

Answer the questions in italics as you perform the animations with your group.

First explore Photosynthesis:

Go to the website for NOVA online: <http://www.pbs.org/wgbh/nova/nature/photosynthesis.html#>

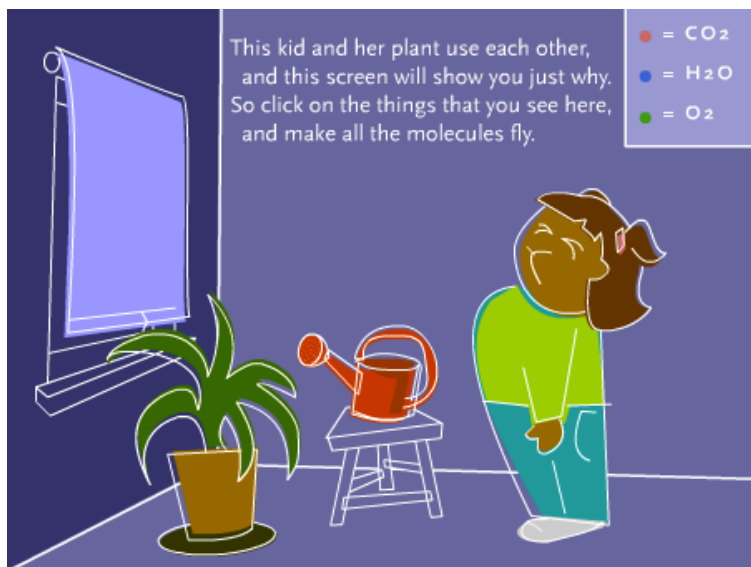
Click on LAUNCH INTERACTIVE next to the green picture. Click on the tab THE CYCLE at the top of the animation.

Click on the girl, click the water pot, and finally click on the window shade.

On the picture label the where the molecules CO_2 , O_2 , and H_2O are found.

Where is CO_2 produced?

Where is O_2 produced?



Click on the tab ATOMIC SHUFFLE at the top of the animation. Click the NEXT arrows to watch the process of photosynthesis molecularly.

What is the overall equation (found at the end of the animation)

Click on the tab THREE PUZZLERS at the top of the animation. Answer the three questions and check your answers.

- 1. A tree inhales carbon dioxide; it needs to if its to survive. But can it release enough O_2 to keep just one person alive?*
- 2. A plant needs its own food to function. It can't make its own food at night. Beyond a few hours of darkness, can a plant survive without light?*
- 3. A plant that receives the nutrition it needs will continue to live, we now know. But what if we took all of its O_2 way? Do you think that the plant could still grow?*

Next Explore Cellular Respiration

Go to the website for Sumanas online:

<http://www.sumanasinc.com/webcontent/animations/content/cellularrespiration.html>

Click on THE BIG PICTURE tab at the bottom of the buffalo

Click on the Subtitles tab at the bottom right and choose English (you can replay in Spanish later if you want).

Click on the Play arrow on the bottom left of the animation.

What is the purpose of cellular respiration?

Fill in the models below for cellular respiration and photosynthesis:

CELLULAR RESPIRATION

INPUT	→	OUTPUT	
+		+	+

PHOTOSYNTHESIS

INPUT	→	OUTPUT
+		+

What is the energy output of respiration?

What is the energy input of photosynthesis?

Explain the similarities and differences of photosynthesis and cellular respiration. Include at least three points.