what would the single Lego brick represent? What are living things built out of?"
- Introduce the concept using the 'Cells- the Building Blocks of Living Things' section from the Study Guide. (<https://newpathworksheets.com/api/guide/study-guide-science-grade-4-cells-the-building-blocks-of-living-things.pdf>)



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

Step 4: Independent Practice (15 minutes)

- Students will complete the 'Cut and Paste' activity to build their own animal or plant cell model. (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-4-cells-the-building-blocks-of-living-things-cells-building-blocks-of-living-things-4.pdf>)
- Have students color the organelles according to a key (e.g., nucleus = blue, mitochondria = red) before cutting them out and pasting them into the cell outline.

Step 5: Assessment (5 minutes)



- Administer the Multiple Choice Quiz to check for understanding of cell structure and function. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-0.pdf>)
- Review the Lesson Checkpoint questions from the Study Guide as a closing exit ticket.

Differentiation Strategies

For advanced learners:

- Research and label additional organelles found in the activity lesson, such as the Golgi body and Endoplasmic Reticulum, and explain their functions.

For learners needing support:

- Provide pre-cut organelle shapes for the Independent Practice activity to focus time on placement and identification rather than cutting.



PREVIEW

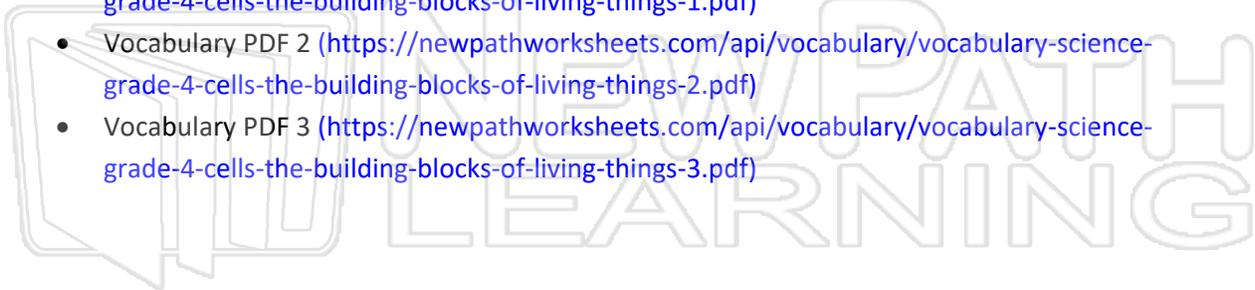
Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

[science-grade-4-cells-the-building-blocks-of-living-things-cells-building-blocks-of-living-things-4.pdf](https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-cells-building-blocks-of-living-things-4.pdf))

- Worksheet PDF 0 (Quiz) (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-0.pdf>)
- Worksheet PDF 1 (Labeling) (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-1.pdf>)
- Worksheet PDF 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-2.pdf>)



- Worksheet PDF 3 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-cells-the-building-blocks-of-living-things-3.pdf>)
- Worksheet Focus PDF (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-cells-the-building-blocks-of-living-things-focus-in-4.pdf>)
- Vocabulary PDF 1 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-cells-the-building-blocks-of-living-things-1.pdf>)
- Vocabulary PDF 2 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-cells-the-building-blocks-of-living-things-2.pdf>)
- Vocabulary PDF 3 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-cells-the-building-blocks-of-living-things-3.pdf>)



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet



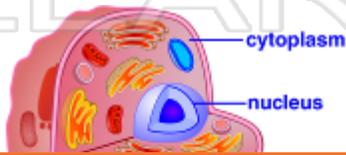
NEW PATH LEARNING

CELLS

Cells- the Building Blocks of Living Things

Cells are the building blocks of life. All living things are made of cells. A **unicellular organism** is made up of only one cell while **multicellular organisms** are made up of many cells.

Animal and plant cells have similar and different parts. Both cells include a **nucleus** and a **cell membrane**.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

instructions for cell's activities. It is the nucleus' job to make sure all the cell parts do their jobs in order to keep the cell working properly.

Another important part of a cell is the **cell membrane**. The cell membrane separates the cell from everything outside the cell. It guards everything that comes in and out of the cell, which protects the cell.

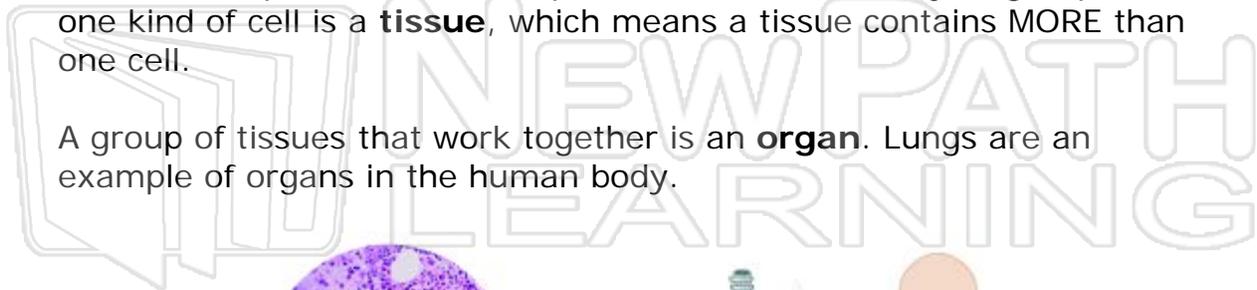
Lesson Checkpoint:
What is the job of the nucleus of the cell?

