

Chronic Lung Disease

THE NUMBER FOUR KILLER IN NORTH CAROLINA

Your tribe must survive chronic obstructive pulmonary disease by using the tools of education and action.

Your challenge is to write and illustrate a story about lungs.

Survival Plan: We Are Candy's Lungs

By Margaret Horn and Beth McAlister

Wilkes Community College: Ashe Campus

Background

Level: Our mixed-level class consisting primarily of intermediate students did this project. The one or two beginners were quick learners and adjusted very well.

Approach: Our approach is to move from general health knowledge to the specific disease.

Objectives: During the completion of this project, students will

- learn the leading causes of death in North Carolina
- work in a small group to fill out a worksheet on the leading causes of death, and then present their findings to the class
- discuss and learn about Chronic Obstructive Pulmonary Disease (COPD)
- write a story based on an imaginary character who has COPD
- create pictures using mixed media to illustrate the story
- prepare a storyboard to be photographed by the instructors

Time: Our class meets twice a week for two and a half hours. We completed this project over a period of three weeks, using about six classes or a total of fifteen hours.

Education and Action

The Leading Causes of Death

FIRST WEEK

Introduction

We introduced the project to the students—to learn about leading causes of death in North Carolina and, specifically, to learn about COPD. We started brainstorming about causes of death. We talked about health issues such as diabetes, obesity, high blood pressure, lung cancer, and other physical problems. Students mentioned what they thought they knew on these topics. Although some students stated information that was incorrect, we didn't correct them at first; we simply continued brainstorming.

Fact Finding

As we continued talking, we supplied students with accurate information via fact sheets from the Internet. (Note: Instructors who have Internet access in the classroom might let students go online.) We printed out the following materials:

Heart Disease: Go to <http://www.yourdiseaserisk.wustl.edu>. In the center screen, click on *What's your heart disease risk?* Now click on *fact sheet* (right of screen).

Lung cancer: Go to <http://www.yourdiseaserisk.wustl.edu>. In the center screen, click on *What's your cancer risk?* Now click on *Lung*. Click on *fact sheet* (right of screen). We used the following sections:

- *What is lung cancer?*
- *How common is lung cancer?*
- *Who is at risk of getting lung cancer?*
- *How do you prevent lung cancer?*

- *What are the symptoms of lung cancer?*

Stroke: Go to <http://www.yourdiseaserisk.wustl.edu>. In the center screen, click on *What's your stroke risk?* Now click on *fact sheet* (right of screen). We used all sections of this sheet except *Who should be screened?* We then added the F.A.S.T. test to detect stroke symptoms, found at <http://www.stroke.org>. Click on *What is a Stroke?* in the menu across the top of the page. Now click on *Symptoms* on the right side of your screen or use your favorite search engine to look for F.A.S.T. test.

Diabetes: Go to <http://www.yourdiseaserisk.wustl.edu>. In the center screen, click on *What's your diabetes risk?* Now click on *fact sheet* (right of screen).

CLASS WORK

Fact Sheets

We read the above-listed resource materials in class and wrote new vocabulary words on the board. Vocabulary words included *stroke*, *clots*, *blood vessel*, *lung*, *trachea*, and similar terms.

We had a class discussion based on what students had learned.

Group Work

Instructor Beth McAlister created a “leading causes of death” worksheet—a copy of which is included at the end of this project plan—to cover lung cancer, stroke, heart disease, and diabetes. Students worked in four groups—one group for each disease—to fill out the worksheet. A sample of student work on stroke is shown on the next page.

Then each of the four groups compiled information on their disease and presented their findings to the class.

Sample Student Responses to the Worksheet

(Note: Spelling and grammar is reproduced as written by the students.)

