

Cells & Cell Processes

With Digital Activities

**For
Special
Ed**

Special Needs for Special Kids





This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader, loves to rip any worksheet that comes his way AND he is able to do this unit. He is my tester!!

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This unit contains over 200 pages of material, but don't worry I have detailed lesson plans to show you how to make this last 16 days or more.

Everything highlighted in yellow comes with a digital version of the activity.

Cells and Cell Processes

Lesson Plan

Preparation

- Print out a vocabulary board for each student to use throughout unit
 - Laminate or place in page protector
- Book
 - Print out, laminate, and bind
 - OR your students can listen to the pre-recorded version
- Vocabulary cards
 - Print out a set of cards onto cardstock and laminate
 - Make one set for each student and also one for the teacher to use in I Spy games

Preassessment (do day 1 before starting lesson)

- Choose the form of the assessment that best fits the learning level of your students
- Give the assessment to assess what your students may already know
- I cannot emphasize enough how important this step is. If you want to see growth, this preassessment is so important!!

Teaching Tips

- *Color Coding:* this is a really easy way to add more structure to a matching activity. Outline or color in an empty box or sorting label. Outline or color in the corresponding picture symbols the same colors. Becomes a color matching task.
 - a. For more info, read more here:
<https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/>
 - b. I also have a blog post on differentiating one activity 3 ways:
<https://specialneedsforspecialkids.org/2018/10/22/differentiating-1-activity-3-ways-easily-and-effectively/>
- *Make your own copies of the activities:* Every day I review the activity we did yesterday. For that reason:
 - a. I often complete the activity myself and often laminated it for easy review that I could use year after year.
 - b. My copies were also helpful as either a model for students who needed more support or as a way for more advanced students to self-check their work.

The lesson plans contain:

Overall tips for teaching
students with significant
needs

Quick Look

Day	Activity	Day	Activity
1	<ul style="list-style-type: none">• Book• Vocab cards introduction• Circle map	9	<ul style="list-style-type: none">• Book• Vocab cards activity• Sorting activity
2	<ul style="list-style-type: none">• Book• Vocab cards activity• Labeling activities	10	<ul style="list-style-type: none">• Book• Vocab cards activity• Make a 3D cell
3	<ul style="list-style-type: none">• Book• Vocab cards activity• Labeling activities	11	<ul style="list-style-type: none">• Book• Vocab cards cut and past• Vocabulary puzzle
4	<ul style="list-style-type: none">• Book• Vocab cards activity• Labeling activities	12	<ul style="list-style-type: none">• Book• Vocab cards cut and pa• Vocabulary puzzle
5	<ul style="list-style-type: none">• Book• Vocab cards activity• Labeling activities	13	<ul style="list-style-type: none">• Book• Vocab cards activity• Close worksheet
6	<ul style="list-style-type: none">• Book• Vocab cards activity• Venn Diagram	14	<ul style="list-style-type: none">• Book• Vocab cards activity• Close worksheet
7	<ul style="list-style-type: none">• Book• Vocab cards activity• Venn Diagram	15	<ul style="list-style-type: none">• Book• Vocab cards activity• Close worksheet
8	<ul style="list-style-type: none">• Book• Vocab cards activity• Matching activity	16	<ul style="list-style-type: none">• Assessment• Pizza cell

The lesson plans contain:

A quick look at what you will do each day.

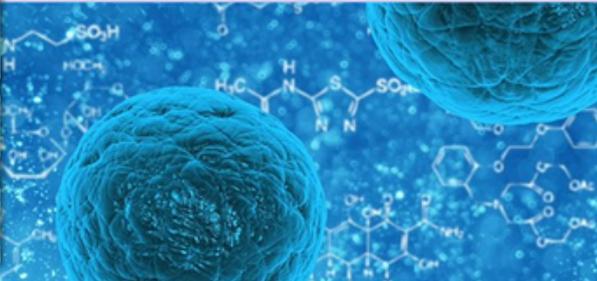
Day 2

Activity	Notes	Materials
Read or listen to a recording of the book (10 minutes)	<ul style="list-style-type: none"> • Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board 	<ul style="list-style-type: none"> • Book • Vocabulary board
Vocabulary cards I Spy Game (10 minutes)	<ul style="list-style-type: none"> • I play this game, or variations of it the first few days <ul style="list-style-type: none"> ◦ Determine how many cards your students can handle in front of them. • Since this is the first time playing this game, I make it easy. Hold up a card, and have students find the matching one and hold it up • Discuss relevant points on the card <ul style="list-style-type: none"> ◦ You can also play this game in this manner having them find the symbol on their vocabulary board 	<ul style="list-style-type: none"> • Vocabulary cards (student set and teacher set) • Vocabulary board
Circle map review (5 minutes)	<ul style="list-style-type: none"> • Review the circle map completed yesterday 	<ul style="list-style-type: none"> • Circle map completed yesterday
Labeling activity (10 minutes)	<ul style="list-style-type: none"> • Do the cell labeling activities • There are several to choose from, either labeling the parts or making your own cell • Choose 2 to do today and 2 tomorrow • Make connections to the book as necessary 	<ul style="list-style-type: none"> • Labeling worksheets • Scissors • Glue
Sharing (10 minutes)	<ul style="list-style-type: none"> • Each student shares their finished worksheet with the group using the communication method of their choice 	<ul style="list-style-type: none"> • Completed worksheet • Communication devices

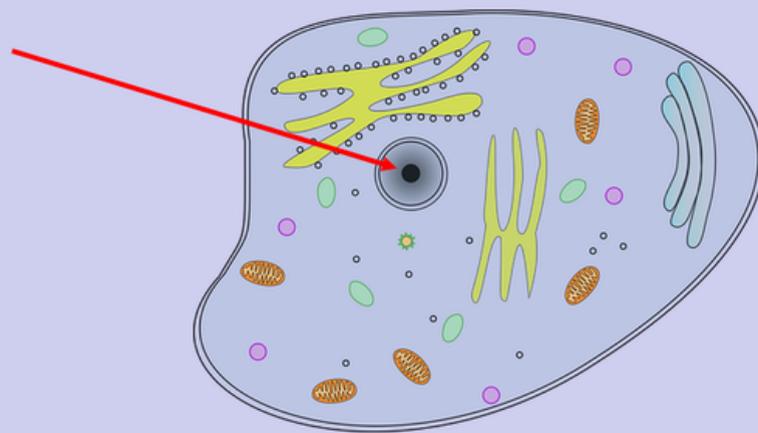
The lesson plans contain:

Detailed instructions on how that day's lesson should run.

There are 2 main categories of cells: **prokaryotic** and **eukaryotic**.



The most important organelle of all is the



This unit contains at 51 page book. It has simple text and engaging photos. I encourage teachers to start **EVERY** lesson with this book.

It comes in a pdf and a voice recorded version so you don't have to print it out.

All eukaryotic cells, however, do have a nucleus. Each cell only has one, and it is where all the **DNA** or information about the cell is stored.



Play (k)



4:03 / 9:31



There is an mp4 version of the book which you can play in google or assign for students to watch and listen to in google classroom.

This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!



Making a Cell Pizza (Sweet)

Materials

- Crescent dough or premade large cookie (cooked)
- Frosting
- Chocolate chips
- Jelly beans
- Green skittles or M&Ms
- 1 Oreo

Directions

- *Cell membrane/wall*
 - Have students spread crescent dough if using
 - Talk about how the crust is like the cell membrane/wall
 - Provides stiffness/structure
 - Holds all the inner parts of the cell
- *Cytoplasm*
 - Spread the frosting
 - Talk about how the frosting is similar to the cytoplasm
 - Provides cushion
 - Helps hold inner structures in place
- *Organelles*
 - Use chocolate chips for the ribosomes
 - Use jelly beans for the mitochondria
 - Use green skittles or M&Ms as chloroplasts
 - Talk about how they are like the organelles
 - Uniform in size and shape
 - Spread throughout the cytoplasm and cushioned
- *Nucleus*
 - Place whole Oreo in center of pizza as nucleus
 - Talk about how the Oreo is similar to the nucleus
 - Only one present in the cell
 - Round

There are 2 group activities included. One is making a 3D cell with some common materials. The second includes 2 versions of a recipe for an edible pizza.

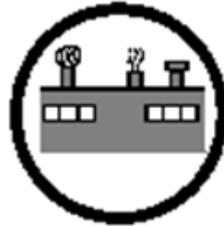
chlorophyll

Pigment in **plant cells** found in chloroplasts that store the sunlight.



ribosomes

Organelles that are like factories and create proteins for the cell to use.



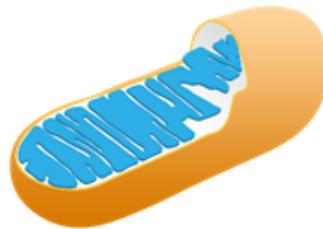
proteins

What all cells need to survive; made by ribosomes.



mitochondria

Organelle that turns food into energy the cell can use.

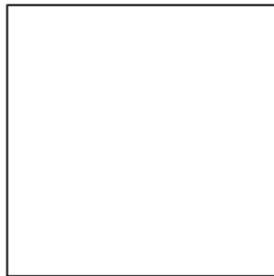


This unit comes with 12 vocabulary cards.

