

*Photosynthesis
Unit
For Special Education*

*Available in
Color OR BW*

*By
Christa
Joy*

*7
week
unit*

Preview

Contents

- *General Resources*
 - *Vocabulary board*
 - *Sharing board*
 - *Pre Assessment*
 - *Unit Assessment*
- *Engaging Learning Experiences*
 1. *Students will plant 3 plants in different environments and collect daily observations*
 2. *Students will gather information and create a public service announcement concerning pollution and conservation*
- *Week 1 : Photosynthesis*
 - *PPT: What is Photosynthesis*
 - *Photosynthesis Rap (for transition time)*
 - *Lesson plans*
 - *Bingo game*
 - *Sorting activity*
 - *Writing activity*
 - *Science experiment with chlorophyll*
 - *Coloring and labeling activity*
 - *Photosynthesis play with script*
 - *Week 1 assessment*

Contents

- *Week 2 : Photosynthesis*
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 - *Photosynthesis Rap (for transition time)*
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 - *Photosynthesis worksheet*
 - *Student photosynthesis book to summarize information*
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- *Week 3 : Plant Cells*
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 - *Making a Jell-O Cell*
 - *Making a Sticky Cell*
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 - *Writing prompt and activity*
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Contents

- *Week 4 : What Plants Need to Grow*
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 - *Week 4 assessment*
- *Week 5 : Pollution*
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 - *Begin gathering and organizing information for public service announcement (PSA)*
 - *Cause and Effects of air pollution*
 - *Cause and Effects of water pollution*
 - *Cause and Effects of soil pollution*
 - *Cause and Effects of Urbanization*
 - *Facts for each of the above causes of pollution for students to put in a notebook for PSA*
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Contents

- *Week 6 : Conservation*
 - *PPT: Save Our Earth*
 - *The Three R's: Reduce, Recycle, Reuse (for transition time)*
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 - *Going on a picnic activity*
 - *Recycled art activity*
 - *Evaluating ways to conserve activity and power point*
 - *Week 6 assessment*
- *Week 7 : Review*
 - *PPT: Review (This is a 74 slide power point that asks students questions from the previous 6 weeks of material. Student can click on a picture choice to see if they are correct or need to try again)*
 - *Lesson plan*
 - *Watch examples of other PSA*
 - *Put together their own PSA*
 - *Make a Cell Pizza as culminating activity*
 - *End of Unit Assessment*

There is so much in this unit, it is difficult for me to decide what to include in this preview. This is just a small sample of the 512 pages you will receive with this unit.

Teaching the Lesson **Week 3 Day 4**

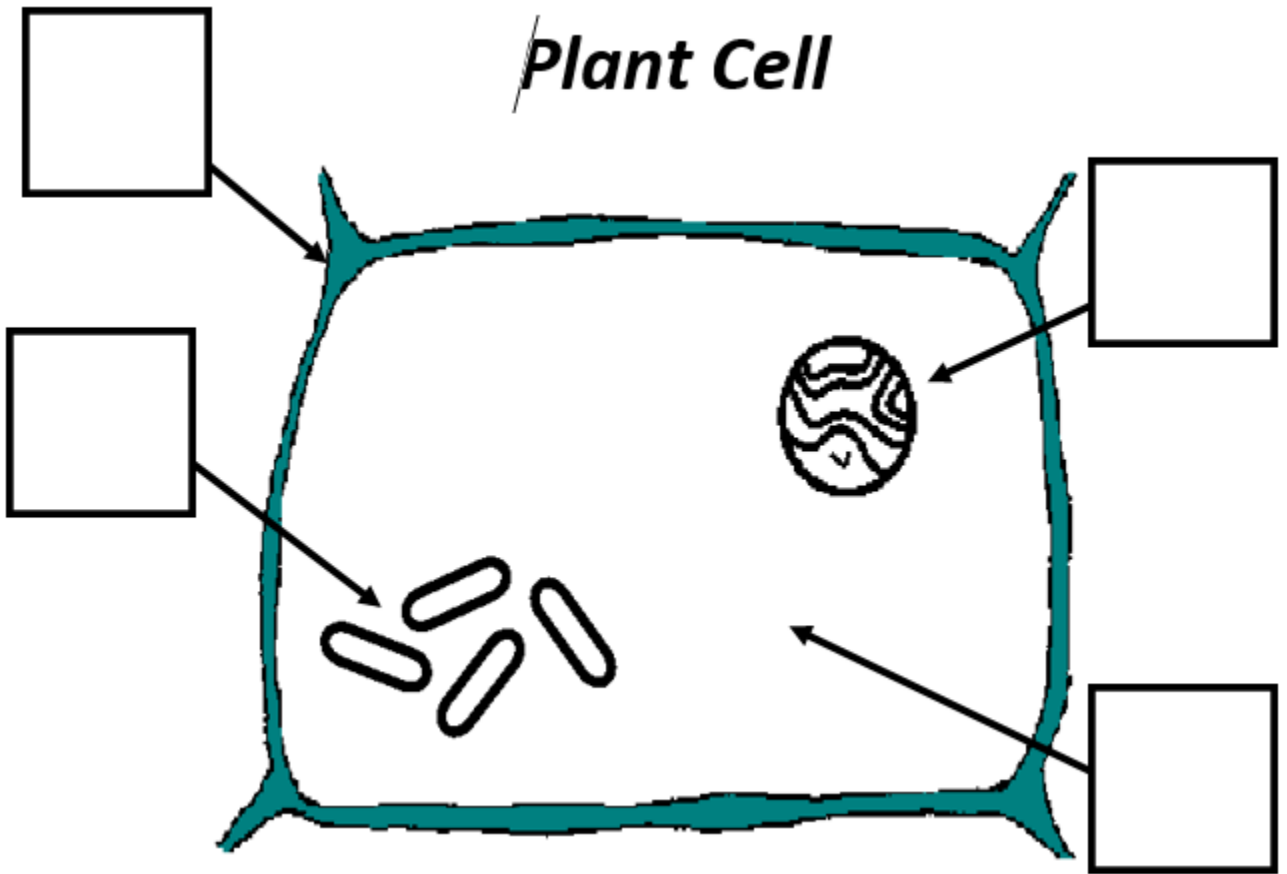
Note: Items that are underlined indicate either digital or print resources that are included with the unit plan.

