

# Basic Needs of Living Things- Lesson Three

## 4<sup>th</sup> Grade

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### References:

- <http://www3.sympatico.ca/roxanne.felio/frogstorypage1.html>

### Benchmark:

4th Grade SLC 16: Demonstrate an understanding of the basic needs of living things.

### Objectives:

- Students will explore the interconnectedness of organisms in the environment (an ecosystem)
- Students will examine how different organisms obtain their basic needs

### Materials:

- Terrarium
- Worksheet
- 2 cups of water
- Red and blue food coloring
- Celery

### Initial Demonstration:

The class will refer to the terrarium. A worksheet/overhead will depict a frog habitat in the wild. Have the students brainstorm about how the lily pads in the frog habitat get the gases they need (CO<sub>2</sub>). How does the frog get the oxygen it needs? What do plants breathe out? What about the frog?

### Target Observations:

- The pond plants breathe in the carbon dioxide that the frogs breathe out
- The frog breathes in the oxygen that plants breathe out

### Target Model:

- Plants breathe in the carbon dioxide that animals breathe out
- Animals breathe in the oxygen that plants breathe out

**Procedure:**

Explain that these processes are known as photosynthesis and respiration. Respiration is the animal version of photosynthesis. Tell the students that in order for photosynthesis to take place, plants need water. Ask how they think plants get water. Is it in the air? Do they only drink when it rains? How do they get their water?

Fill a glass with water and add blue food coloring. Show the students the color of the celery stalks. Cut the end of a stalk or two of celery, and add it to the cup. The students will observe the glass the next day to see the difference in color from before to after. (Celery experiment from Columbus Public Schools SLC16 8/7/02)

**Target Revised Model:**

- Plants get their water (a basic need) from the ground- they suck it up like straws through their “veins”

**Summary:**

Organisms in an ecosystem depend on each other to survive. For instance, plants breathe out the oxygen we breathe in, and we breathe out that the carbon dioxide that plants breathe in. Organisms also possess characteristics that help them obtain their basic needs- such as plants sucking up water from the soil.



Taken from <http://www3.sympatico.ca/roxanne.felio/frogstorypage1.html>  
(<http://www3.sympatico.ca/roxanne.felio/habitat2a.jpg>)