Every day students will do a group activity using these cards to get more familiar with words that are likely new to them.

cell

Building block of all living things.



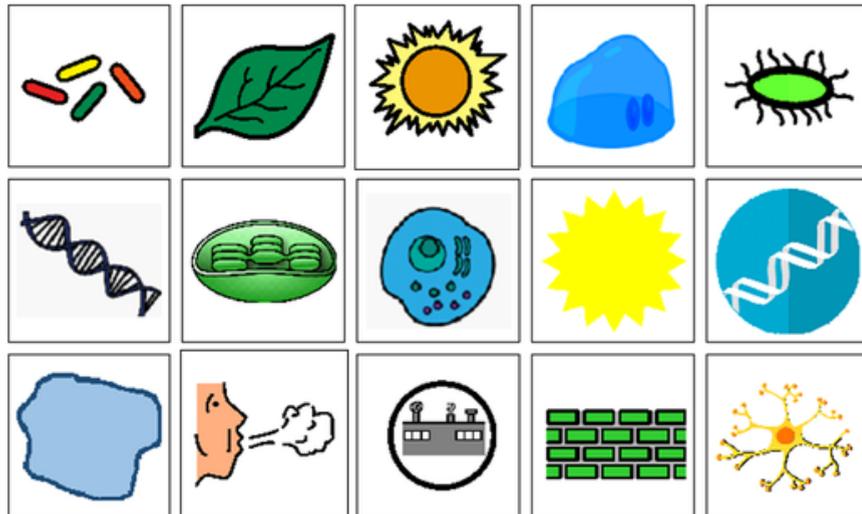
prokaryotic

Very simple cells with no nucleus. Bacteria is an example.



eukaryotic

More complex cells with a nucleus and organelles. Most

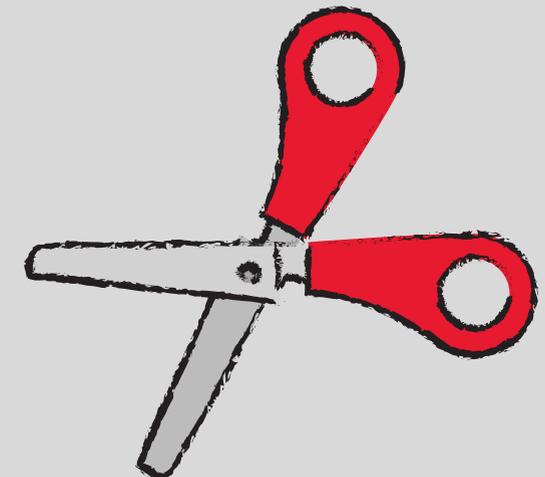


cell membrane

Goes around the outside of all cells. It lets things in and goes

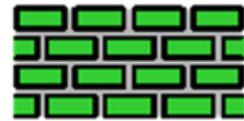


Students will also test their knowledge of these new words and symbols with a cut and paste activity on days 11&12.



cell wall

cytoplasm



organelle

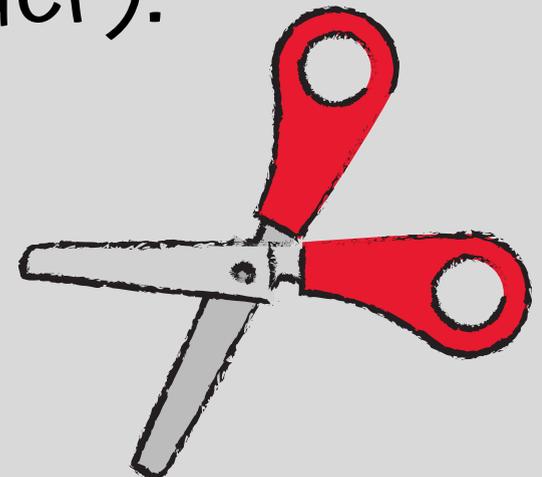
nucleus



Organelles that are like factories and create proteins for the cell to use.	Organelle that turns food into energy the cell can use.
Building block of all living things.	The energy that is produced in plant and animal cells.
Organelle found only in plant cells and turns sunlight into energy.	Jell-O like substance that fills the cell and cushions what is inside.

You have 2 choices:

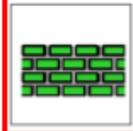
1. Students match the picture to the definition (easier).
2. Students match the definition to the picture (harder).



<p>cell</p> <p>Building block of all living things.</p> 	<p>prokaryotic</p> <p>Very simple cells with no nucleus. Bacteria is an example.</p> 	<p>cell wall</p> <p>An extra layer that goes around plant cells that makes them sturdier.</p> 	<p>cytoplasm</p> <p>Jell-O like substance that fills the cell and cushions what is inside.</p> 
<p>eukaryotic</p> <p>More complex cells with a nucleus and organelles. Most plant and animal cells are examples.</p> 	<p>cell membrane</p> <p>Goes around the outside of all cells and regulates what comes in and goes out.</p> 	<p>organelle</p> <p>Things inside the cell that have their own membrane and special job to do.</p> 	<p>nucleus</p> <p>The brain of the cell. Tells all the what to do.</p> 

Match the picture to the definition.

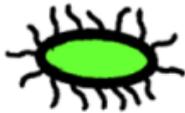
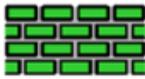









There are digital versions of the vocabulary matching activities. Both versions (matching the pictures and matching the definitions) are included.

cell 	prokaryotic 	cell wall 	cytoplasm 
eukaryotic 	cell membrane 	organelle 	nucleus 

Match the definition to the picture.

An extra layer that goes around plant cells that makes them sturdier.

The brain of the cell. Tells all the organelles what to do.

Very simple cells with no nucleus. Bacteria is an example.

Jell-O like substance that fills the cell and cushions what is inside.

Things inside the cell that have their own membrane and special job to do.

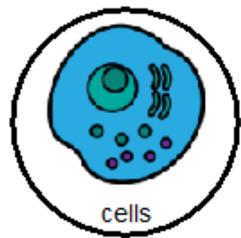
Goes around the outside of all cell and regulates what comes in and goes out.

Building block of all living things.

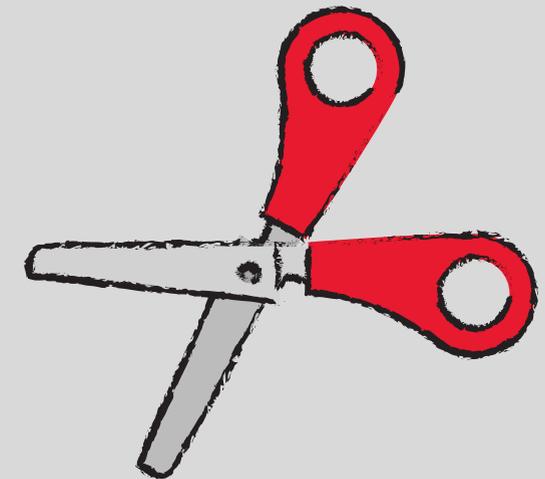
More complex cells with a nucleus and organelles. Most plant and animal cells are examples.

The differentiated versions include color coding so more students can complete these worksheets independently.

