

# OXYGEN REPLACEMENT EXERCISE

## Grade level

6th – 12th Grade

## Materials

20 feet/6 meters of string per student

2 liter bottle (empty)

paper

colored pencils

## Warm-up

1. Have students brainstorm a list of ways plants are important to people and other animals. Write their ideas on the board.
2. Discuss how plants provide oxygen for people and other animals to breathe and how all animals and people provide carbon dioxide for plants to make food. Discuss basic steps of photosynthesis.

## Main Lesson

3. Ask students how much oxygen they need each day (360 liters or 210 mL) and how many square feet of grass is needed (25 square feet or 2.25 square meters) to produce that amount of oxygen. (Have a two liter bottle available to show that they would need 180L filled with oxygen in order to breathe for one day.)
4. Have students determine how much string is needed to create a 25 square foot or 2.25 square meter plots (20 feet or 6 meters). Then have each student measure out a 20 foot (6m) length of string.
5. Take students to a grassy field and have every student measure a plot of grass that represents their oxygen need for the day. For even greater impact, you may want to create a grid showing the total amount needed by the whole group for one day's supply of oxygen.

## Reflection

6. Return to classroom and have students draw and label a model of the relationship they have with their plot of grass (carbon cycle).