This is the link for the transition video for the next 2 weeks. Be sure to click and make it full screen: www.xvivo.net/press/harvard_university.htm

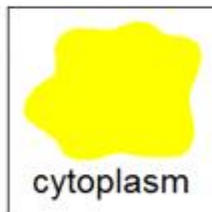
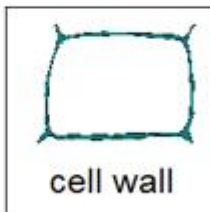
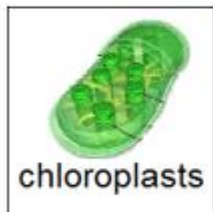
Approximate Time	Activity	Materials	Questions to ask
5 min	<p>Transition</p> <ul style="list-style-type: none"> Play video from link above Put out AT devices 	<ul style="list-style-type: none"> Projection device Video link Vocabulary board and objects 	<p>I generally do not ask questions during the transition time to help decrease negative behaviors; as the week progresses, you can ask students to see if they think they recognize any of the cell structures in the video</p>
10 min	<p>Power point: <i>What is a Cell?</i></p> <ul style="list-style-type: none"> Go through slides with some emphasis on additional vocabulary board 	<ul style="list-style-type: none"> Projection device Power point Vocabulary board and objects Cell vocab board and objects Sharing board 	<p>Today you will continue learning about photosynthesis. We will be discovering what plants breathe in and out.</p> <ol style="list-style-type: none"> Do you think plants can really breathe? If so, what do they breathe with? Do plants have a mouth like you and me? Why do you think plants are so important for the world and us?
10 min	<p><i>3D model of a cell</i></p> <ul style="list-style-type: none"> Give each student a different part of the cell. There 	<ul style="list-style-type: none"> Vocabulary board and objects Cell vocab board and objects 	<ol style="list-style-type: none"> Why do you think the cell wall has to be so strong?

	<p>can only be 1 nucleus, but many chloroplasts.</p> <ul style="list-style-type: none"> • See 3D model directions • Can do several times with students being different parts of the cell 	<ul style="list-style-type: none"> • <u>Sharing board</u> • <u>3D model directions</u> • Hula hoop • Pink ball • Green bean bags • Yellow felt (large piece) 	<ol style="list-style-type: none"> 2. Why do you think the cytoplasm has to cushion the parts in the cell? Do you think it would be bad if they bumped into each other? 3. Do you think leaves that are not green or have parts that are not green have chlorophyll?
10 min	<p><i>Labeling a Model of a Cell</i></p> <ul style="list-style-type: none"> • Student will first color the diagram of the plant cell • Then cut out and apply labels to correct parts 	<ul style="list-style-type: none"> • <u>Vocabulary board and objects</u> • <u>Sharing board</u> • <u>Cell vocab board and objects</u> • Crayons or markers • <u>Plant Cell diagram</u> • <u>Diagram labels</u> 	<ol style="list-style-type: none"> 1. What color do you think would be best for the cytoplasm, nucleus, and chloroplasts in this model?
10 min	<p><i>Writing Prompt</i></p> <ul style="list-style-type: none"> • Students should choose which model of the cell was their favorite: 3D, jell-O, corn syrup, scientific • Complete writing prompt why that was their favorite <p><i>Note:</i> I have included some reasons why they may decide it was their favorite, but student may come up with a reason on</p>	<ul style="list-style-type: none"> • <u>Vocabulary board and objects</u> • <u>Sharing board</u> • <u>Cell vocab board and objects</u> • <u>Writing prompt</u> • <u>Prompt choices</u> 	<ol style="list-style-type: none"> 1. Why was that your favorite? 2. So you think other people will pick that as their favorite too? 3. Is there one you really did not like?

