

# UNIT 9 - RESPIRATORY SYSTEM

## ACTIVITY - Gathering Respiration Data

### Objective:

Student will collect data to analyze respiration.

### Materials:

Balloons, rulers

### Strategy:

This activity should start with a discussion session in which the students and teacher break down the various divisions of respiration. The students should arrive at three events which can be used to collect data about the breathing process. These events will answer the following questions:

- 1) How much air do we breathe out normally? (Normal tidal volume)
- 2) Is there any air left in our lungs after we breathe normally? (Residual volume)
- 3) How much is actually in our lungs when we breathe normally? (Vital capacity)

Questions should lead into the following activities:

Students should be in groups of two or three.

- 1) One student will breathe normally then expel that air in a normal fashion into the balloon. The balloon will then be measured across its broadest part with a ruler.
- 2) One student will breathe in and out normally then blow all remaining air into the balloon, exerting as much pressure on the lungs as possible to push out any remaining air. Measure the balloon.
- 3) One student will breathe in normally, then try to expel all the air that is in their lungs. Measure again as above.

The students will collect data concerning three aspects of the respiration process. At this point discuss the data collected.