Every cell is filled with a gel-like liquid called **cytoplasm**. The main job of the cytoplasm in a cell is to hold all cell parts in one place.

Each cell in an organism has its own job to do in order to keep the cell working properly.

Cells make up all the different parts of the human body. A group of one kind of cell is a **tissue**, which means a tissue contains MORE than one cell.

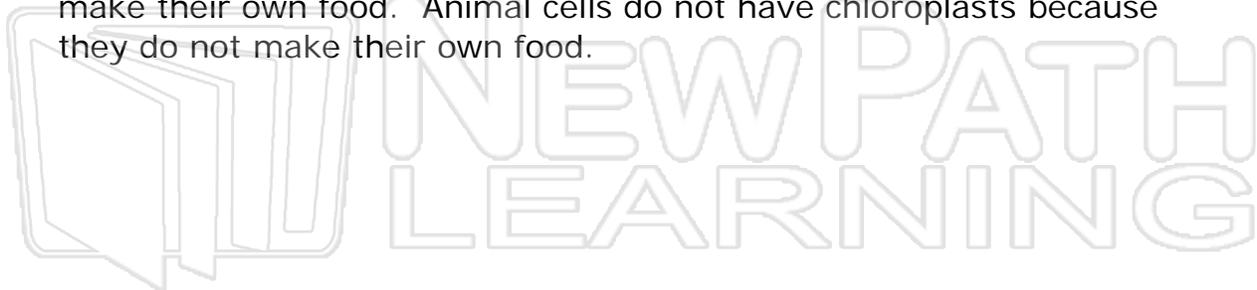
A group of tissues that work together is an **organ**. Lungs are an example of organs in the human body.

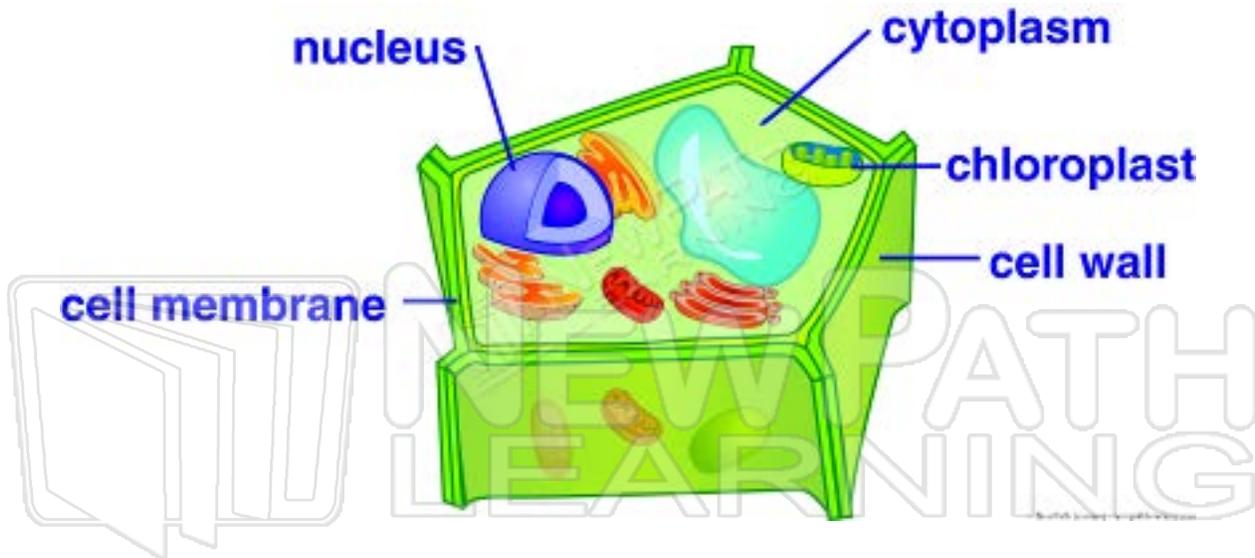


PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

a part of a plant cell but not an animal cell. Chloroplast catches the sun's energy for the plant because plants need the sun's energy to make their own food. Animal cells do not have chloroplasts because they do not make their own food.





Plant cells also have a **cell wall**, which an animal cell does not have. The main job of a plant's cell wall is to support and protect the cell. It



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet





Name _____ Class _____ Date _____

Cells are the building blocks of life. All living things are made of cells. Cells have particular functions or roles in organisms.