Plant Cell



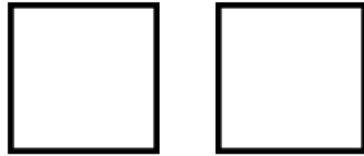
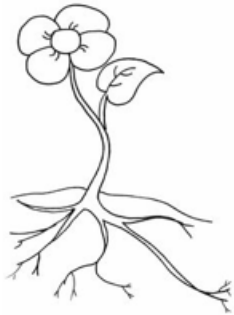
Cell Diagram labels



These are excerpts from student book on photosynthesis.
Pictures are provided for students to cut and paste in the boxes.

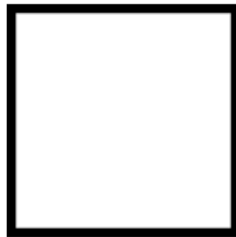
***My Book on
Photosynthesis***

By: _____



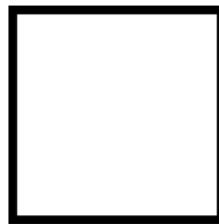
Plants need sunlight,
water, and soil to grow.

Page 1



Plants also need to
breathe in carbon
dioxide.

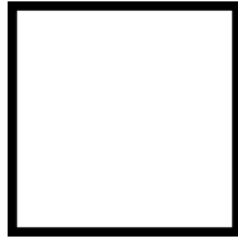
Page 2



Plants use all these
things to make food
called glucose.

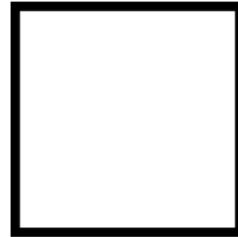
Page 3

These are excerpts from student book on photosynthesis.
Pictures are provided for students to cut and paste in the boxes.



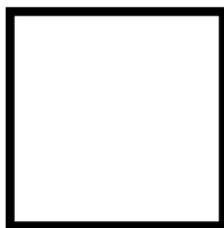
Glucose goes down the roots and helps the plant grow.

Page 4



Plants then breathe out oxygen.

Page 5



This process is called photosynthesis.

Page 6

The End

Story by

Christa Joy

Special Needs for Special Kids

These are excerpts one of the assessments. The pictures are meant to be cut out and presented to the student as each question is read aloud. It is meant to mirror the end of year alternate assessment we give in NC.

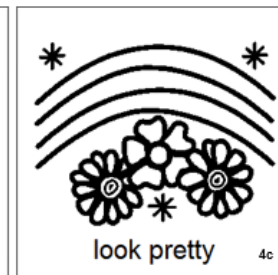
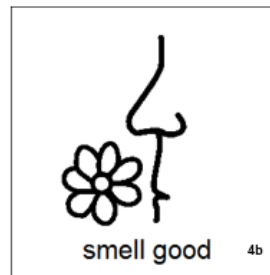
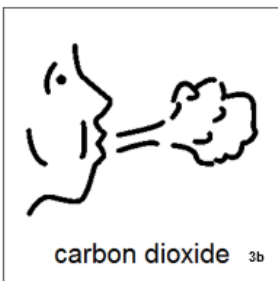
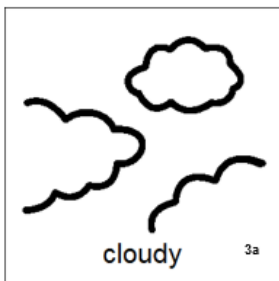
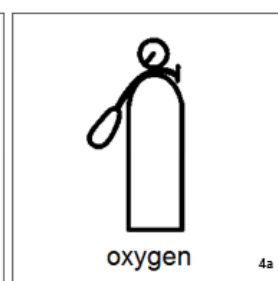
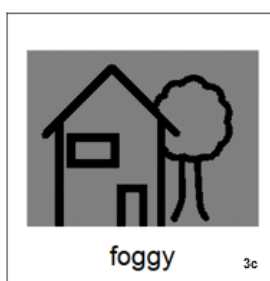
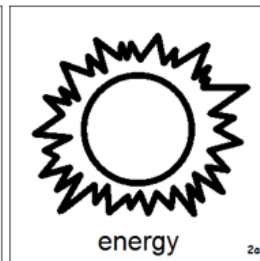
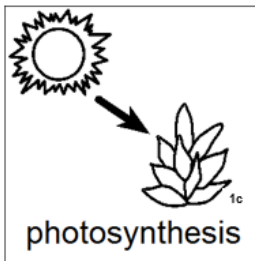
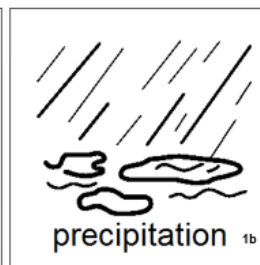
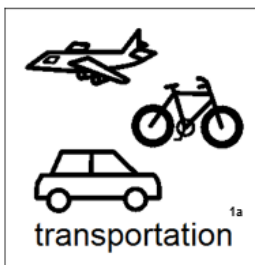
Name: _____

