

# FACS: Respiratory Therapy (HS)

## Summary

The purpose of this lesson is to teach students about respiratory therapy, including job description, schooling, and salary. The activities will allow students to test their lungs and/or create a miniature lung.

## Time Frame

1 class periods of 45 minutes each

## Materials

-Respiratory Therapist Power Point -Lung Capacity Activity -Instructions/worksheet -12" balloons (1/student) -Measuring tapes (1/1-2 students) OR -Rulers and strings (to measure the balloon diameter) -Construct a Lung activity -Construct a lung instructions/Worksheet. -Supplies: Option 1: Scissors Straws (½ a straw per model) Clear Plastic drinking cups (the shorter and thicker the plastic the better) 3-6" Balloons (1/lung model) 9-12" Balloons (1/lung model) Tape or glue Option 2: Scissors 7" Balloons 12" Balloons 2 liter soda bottles or 20 oz bottles, empty

## Background for Teachers

-Familiarize yourself with the power point and activity prior to teaching. -Lung Capacity Information - Students should begin to see the differences in the different types of tests. Vital Capacity should fill their balloons up the most. This is because they are trying to get the very most in their lungs prior to exhaling the very most possible. This activity may also lend itself nicely to a discussion about smoking and how it decreases vital capacity. You can also discuss how a resp. therapist's job includes trying to get their patients to have a better vital capacity. -Create a Lung Activity: -In this activity you are essentially creating a vacuum with a "lung" (the smaller balloon) inside. Our respiratory system is similar to this model. The balloon is the lung and the straw or end of the balloon is the trachea. Our diaphragm muscle, which runs under our lungs, is like the balloon that is stretched taught over the open end of the cup or soda bottle. When we flex our diaphragm it lowers our lungs fill with air more easily. You can try this simple activity with your students: Have the students put one hand on their chest and one hand on their abdomen. Have them take a breath where only their hand on their chest moves. Then have the students take a breath where their abdomen rises and falls. They will immediately notice that the second breath had more air going into their lungs. This was because they used their diaphragm muscle to help bring more air in. One note on this activity, if you don't get a perfect seal, you won't get the vacuum effect and the lung will not inflate. This can also be tied into resp. therapy because some times patients come in with holes in their chest (from injury or acts of violence) and students can see in this diagram that a patient with this problem would need emergency assistance.

## Instructional Procedures

1. Go through the power point and lecture on the respiratory therapy. 2. Hand out "Lung Capacity" Activity W.S. and instructions. Put students in groups of 2. Each group will need 2 balloons, 1 measuring tape, 2 worksheets. Discuss findings as a class. See background information for more information on this activity. 3. If there is time, do the "Construct a Lung" activity. You may want to demonstrate this first, or have a model ready for them to see. See above for more background information on this activity.

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