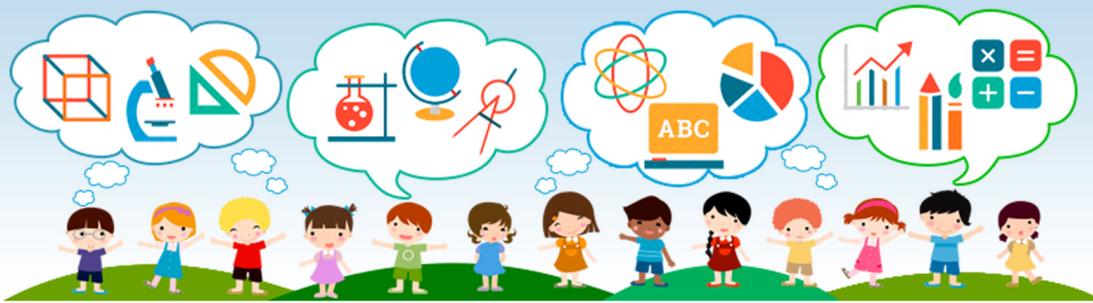
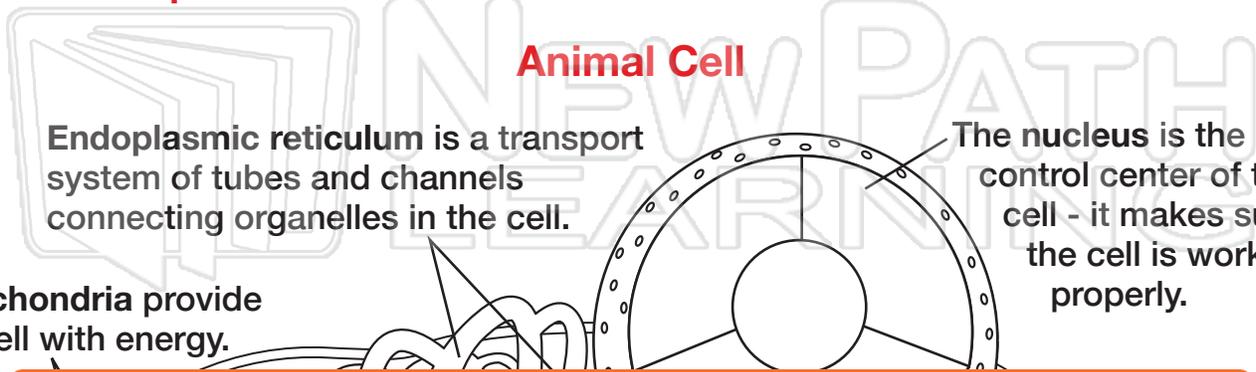
Animal and plant cells have similar and different **organelles**. Both cell types have a **nucleus**, **cytoplasm** and a **cell membrane**. However, plant cells have special parts such as **chloroplasts** and a **cell wall** that animal cells do not have.

Animal Cell

Endoplasmic reticulum is a transport system of tubes and channels connecting organelles in the cell.

Mitochondria provide the cell with energy.

The nucleus is the control center of the cell - it makes sure the cell is working properly.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

Lysosomes contains enzymes that break down and recycle materials.

Centrioles play a role in cell replication.

The cell membrane guards everything that comes in and out of the cell, protecting the cell.

Vacuoles store materials needed by the cell and remove unwanted debris.



Name _____ Class _____ Date _____

Cells are the building blocks of life. All living things are made of cells. Cells have particular functions or roles in organisms.

Animal and plant cells have similar and different **organelles**. Both cell types have a **nucleus**, **cytoplasm** and a **cell membrane**. However, plant cells have special parts such as **chloroplasts** and a **cell wall** that animal cells do not have.

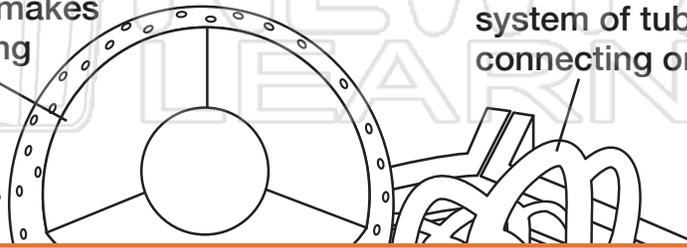
Plant Cell

The **nucleus** is the control center of the cell - it makes sure the cell is working properly.

Endoplasmic reticulum is a transport system of tubes and channels connecting organelles in the cell.

Golgi body packages & directs materials made where to go.

Vacuoles store materials & remove debris. They help maintain water balance in plant cells.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

Mitochondria provide energy to the cell.

Cell membrane that comes in and out of the cell.

Chloroplasts are only found in plant cells. They catch the sun's energy and help plants make their own food.

Plant cells have a **cell wall**, which supports and protects the cell. It is located outside the cell membrane.