Week 2 Quiz: Response Cards

(Print out and glue onto a 4x7 index card; question number is in bottom right corner)

Week 2 Quiz

1. What is the name of the process plants use to make food?
 - a. Transportation
 - b. Precipitation
 - c. Photosynthesis
2. Why is the sun important to plants?
 - a. For energy
 - b. To stay warm
 - c. To stay dry
3. What type of air do plants need to breathe in?
 - a. Cloudy
 - b. Carbon Dioxide
 - c. Fog
4. Why are plants so important to us?
 - a. They make oxygen
 - b. They smell good
 - c. They look pretty
5. What do plants need to survive?
 - a. Rocks, snow, birds
 - b. Shovels, buckets, shells
 - c. Sun, dirt, water



Engaging Learning Experience 1

Photosynthesis

Imagine a world with no sunlight. It is dark all the time. It is dark when you get up and when you go to bed. It is dark every single minute of every single day. What do you think the world would look like? Do you think there would be trees, or grass, or flowers? If there were no plants, would we be able to survive?

Task 1: Comparing 3 plants

- Students will have three plants to look at and compare. One plant should be healthy, one plant should have been deprived of water for a while so it looks unhealthy, and one plant should be just about completely dead. Students will look at and compare the three plants, sorting pictures that describe each one. At the end, they will guess which plant is which based on their observations.

Task 2: Planting a plant

- Students will each have an opportunity to plant 2 seedlings. They should talk about what items they will need as well as what they think a good location to keep the plant in the classroom would be. Will it be by a window, by a heater vent, on a bookcase? One plant will be kept in a location in the classroom of their choosing, and one will be kept in a dark room where the plant will receive no light. Students will generate their own hypothesis about what will happen to each plant and record daily observations.

Task 3: Recording Results

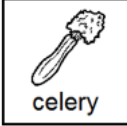
- Every day through the rest of this unit, students will:
 - Take a picture of both of their plants
 - Record what the plant looks like in their growth chart
 - Indicate if their hypothesis has been proven each day

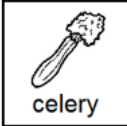
Task 4: Presenting Your Findings


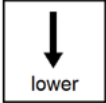
- Once the experiment is complete (2-4 weeks), students will compile their observations into a power point presentation. The presentation should include:
 - Initial hypothesis
 - Graph of growth data
 - Graph of number of leaves
 - Bar graph of colors observed and number of days
 - Proving/disproving their hypothesis
 - Pictures (if student was not completing log)
 - Concluding statement of what they learned about plants and light


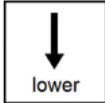
These are excerpts from one of the many experiments included in this unit. For each one, there are teacher directions and picture directions for the students as well as a hypothesis worksheet.

My Hypothesis Sheet

I think the celery in cup1 will turn  celery

I think the celery in cup2 will turn  celery

In cup 1 I think the color will be  higher  lower

In cup 2 I think the color will be  higher  lower

Fertilizer Experiment

Background:

- Talk with students about the concept of fertilizer and why it is important to the plant. Connect it to something they would know like: vitamins, Gatorade, etc

Materials:

- 2 pieces of celery (with leaves)
- 2 cups
- Red and blue food coloring
- Miracle Grow or other fertilizer

Experiment:

- In cup 1 place water and stalk of celery. Add some red food coloring
- In cup 2 place water and stalk of celery. Add blue food coloring
- Place both cups in a location where they will get plenty of light

Color in circle of food dye

Fertilizer Directions