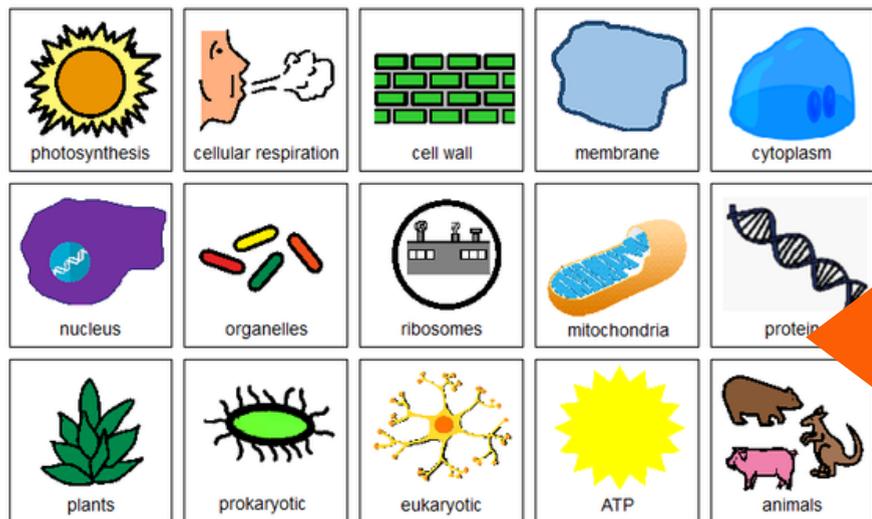
wrong answers
mixed in

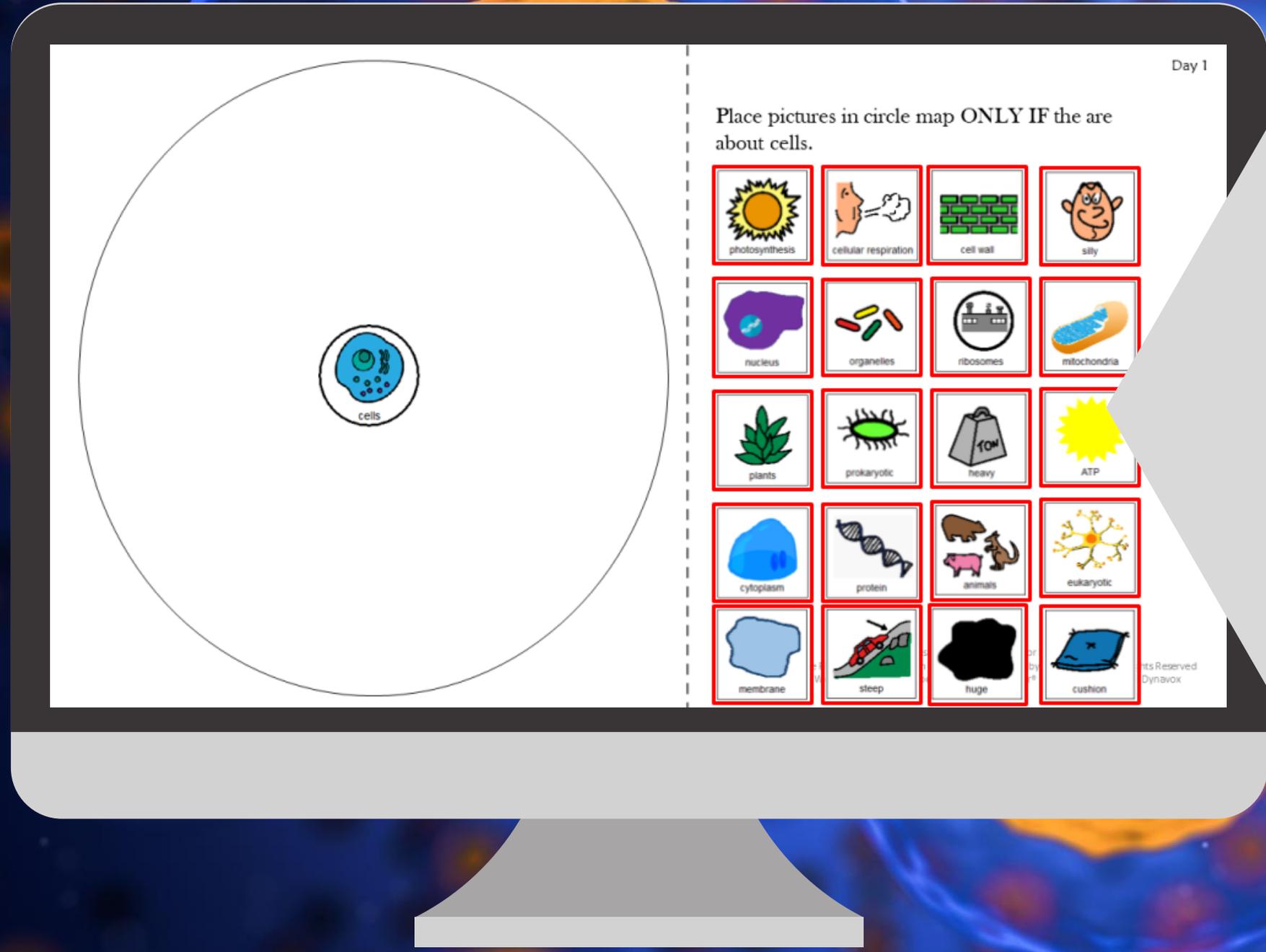


There is a circle map in this unit. It has a version that is errorless and one that has wrong answers mixed in that students will set aside.

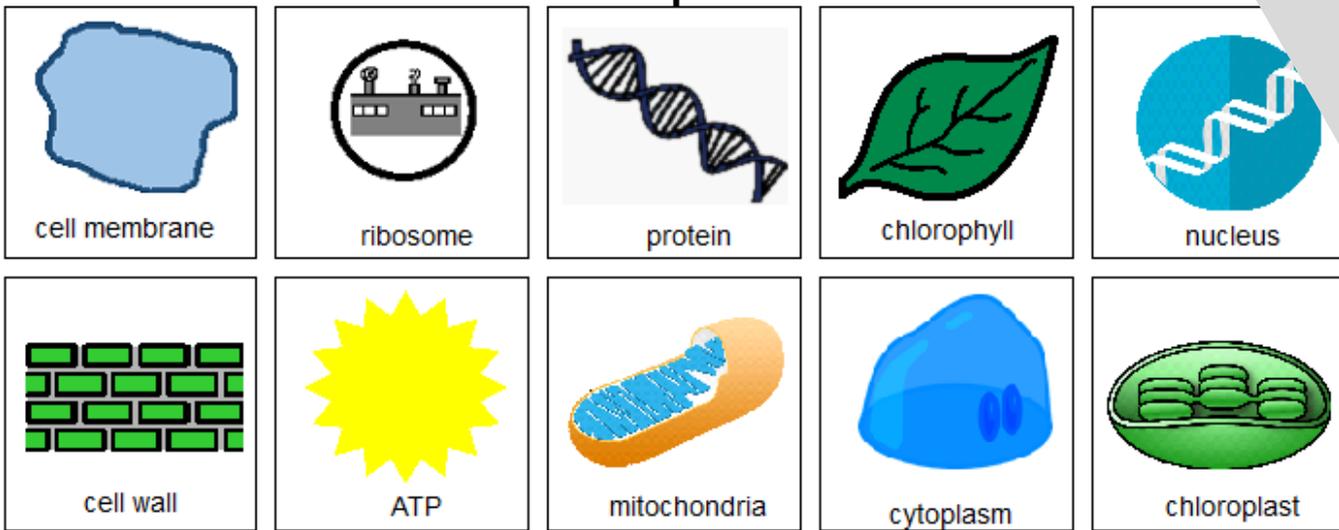
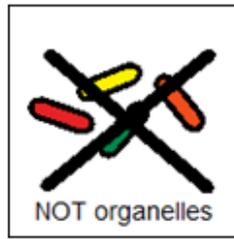
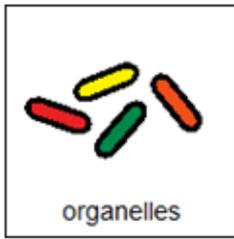


errorless

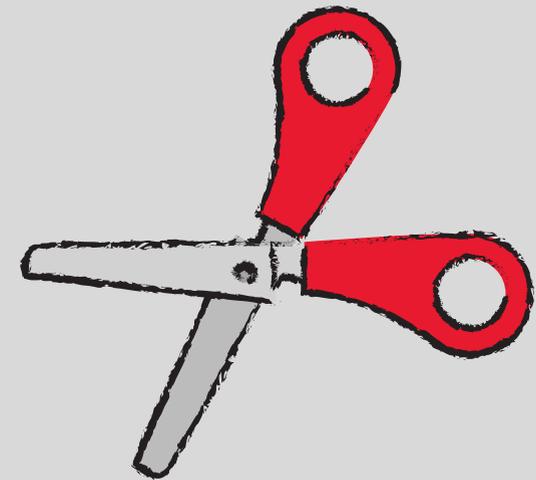




There is a drag and drop version of the circle map in this unit. The differentiated version contains only correct answers.



There is a sorting activity included. You can easily add color coding if needed to quickly differentiate these. This is done for you in the digital version.



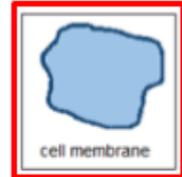


organelles



NOT organelles

Sort the photos depending on if they are an organelle or not.