What is a stroke? *Stroke is a very serious problem that develops when there is an interruption in the flow of blood to the brain.*

Who is at risk for a stroke? *Anyone can have a stroke but most people who have strokes are over the age of 55. Strokes affect both men and women.*

How can you prevent a stroke? *There are many things. don't smoke. Keep your blood pressure. Stay physically active. If you have diabetes, eat a healthy diet.*

What are the symptoms of a stroke? *Weakness or numbness in your face body loss of vision in one or both eyes. inability to speak or understand.*

What is a stroke? *Limited flow of blood to de brain*

SECOND WEEK

Research

To begin this week, we supplied students with accurate Internet information on COPD. (Note: Teachers who have internet access in the classroom might let students go online.) We printed the following materials:

Go to <http://www.nhlbi.nih.gov/> and click on *A-Z Diseases and Conditions Index*. Under Lung Diseases, click on *COPD*. In the left-screen vertical menu, we used the material under (1) *What Is COPD?* and (2) *Signs & Symptoms*.

Further, we downloaded an easy-to-read booklet from the Internet entitled, "What You Can Do About a Lung Disease Called COPD."

The web site is www.goldcopd.com. Click on *Patients* and then on *Patient Guide*.

Introduction

We introduced the COPD Survivor challenge to the class and gave students a brief introduction to the disease. We wrote pertinent vocabulary words on the board. We used the GOLD document

(www.goldcopd.com) as the main source of information. We introduced and explained the storyboard project.

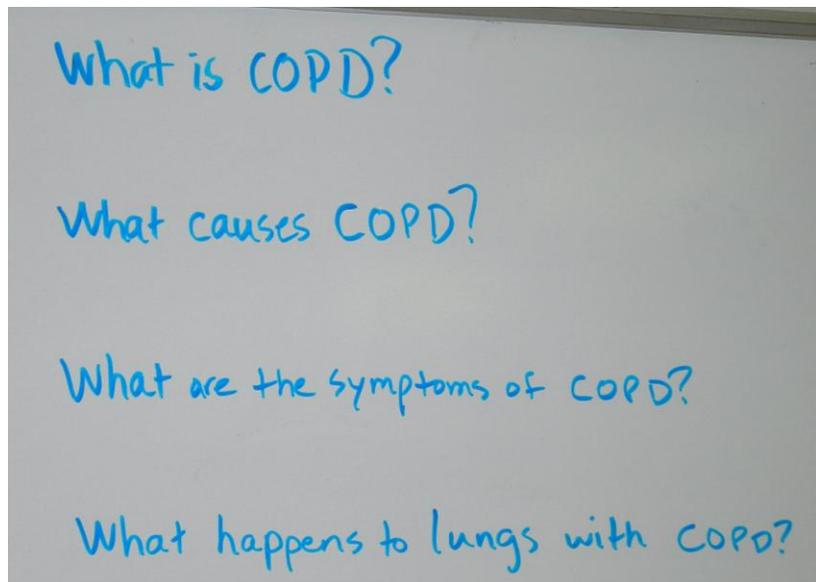


Beth Leading a Class Discussion on COPD

Class Discussion

We wrote some leading discussion questions on the board.