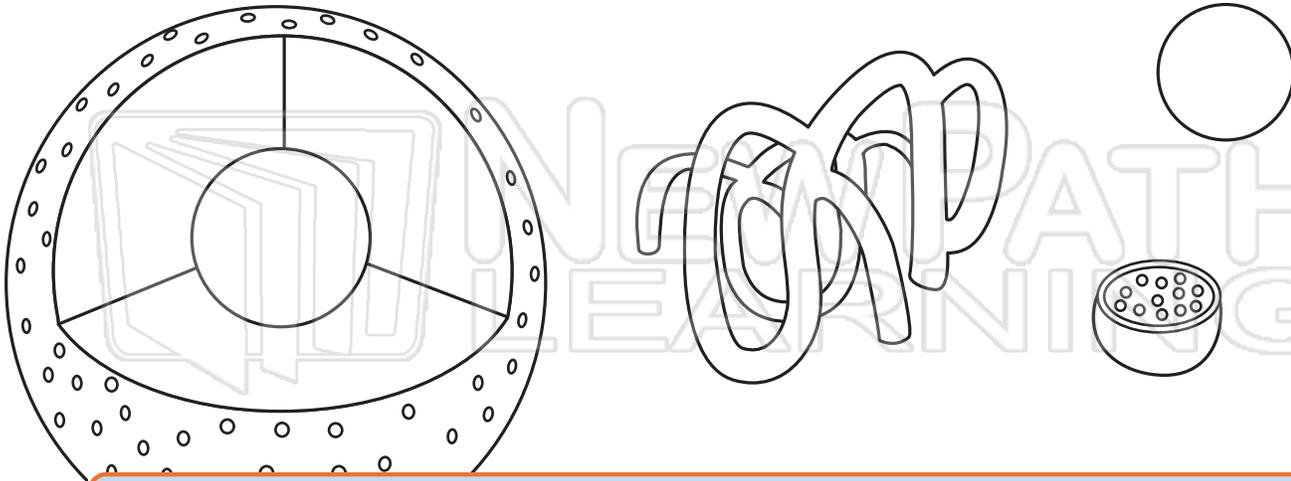


Cells - Building Blocks of Living Things

Sci
D

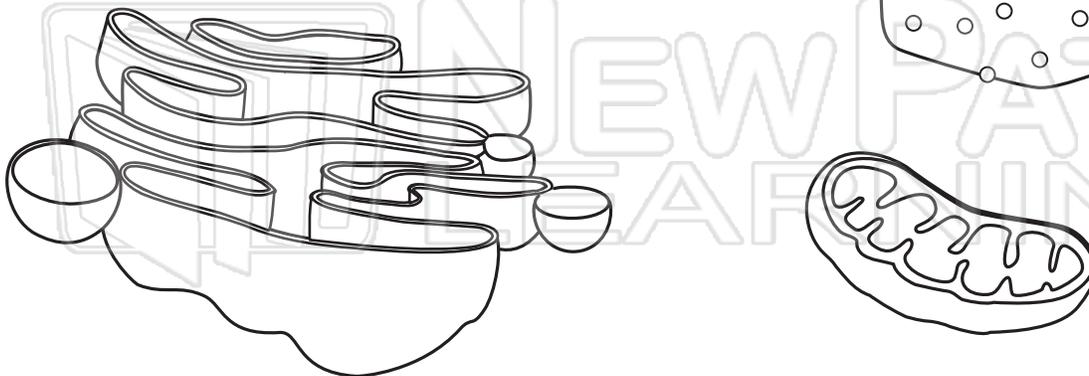
Name _____ Class _____ Date _____

Color and cut out the organelles. Use the pieces to make an animal cell.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet





Name _____ Class _____ Date _____

Add organelles to the animal cell. Name them.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet



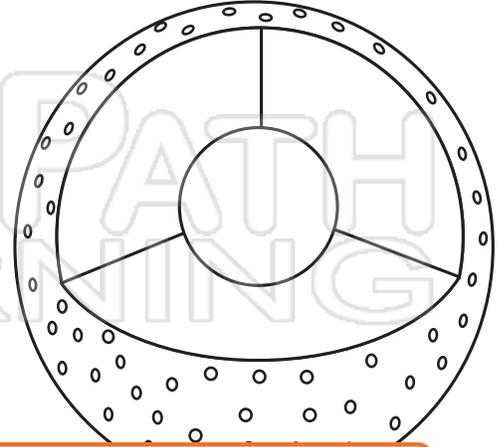
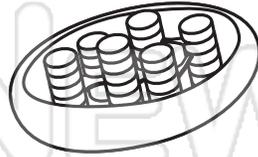
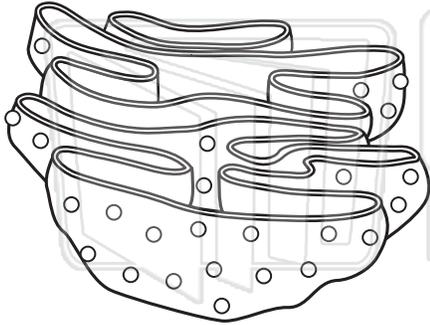