cell membrane



ribosome



chlorophyll



nucleus



ATP



mitochondria

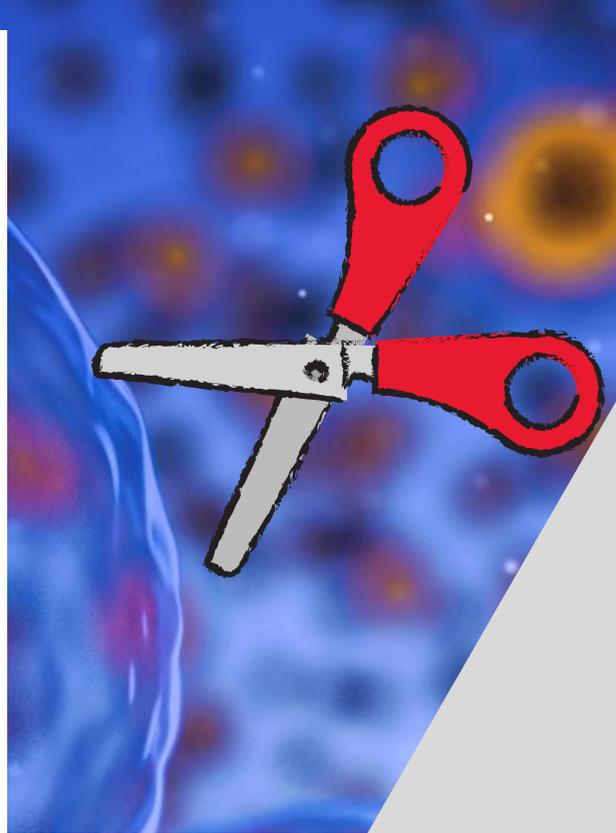
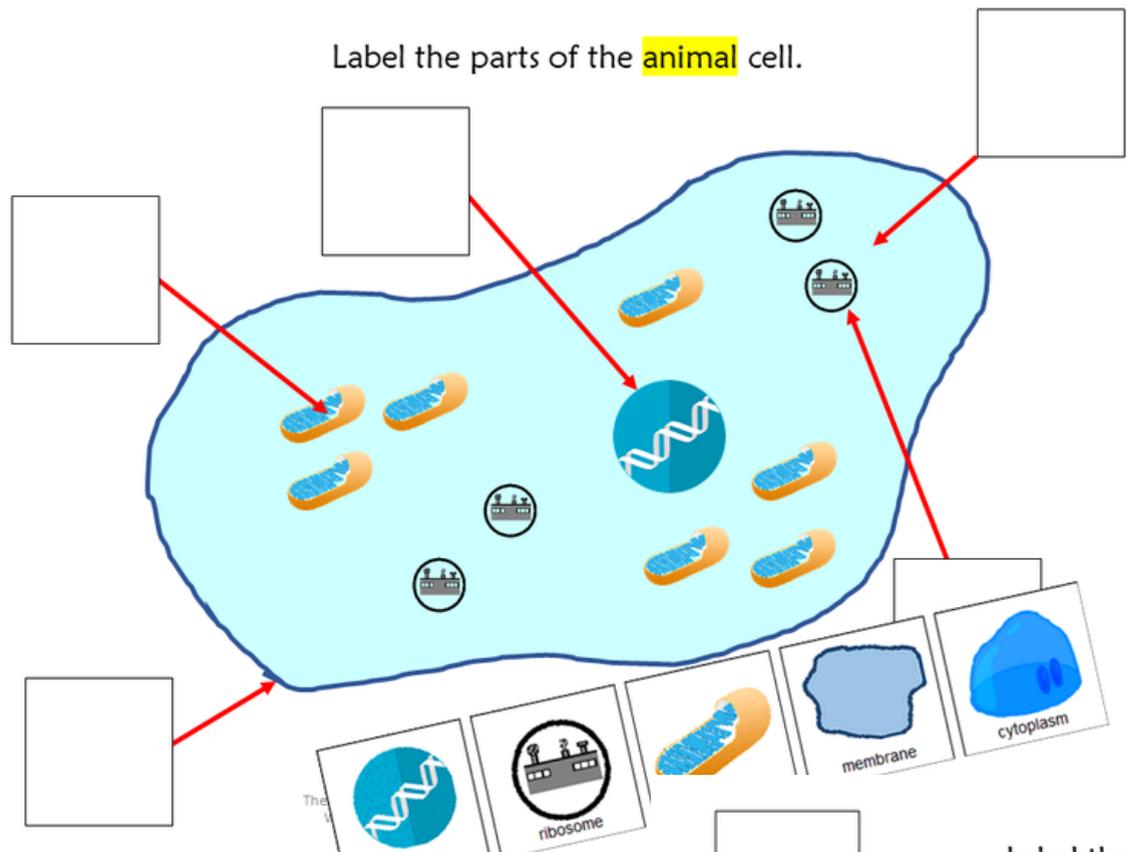


chloroplast

Christa Joy, Special Needs for Special Kids
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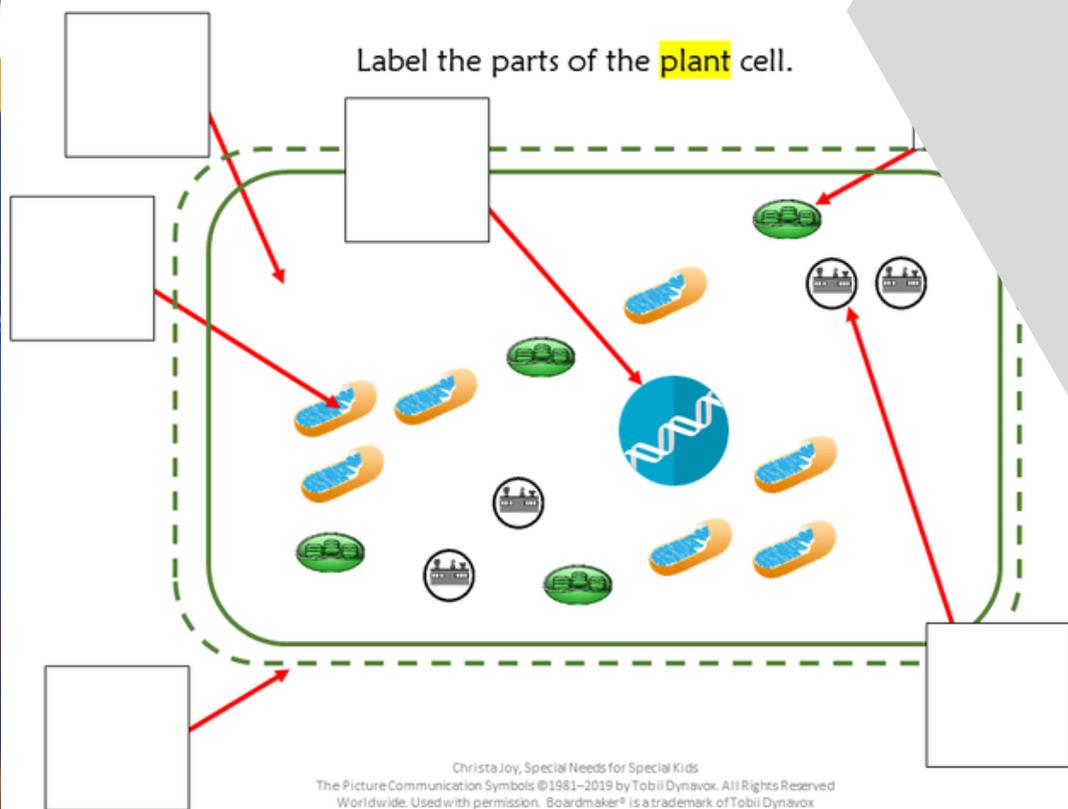
The sorting activity is included as a digital activity. It comes in a differentiated form using color coding.

Label the parts of the **animal** cell.



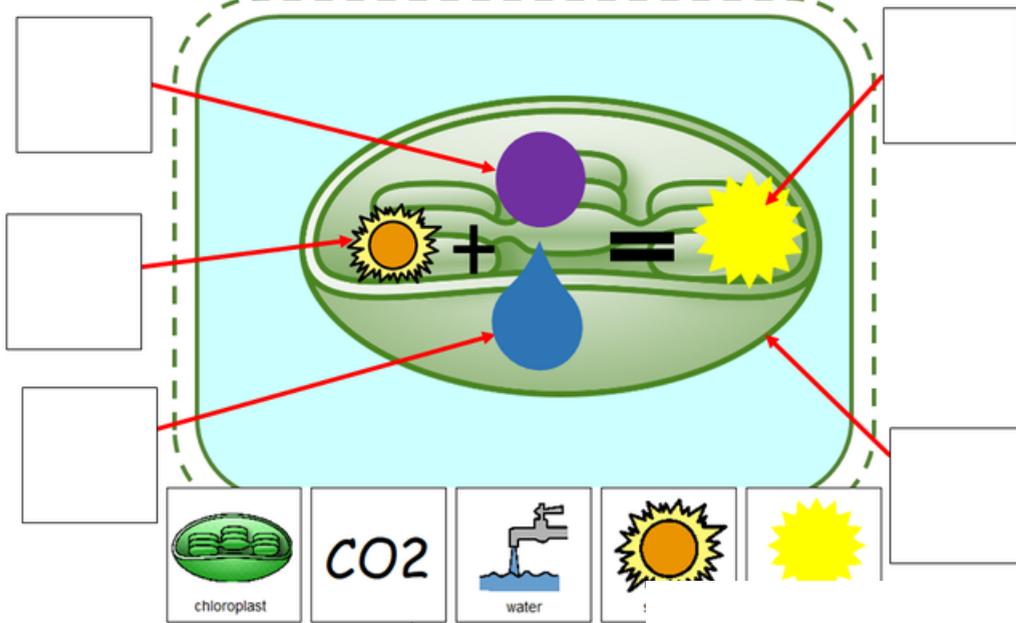
There are a lot of labeling worksheets included in this unit. They all also come in black and white.

Label the parts of the **plant** cell.