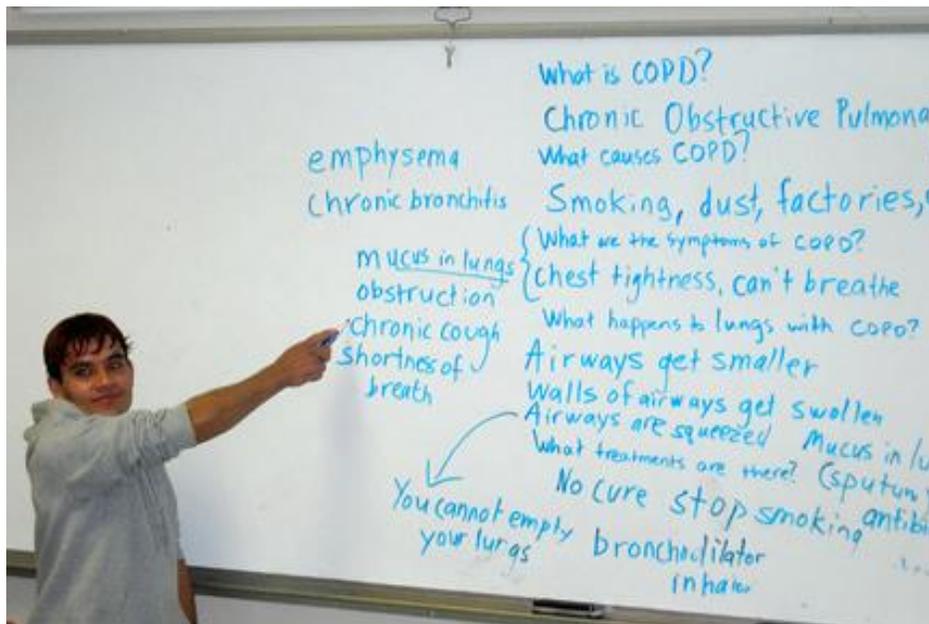
As we continued we wrote a number of vocabulary words on the board.



We discussed the reading as a class and wrote some basic information about COPD on the board, as shown on the next page.

- We reviewed the diseases Emphysema and Chronic Bronchitis, both of which are part of COPD.

- We spoke about the leading causes of COPD, which include smoking, air pollution, chemicals, and other dangerous inhalants. We discussed how smoking is a leading cause of COPD. Interestingly, two of our students mentioned using chemicals at work that made their noses and lungs sting.
- We discussed the symptoms of COPD, which include, narrowing of the airways, the production of mucus, and difficulty breathing. We discussed how the alveoli, or the air sacs in the lungs, become hard and inflexible.
- We also talked about treatments for COPD, such as oxygen administration, and use of inhalers. We discussed the prospects for living a normal life with COPD.



Manuel Pointing to Answers for Discussion Questions

Having completed our background preparation on the five leading causes of death in North Carolina, we now felt the students were ready to launch the project of creating an illustrated story about COPD.

OUR PROJECT ON CANDY'S LUNGS

THIRD WEEK

Introduction

We reiterated our objective of writing a story about an imaginary person with COPD. We went over all the steps, which included:

- Making up a character and creating a story for this character
- Writing step-by-step increments of the story, and numbering the increments, so that each number would provide a caption for each picture.
- Creating the pictures, using mixed art materials.
- Typing the captions on the computer and cutting them out.
- Placing each caption with its corresponding picture.
- Photographing each picture and accompanying caption on a white background, thus creating a storyboard with separate frames. (The instructors later photographed the storyboard using Instructor Margaret Horn's digital camera and turned the students' story into a PowerPoint presentation.)