Cells - Building Blocks of Living Things

Sci
D

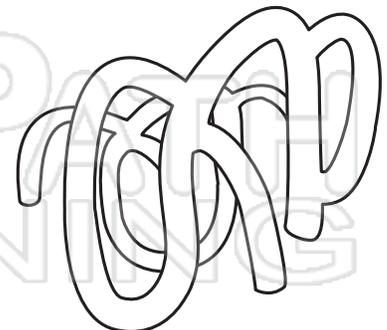
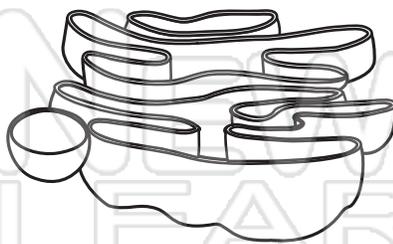
Name _____ Class _____ Date _____

Color and cut out the organelles. Use the pieces to make a plant cell.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet





Name _____ Class _____ Date _____

Add organelles to the plant cell. Name them.



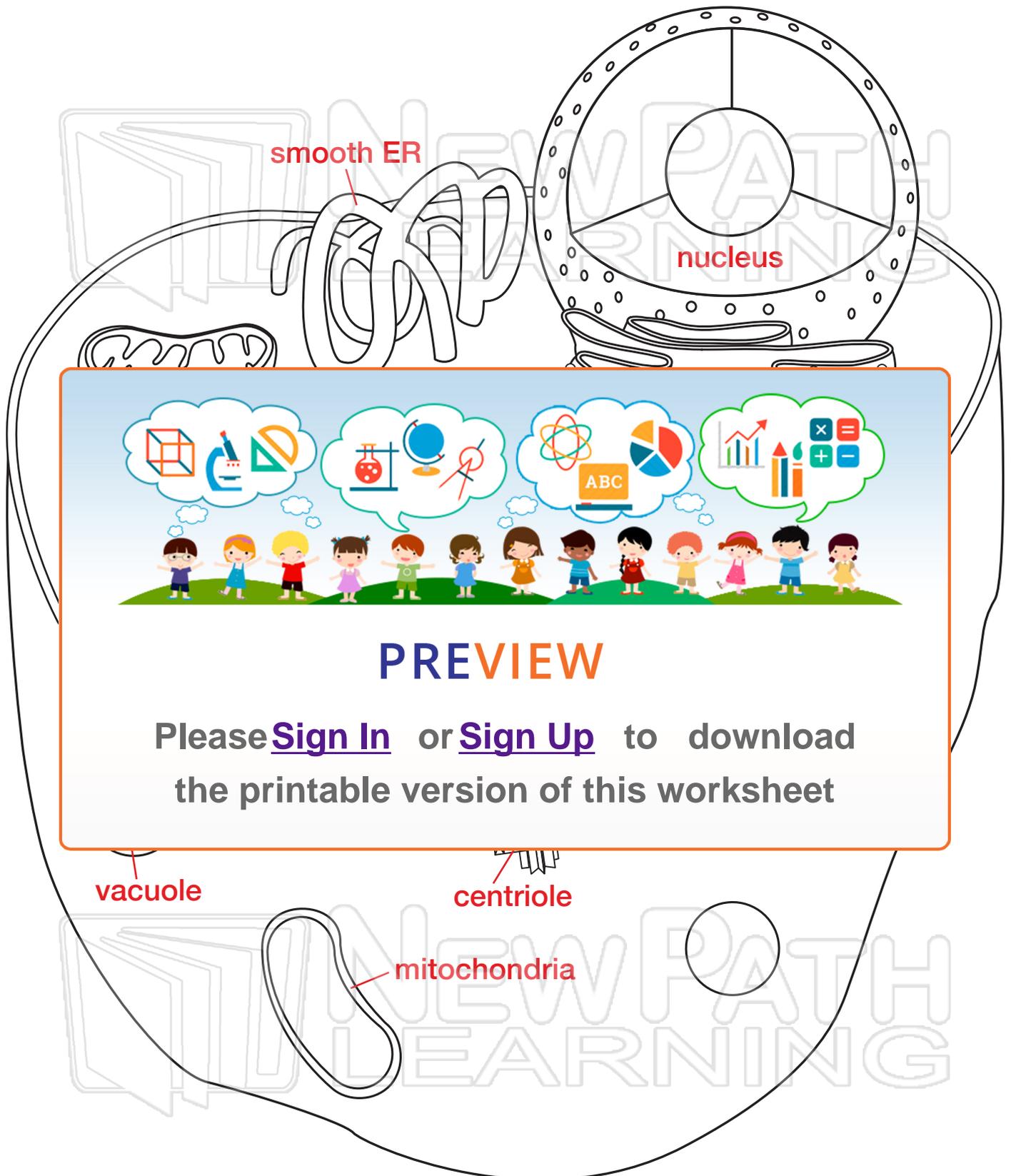
PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet