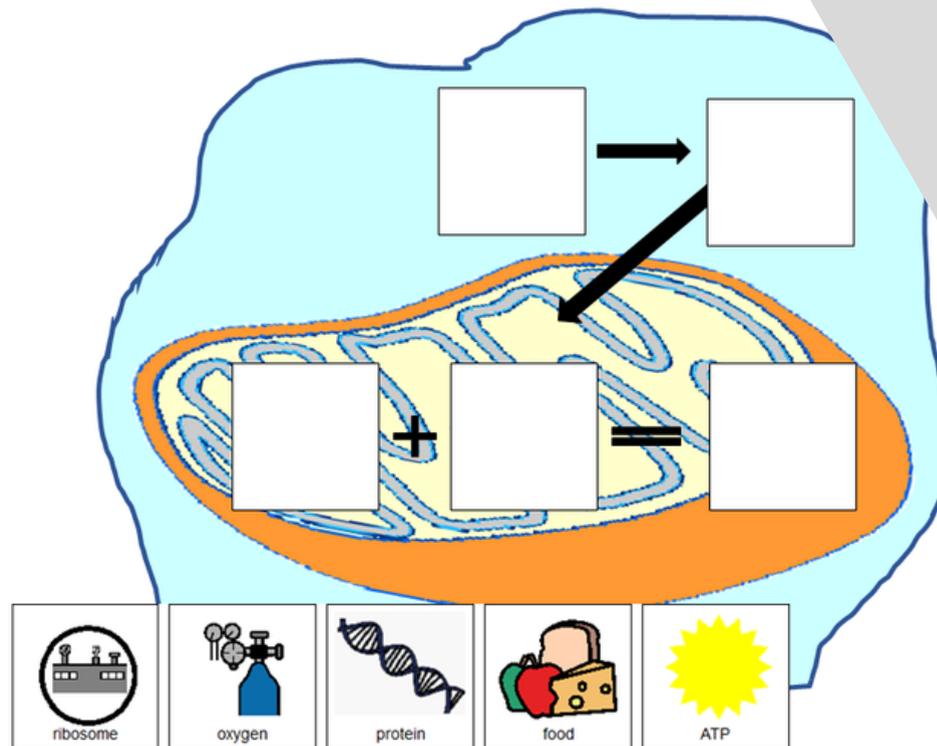


This set labels the parts of an animal and plant cell. Students can even make their own.

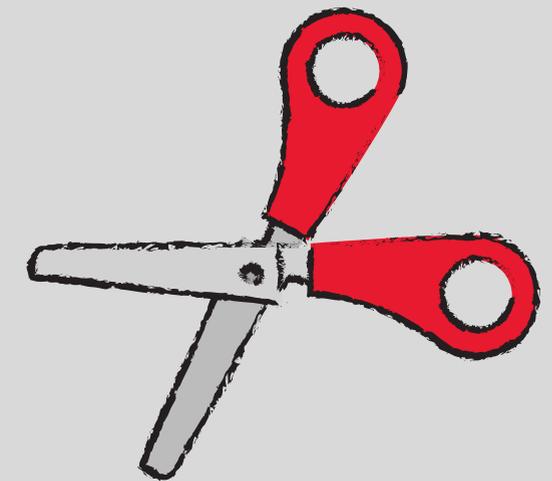
Label the parts of **photosynthesis** inside the chloroplast in a **plant** cell.



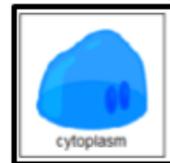
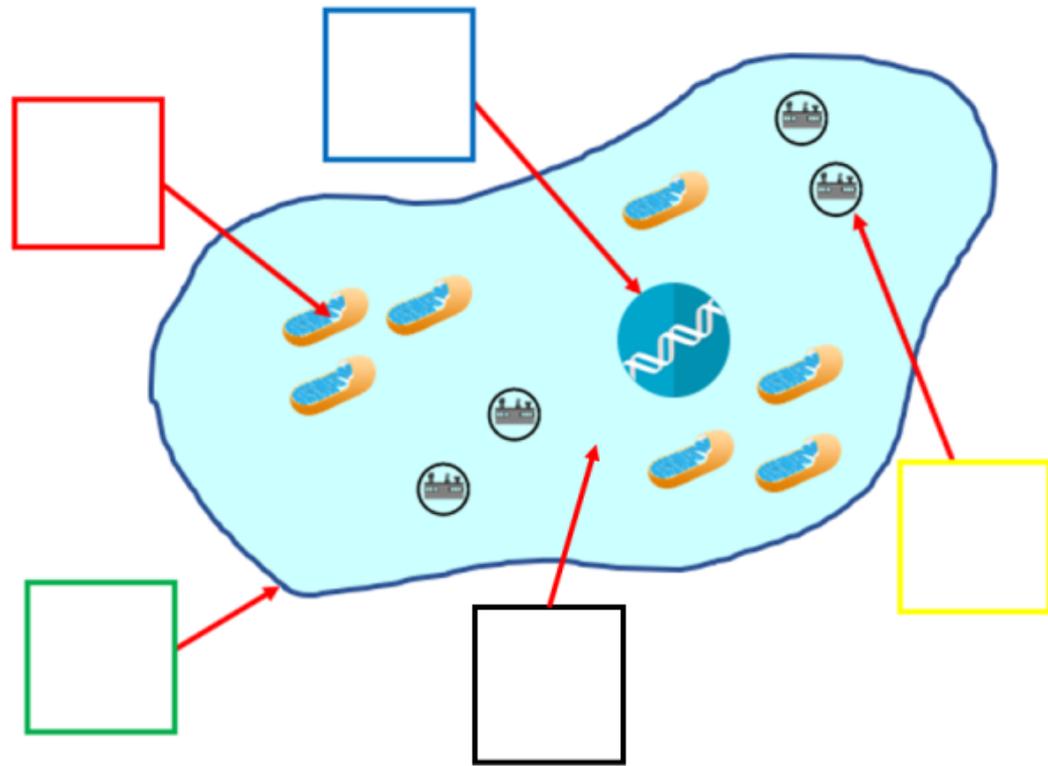
Create **cellular respiration** inside the mitochondria in



This set also has several worksheets where students can label the processes that occur in a cell as well as in the mitochondria.



Label the parts of the animal cell.

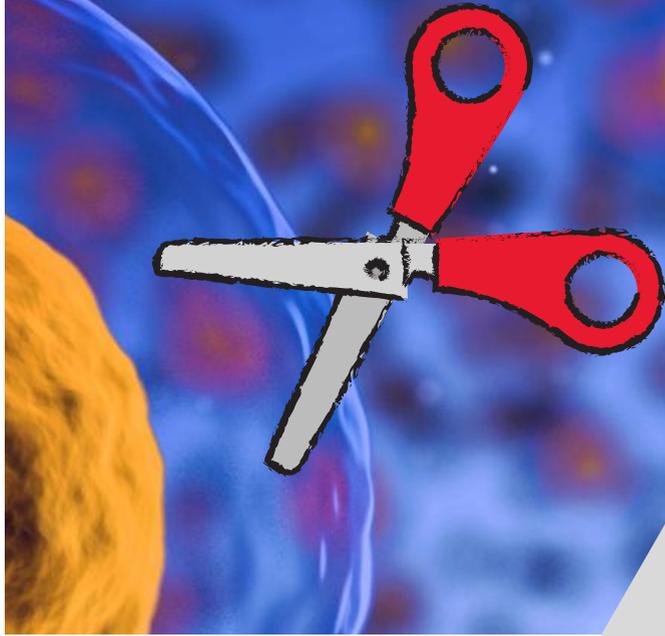
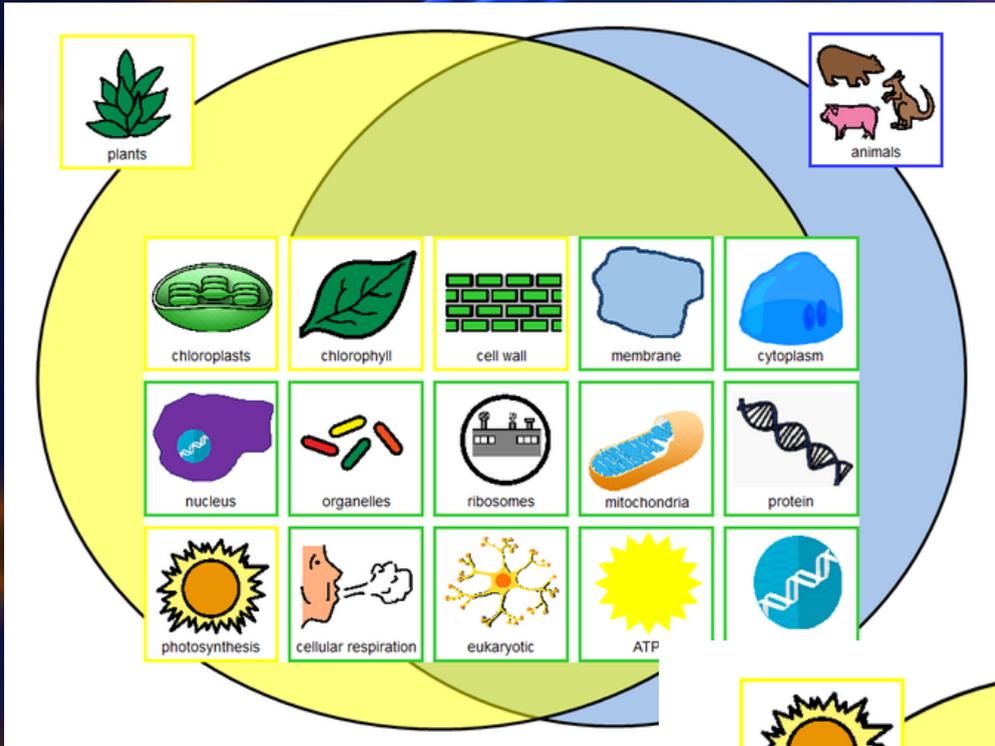


All of the labeling activities come in digital versions. The differentiated set uses color to differentiate.