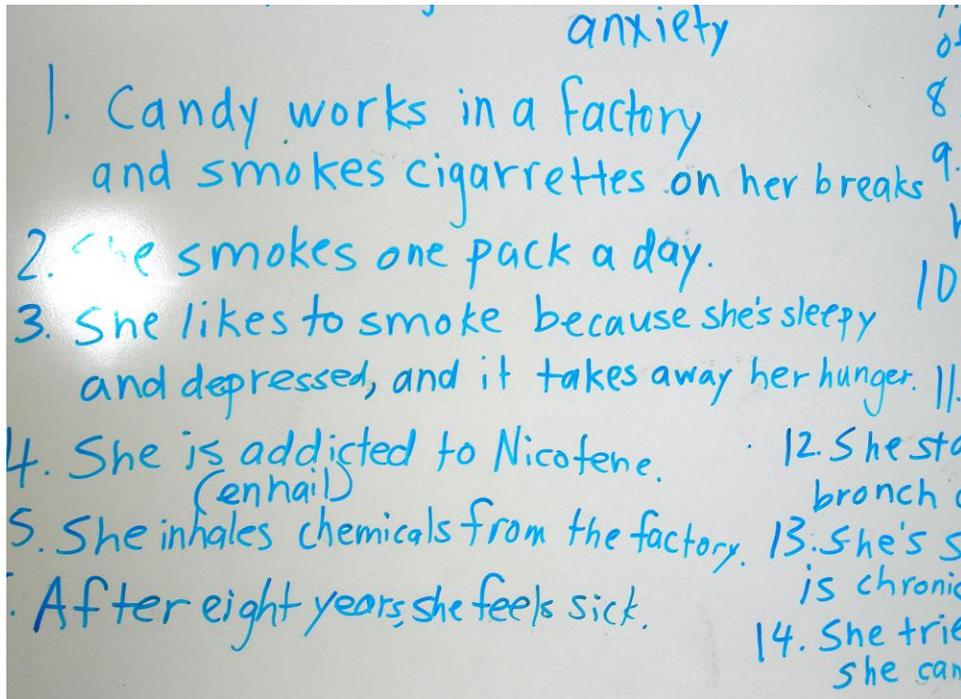
Writing the Story

We told the students that we were going to write a story about someone who has COPD. First, they created a character. Students wanted write about a female, and they chose the name, "Candy."

As students created the story aloud in class, I wrote their words on the white board, numbering the different parts of the story as I proceeded.

Everyone in the class contributed to the story, and I wrote the captions exactly as the students said them. Students used their imaginations to create a story about the woman, Candy, who works in a factory and chain-smokes. Eventually she begins to have symptoms such as coughing. She goes to the doctor, who diagnoses her with COPD. The doctor explains what is happening to her lungs, such as narrowing of the airways, and hardening of the alveoli. He then gives her treatments for her disease, including an inhaler and medication; he tells her to use a breathing mask at work and to stop smoking. In the last slide, Candy struggles with unsettling visions of her future, such as the possible need to use oxygen.

After the story was written on the white board, I took a picture of the board. Using the photo, we reproduced the story in a large bold-faced font on the computer. We printed the captions and cut them out.



Resources

Beth and I downloaded clip art from the Microsoft Web Site. We then enlarged the clip art. We used some black and white clip art so the students could add color. We used images of lungs (sick and healthy), cigarettes, factories, patients and doctors, and so on. We gathered a large variety of clip art for the class to use. Our choices are included at the end of this project. We also gathered different colors of yarn, felt, glue, colored markers, crayons, and construction paper. We brought colored marbles, kidney beans, an actual oxygen mask, and a pack of cigarettes.

Creating the Story Board

Beth and I brought all of the above resources to work. We made a large pile of clip art and put the other materials, such as the crayons and the colored markers, in the center of the table.

We then made the thirteen captions available to the students. They had to create one piece of artwork for each caption. Much to our satisfaction, the students were very creative. Some of them drew pictures instead of using clip art.



Victor, Drawing Candy



Manuel and Victor: the Artists

Others colored in the clip art, and glued in other materials, such as felt or yarn.



Juan Carlos Using a Model as an Example

Juan Carlos, Manuel, and Jorge Doing Artwork for the Project



We used a large picture of lungs and filled it in with flat colored marbles to simulate mucus.



Lungs with Marbles Representing Mucus

We photographed an actual oxygen mask and an actual pack of cigarettes. The students also made a three-dimensional model of a cigarette out of felt. Beth and I joined in if asked: mostly, however, students did the artwork.

The students pasted their artwork on large white sheets of paper. One piece of artwork was completed for each slide. Beth and I helped students to paste the captions onto each white sheet. Beth then photographed each sheet as an individual slide. When we finished, we had a total of thirteen slides.

After class, I brought my camera home and downloaded the photographs onto my computer. I used a computer program, "Picture Project," to edit each photo. Some photos needed to be lightened or made sharper in focus; others needed stronger colors. I had to edit out some dark edges at the sides of the photos where the white paper hadn't filled the complete frame before they could be used to create a storybook in PowerPoint.