Answer Key - example

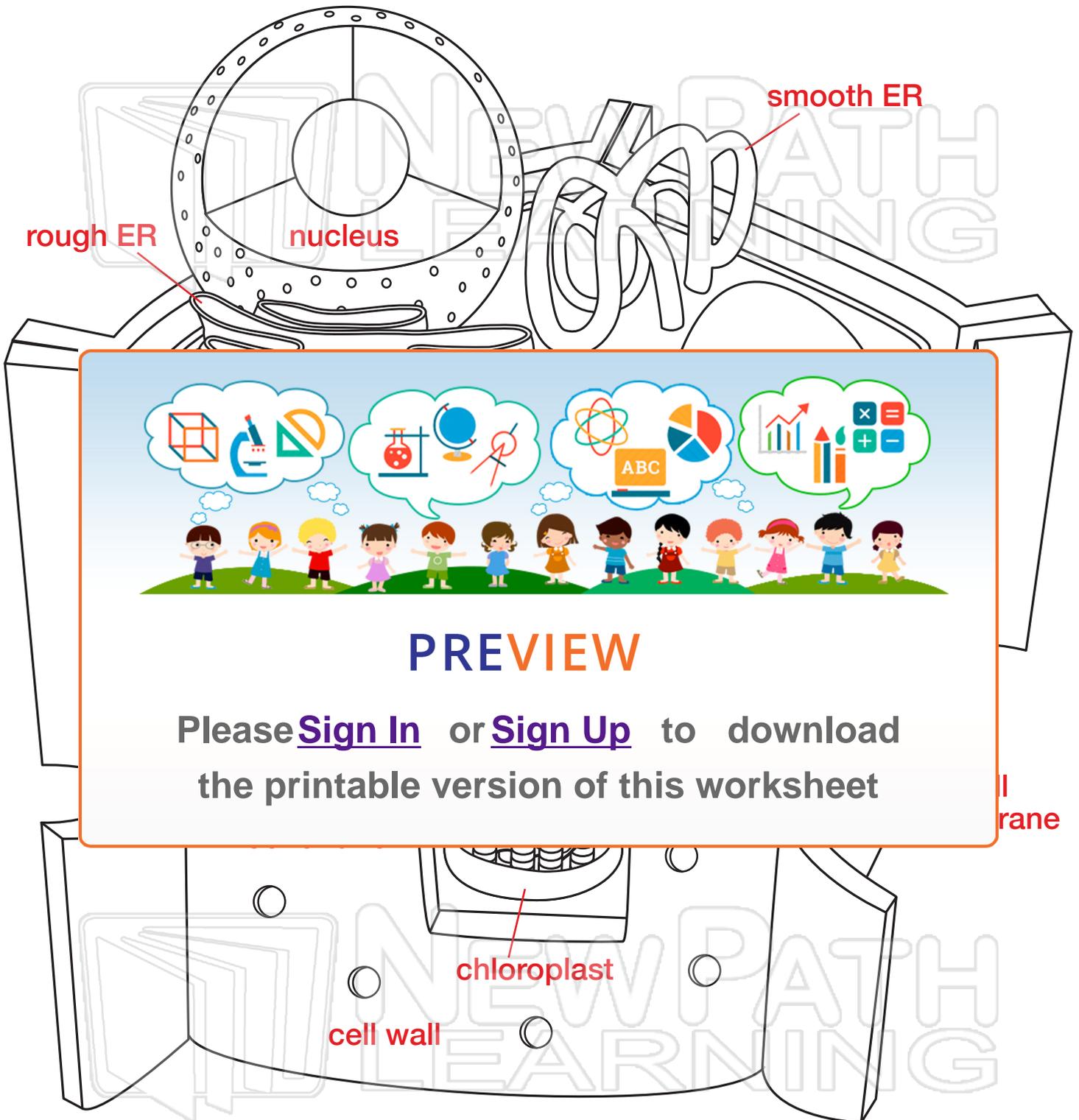
Add organelles to the animal cell. Name them.





Answer Key - example

Add organelles to the plant cell. Name them.

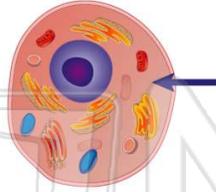




Name _____ Class _____ Date _____

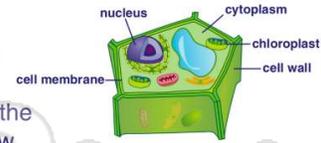
1 What part of the cell is the arrow pointing to on this **animal cell** diagram?

- A nucleus
- B cytoplasm
- C cell membrane
- D chloroplast



2 What is the **main job** of the **cytoplasm** in a cell?

- A to feed the cell
- B to help the cell grow
- C to help the cell move
- D to hold all cell parts in place



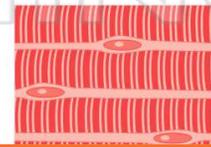
3 Every **cell** has the **same job** in a living organism.
True or false?