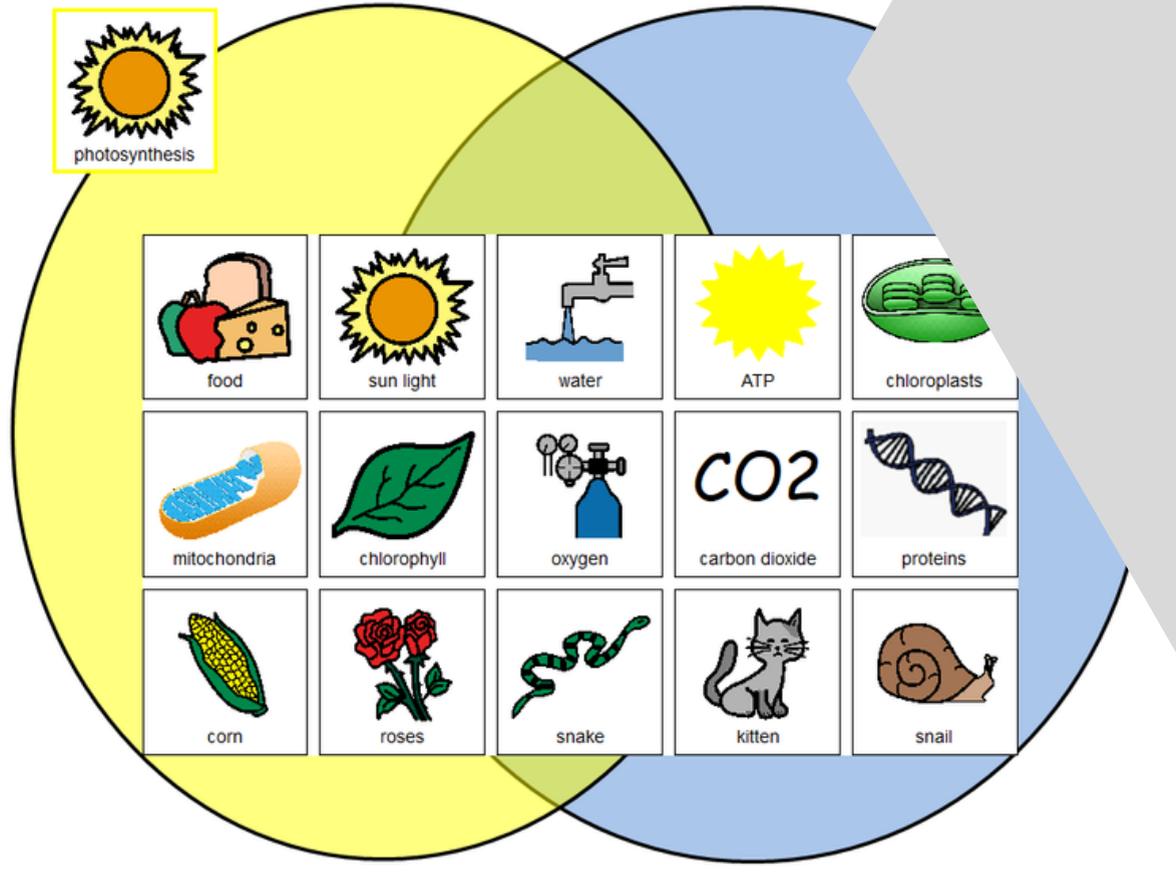
Create cellular respiration
inside the mitochondria of a
plant cell.

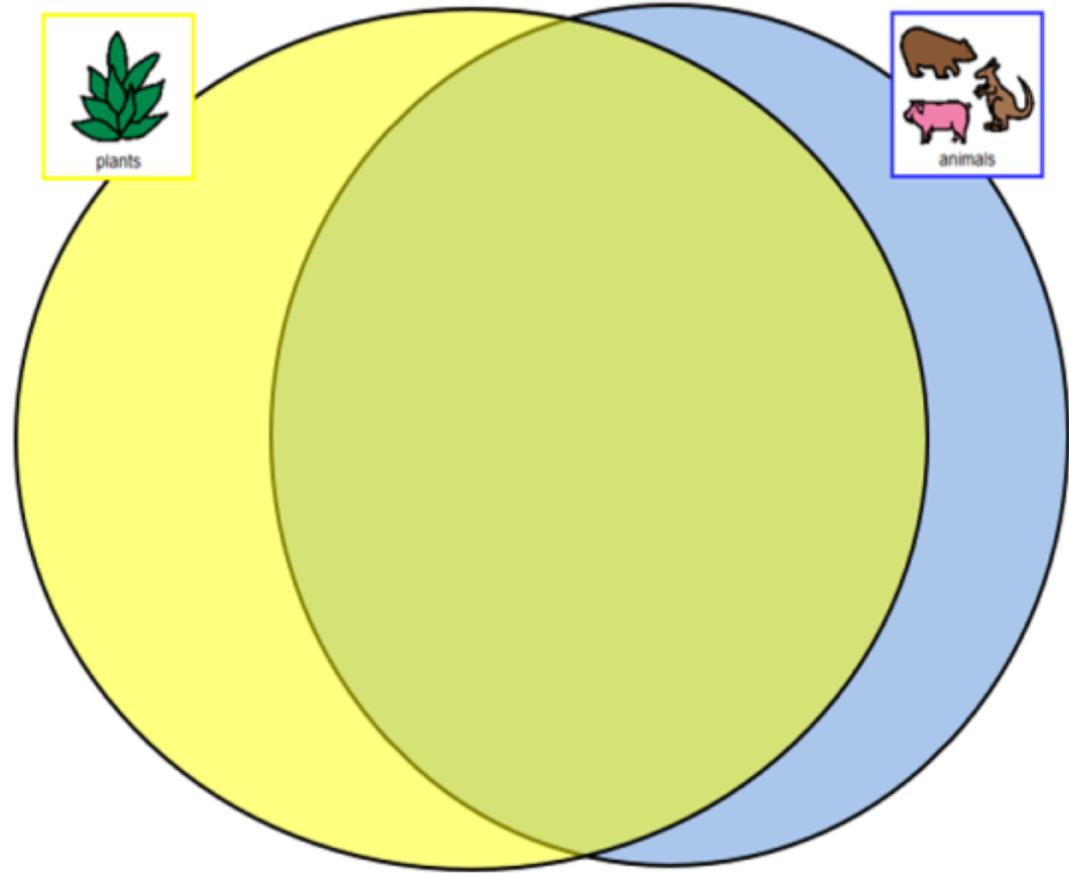
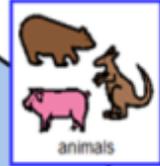
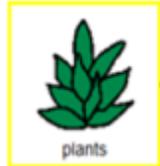


There are 16 google slides
that work on labeling.
Half of those are
differentiated versions.



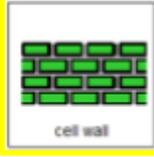
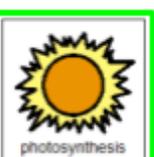
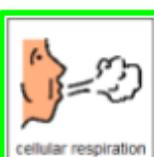
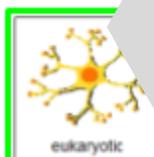
There are 2 Venn diagrams in this unit. One compares plant and animal cells. The other compares cellular respiration and photosynthesis. Both come with color-coded options.





Day 6
differentiated

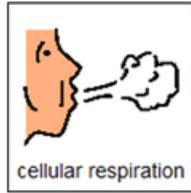
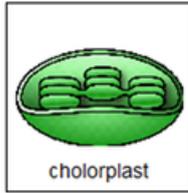
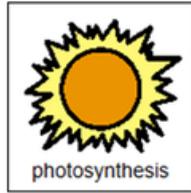
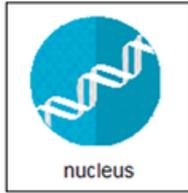
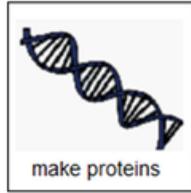
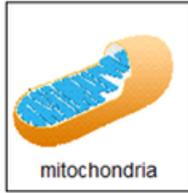
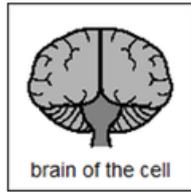
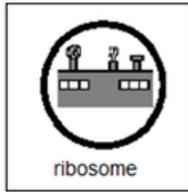
Place pictures in correct
locations on Venn Diagram.

 chloroplasts	 chlorophyll	 cell wall	 mem
 nucleus	 organelles	 ribosomes	
 photosynthesis	 cellular respiration	 eukaryotic	
 protein	 DNA	 cytoplasm	

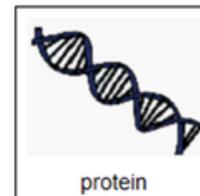
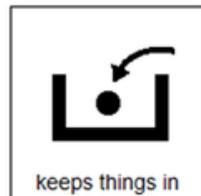
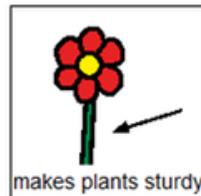
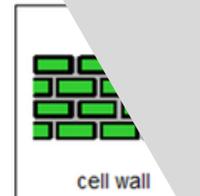
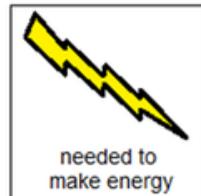
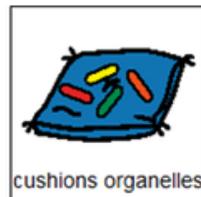
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These also come in a digital versions. The differentiated set, uses color coding.