Results

We Met Our Challenge!

The students were thrilled with their efforts and clearly demonstrated their new knowledge of lung disease and its causes and effects

through their story, which is shown as a PowerPoint accompanying this lesson plan.

Project Follow Up

- We plan to put examples of student work up on the wall or on a bulletin board if the teacher who shares our classroom agrees.
- We will continue to discuss the major causes of death and other health-related issues, and we will relate future health lessons to this learning experience.

Teacher Observations

Some students were shy about coming to class when they found out they would need to do artwork. Ultimately, the students were extraordinarily creative and resourceful. Also, we were happy with how enthusiastically the students created Candy's story. They wrote the story in their own words, with minimal help from their instructors.

Notes for Future Users of this Project Plan

Initially, few of the students related to such a specific topic (COPD) since very few smoke cigarettes and their primary goals are to learn English and to learn about key topics and competencies that will help them in everyday life, such as going to the doctor, or learning the simple vocabulary they need for conversing about health, i.e., "I have a sore throat." They preferred a broader approach to health. For this reason, it was more effective for us to start with the larger topic of "leading causes of death" and then to focus in on the specific topic of COPD. Nonetheless, once we started discussing COPD, the students became more interested, especially when they got into creating a story and doing their artwork.

Leading Causes of Death Worksheet

Name _____

What is lung cancer?

Who is at risk for lung cancer?

How can you prevent lung cancer?

What are the symptoms of lung cancer?

What is the treatment for lung cancer?

Page 2 of **Leading Causes of Death Worksheet**

Name _____

What is a stroke?

Who is at risk for a stroke?

How can you prevent a stroke?

What are the symptoms of a stroke?

What is the treatment for a stroke?

Page 3 of **Leading Causes of Death Worksheet**

Name _____

What is heart disease?

Who is at risk for heart disease?

How can you prevent heart disease?

What are the symptoms of heart disease?

What is the treatment for heart disease?

Page 4 of **Leading Causes of Death Worksheet**

Name _____

What is diabetes?

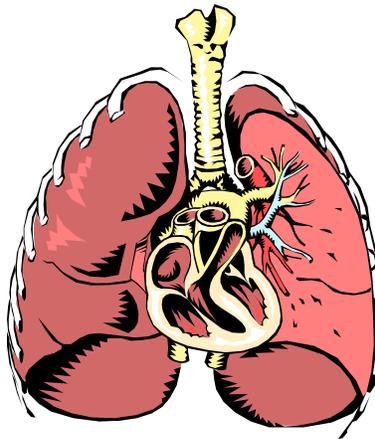
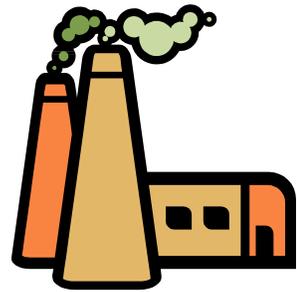
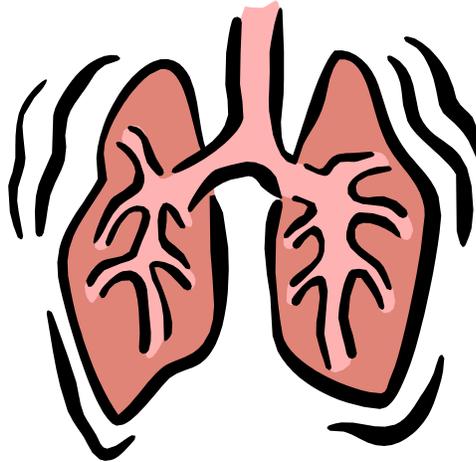
Who is at risk for diabetes?

How can you prevent diabetes?

What are the symptoms of diabetes?

What is the treatment for diabetes?

Clip Art from <http://office.microsoft.com/en-us/clipart/default.aspx>



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