- A true
- B false

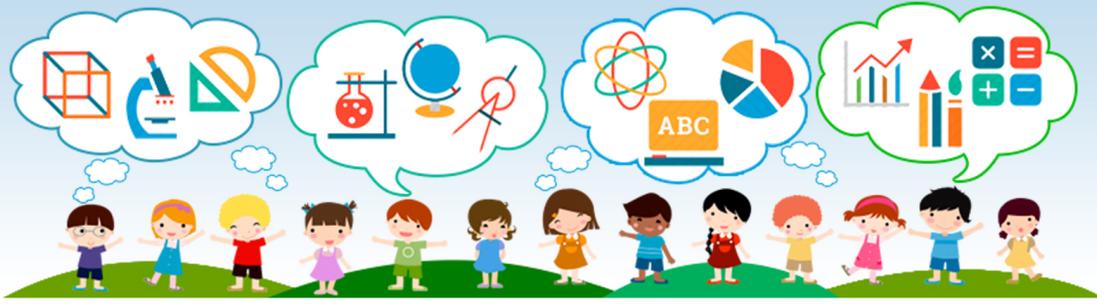


4 A **group** of one kind of **cell** is a _____.

- A system
- B organ
- C tissue



5



PREVIEW

7

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

- A a system
- B an organism
- C an organ
- D a vein

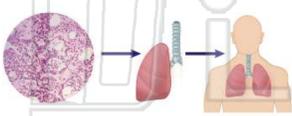
D a strand of hair



9

What does a **group of organs** working together form?

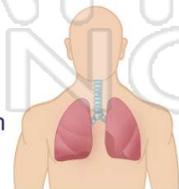
- A a system
- B blood
- C oxygen
- D a tissue



10

The _____ is an example of a **system** in the human body.

- A sleeping system
- B eating system
- C running system
- D respiratory system

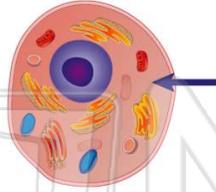




Name _____ Class _____ Date _____

1 What part of the cell is the arrow pointing to on this **animal cell** diagram?

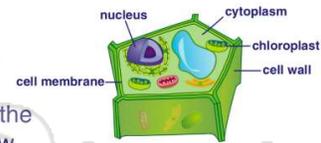
- A nucleus
- B cytoplasm
- C cell membrane
- D chloroplast



B

2 What is the **main job** of the **cytoplasm** in a cell?

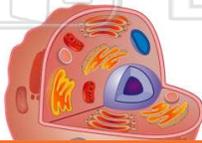
- A to feed the cell
- B to help the cell grow
- C to help the cell move
- D to hold all cell parts in place



D

3 Every **cell** has the **same job** in a living organism.
True or false?

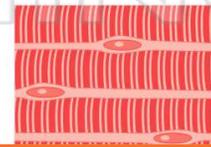
- A true
- B false



B

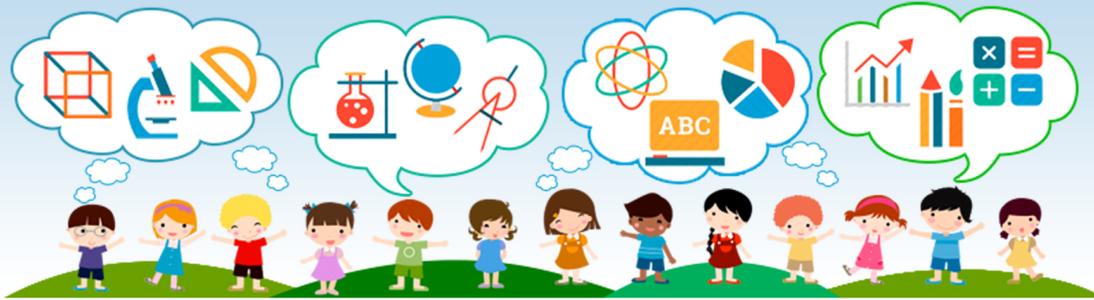
4 A **group** of one kind of **cell** is a _____.

- A system
- B organ
- C tissue



C

5



D

PREVIEW

7

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

C

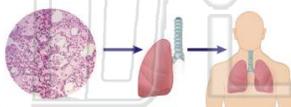
- A a system
- B an organism
- C an organ
- D a vein

D a strand of hair



9 What does a **group of organs** working **together** form?

- A a system
- B blood
- C oxygen
- D a tissue



A

10 The _____ is an example of a **system** in the human body.

- A sleeping system
- B eating system
- C running system
- D respiratory system



D



Name _____ Class _____ Date _____

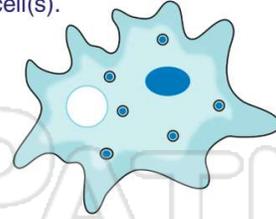
1 **Cells** are the **building blocks** of life. Which sentence supports this statement the best?