Draw a line matching the organelle to its function.

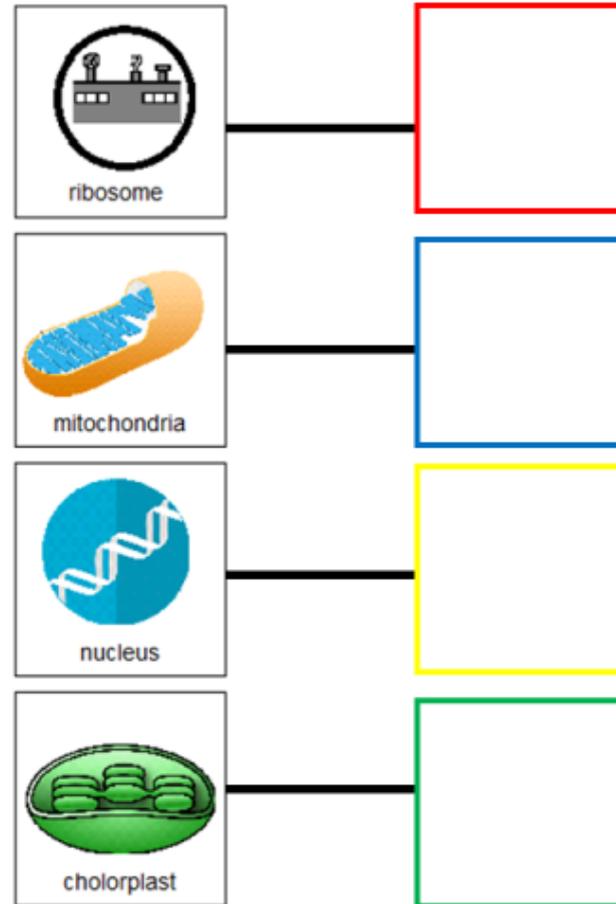


Draw a line matching the function to the cell structure.

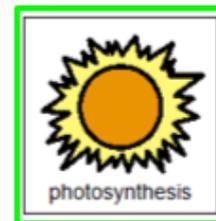
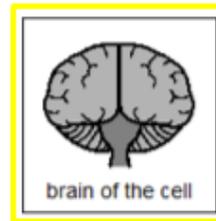


There are several matching activities included. Some match the function to the organelle and some match the function to the cell structure.

Answer keys are provided.



Match the function below to the correct organelle.



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The digital versions have students drag and drop the missing pictures rather than drawing a line to match them.

The differentiated versions use color coding.

Cells

 cell					 ribosome
			 cell		
 ATP		 chloroplast	 nucleus		
 nucleus	 ribosome	 mitochondria	 ATP		
	 mitochondria		 ribosome		
	 nucleus		 chloroplast		

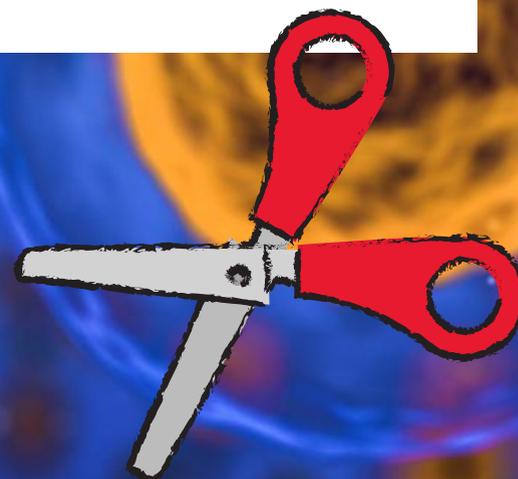
Harder

Cells

		 cell	
	 nucleus		 ribosome
 nucleus			
	 cell		 mitochondria

easier

 cell	 cell	 nucleus	 nucleus
 ribosome	 ribosome	 mitochondria	 mitochondria
 ribosome	 mitochondria		



There are 2 Sudoku puzzles included. These are to help practice more with the new vocabulary.

The hard version is a 6x6 puzzle. The easy one is 4x4.

Answer key included.

Cells

		 cell	
	 nucleus		 ribosome
 nucleus			
	 cell		 mitochondria

Day 12
differentiated

Move the pictures into the correct locations to finish the Sudoku puzzle.

 cell	 cell	
 nucleus	 ribosome	
 ribosome	 mitochondria	
 mitochondria		

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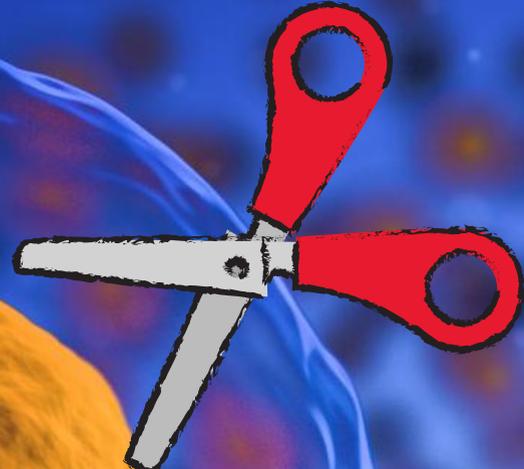
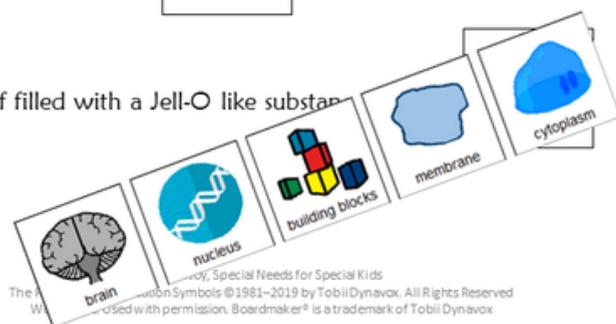
The 4x4 puzzle is included as a digital activity.

The differentiated version uses color coding.

Cells

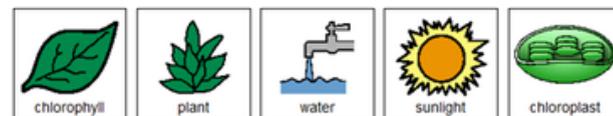
1. Cells are the of all living things.
2. All cells are surrounded by a that protects it.
3. Most cells are eukaryotic and have a .
4. The nucleus is like the of the cell.

5. The cell is filled with a Jell-O like substance.



Photosynthesis

1. Photosynthesis occurs in cells.
2. The cell uses for energy.
3. The sunlight is stored as .
4. Photosynthesis occurs in the .
5. Sunlight combines with carbon dioxide and to make ATP.



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There are 4 close worksheets included for a review. 2 cover basic facts about the cell, 1 is on cellular respiration, and 1 is on photosynthesis.

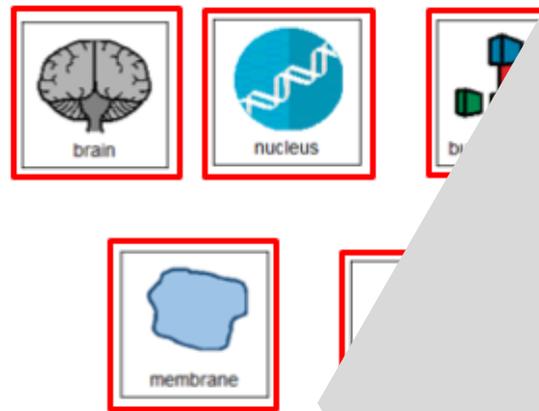
Answer key included.

Cells

Day 1

1. Cells are the of all living things.
2. All cells are surrounded by a that protects it.
3. Most cells are eukaryotic and have a .
4. The nucleus is like the of the cell.
5. The cell is filled with a Jell-O like substance called .

Use the pictures to finish each sentence.

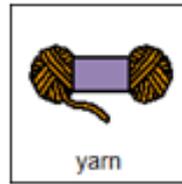


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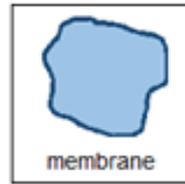
These fill in the blank worksheets also come in digital forms.

The differentiated versions use color coding.

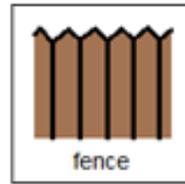
1. All plant and animal cells are surrounded by a:



yarn

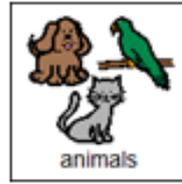


membrane

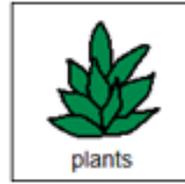


fence

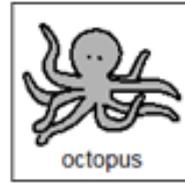
2. A cell wall is an extra outer layer found only in:



animals

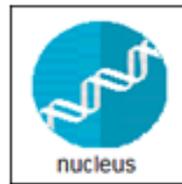


plants

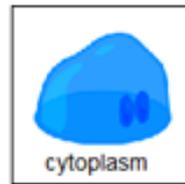


octopus

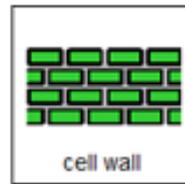
3. The brain of the cell is the:



nucleus

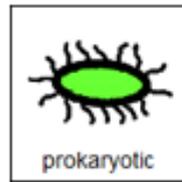


cytoplasm



cell wall

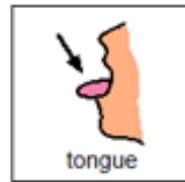
4. Which cells do NOT have a nucleus?



prokaryotic



skin



tongue

5. What are cells filled with that protect what is inside?



marshmallows



cotton candy



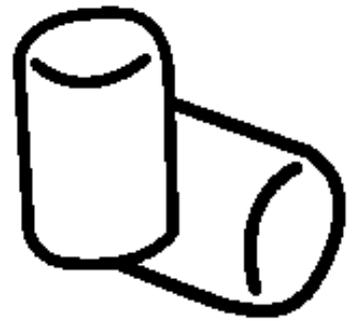
cytoplasm

FINALLY the assessment!! There are 3 versions. This version has 10 questions with 3 picture choices for each question.

Answer key included.

apart and show student answer choices for each question.

Q 5



marshmallows



cotton candy



cytoplasm

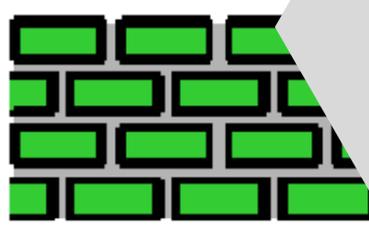
Q 6



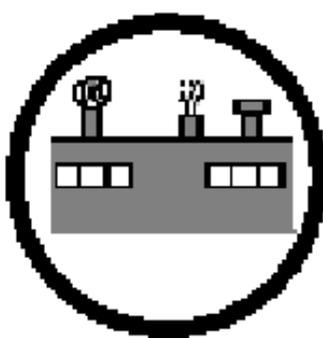
nucleus



cytoplasm



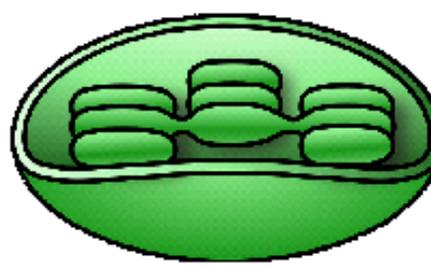
cell wall



ribosome



mitochondria



chloroplast

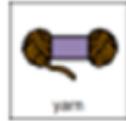
With this version, you cut out the answer choices and glue them on index cards. Ask the student the question, and they point to the correct answer.

1. All plant and animal cells are surrounded by a:
 - A. yarn
 - B. membrane
 - C. fence
2. A cell wall is an extra outer layer found only in:
 - A. animals
 - B. plants
 - C. octopus
3. The brain of the cell is the:
 - A. nucleus
 - B. cytoplasm
 - C. cell wall
4. Which cells do NOT have a nucleus?
 - A. prokaryotic
 - B. skin
 - C. tongue
5. What are cells filled with that protect what is inside?
 - A. marshmallows
 - B. cotton candy
 - C. cytoplasm
6. Circle all the things that are considered organelles.

A. nucleus	D. ribosome
B. cytoplasm	E. mitochondria
C. cell wall	F. chloroplast

There is also a traditional multiple choice version. You can also use this to record student answers if using the version with index cards.

1. All plant and animal cells are surrounded by a:



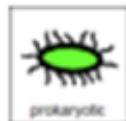
2. A cell wall is an extra outer layer found only in:



3. The brain of the cell is the:



4. Which cells do NOT have a nucleus?

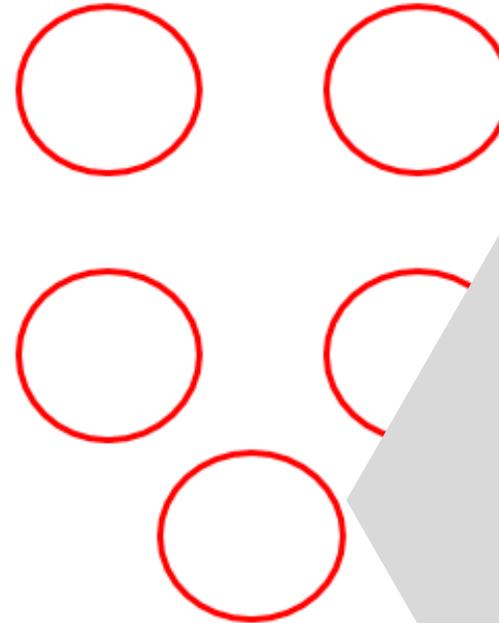


5. What are cells filled with that protect what is inside?



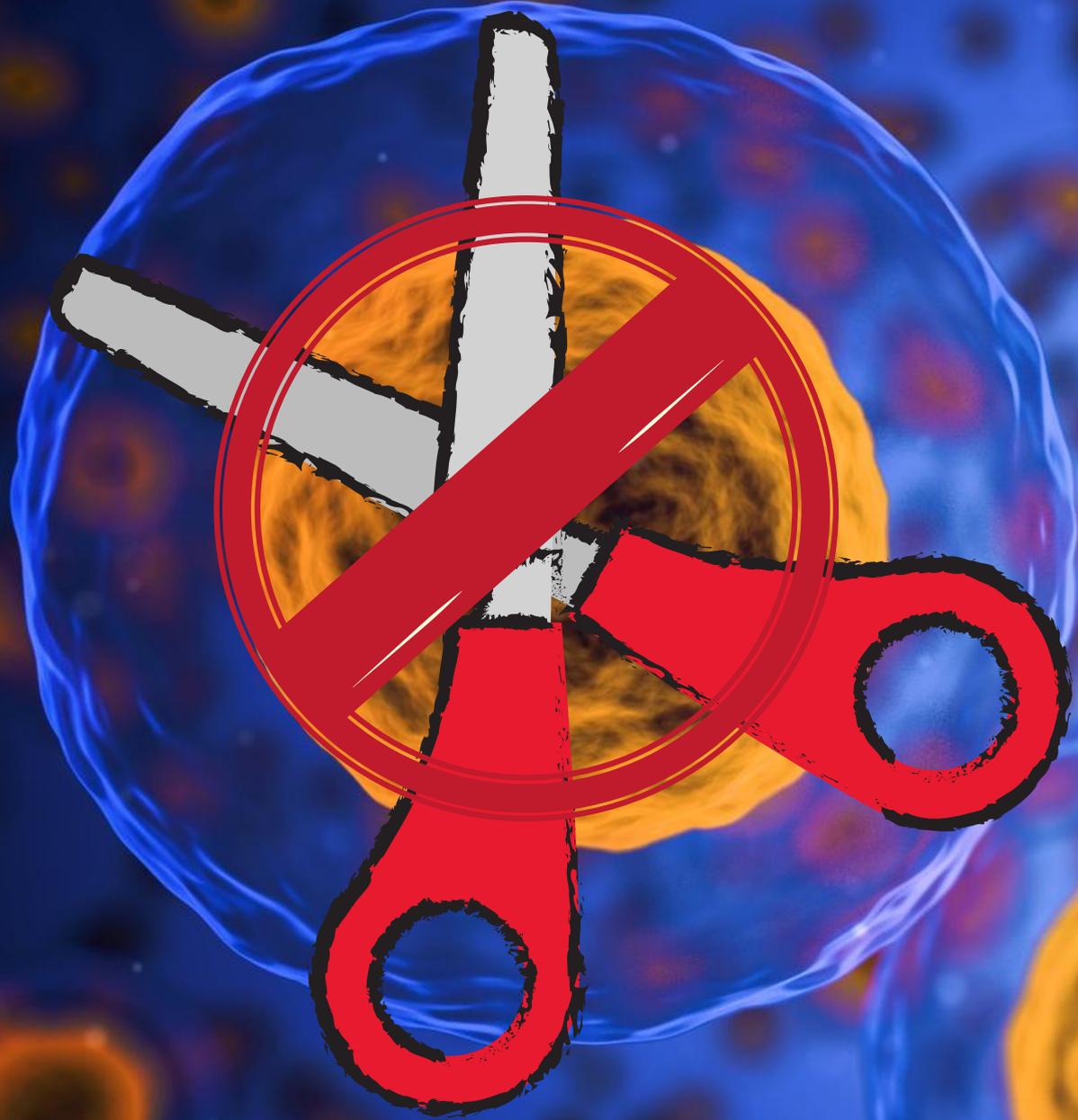
Day 16

Place the circle on the correct answer.



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The digital version of the assessment looks like this. There is a differentiated version where the correct answers are already circled with a dashed line.



I realize there will be some students out there unable to do cutting activities. I have a blog post with ways to complete activities without a pair of scissors!!

[Click Here to read more!!](#)