- A All cells are large.
- B All living things are made of cells.
- C You need a microscope to see cells.
- D Cells come in different shapes.



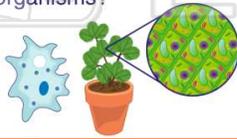
2 A **unicellular organism** is made up of _____ cell(s).

- A one
- B many
- C several
- D three



3 What is the difference between **unicellular** and **multicellular** organisms?

- A the number of cells they have
- B the size of their cells



4 Which do scientists use to **study cells**?

- A a scale
- B a microscope
- C a graduated cylinder
- D a thermometer



PREVIEW

7 Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

D cytoplasm

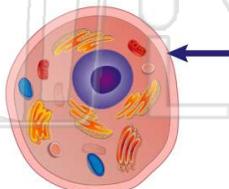


- B to feed the cell
- C to help the cell grow
- D to protect the inside of the cell



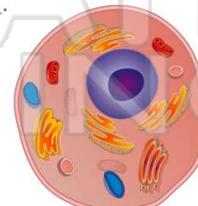
9 What part of the **animal cell** is the arrow pointing to on this diagram?

- A cell membrane
- B nucleus
- C cytoplasm
- D chloroplast



10 Every cell is filled with a **gel-like liquid** called _____.

- A jelly
- B slime
- C chloroplast
- D cytoplasm





Name _____ Class _____ Date _____

1 **Cells** are the **building blocks** of life. Which sentence supports this statement the best?

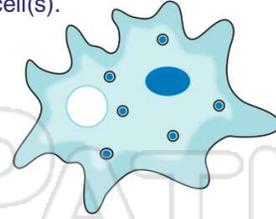
- A All cells are large.
- B All living things are made of cells.
- C You need a microscope to see cells.
- D Cells come in different shapes.



(B)

2 A **unicellular organism** is made up of _____ cell(s).

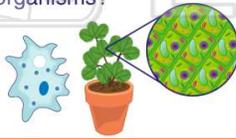
- A one
- B many
- C several
- D three



(A)

3 What is the difference between **unicellular** and **multicellular** organisms?

- A the number of cells they have
- B the size of their cells



(A)

4 Which do scientists use to **study cells**?

- A a scale
- B a microscope
- C a graduated cylinder
- D a thermometer



(B)

5



(D)

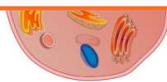
PREVIEW

7

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

(D)

D cytoplasm



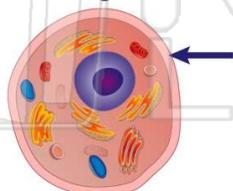
- B to feed the cell
- C to help the cell grow
- D to protect the inside of the cell



9

What part of the **animal cell** is the arrow pointing to on this diagram?

- A cell membrane
- B nucleus
- C cytoplasm
- D chloroplast

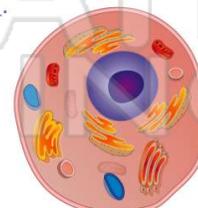


(A)

10

Every cell is filled with a **gel-like liquid** called _____.

- A jelly
- B slime
- C chloroplast
- D cytoplasm



(D)



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Endoplasmic reticulum

Cell wall

Compound microscope

Chloroplast

Cytoplasm

Cell membrane

Cell

DNA

1. _____ - the basic building block of all living organisms

2. _____ - the layer inside the cell wall of plants that regulates which substances enter and leave the cell; the outer protective layer of all animal cells

3. other _____

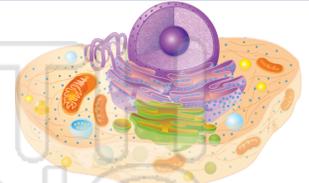
4. contain products of photosynthesis

5. lens

6. surround

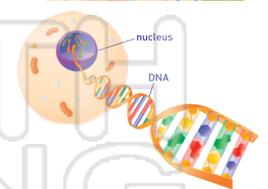
7. _____ within the nucleus

8. _____ - a transport system of tubes and channels connecting cell organelles; a transport system that moves different materials around the cell



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet





Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Endoplasmic reticulum

Cell wall

Compound microscope

Chloroplast

Cytoplasm

Cell membrane

Cell

DNA

1. **cell** - the basic building block of all living organisms

2. **cell membrane** - the layer inside the cell wall of plants that regulates which substances enter and leave the cell; the outer protective layer of all animal cells

3. cell
organism

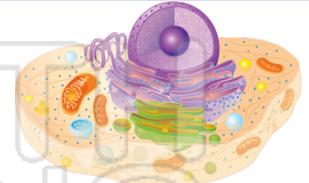
4. chl
that ca
sugar

5. com

6. cyt
organism

7. **DNA** - deoxyribonucleic acid; genetic material within the nucleus

8. **endoplasmic reticulum** - a transport system of tubes and channels connecting cell organelles; a transport system that moves different materials around the cell



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

