

Asthma and the Air You Breathe

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- Community Outreach and Education Program <http://coep.pharmacy.arizona.edu/air/>
From: AMBIENT (<http://www.rsmas.miami.edu/groups/niehs/ambient/>)

Abstract

During this lesson students will participate in a discussion about respiratory illnesses and their relationship to air and air quality. The purpose of this lesson is to engage students in studying the air and air quality as it affects family and friends who are afflicted with asthma and other respiratory illnesses.

Objectives

Students will be able to:

- List environmental factors that affect the health of the lungs.
- Describe the symptoms of asthma.

National Science Education Standards

Content Standard D - STRUCTURE OF THE EARTH SYSTEM

The atmosphere is a mixture of nitrogen, oxygen, and trace gases that include water vapor. The atmosphere has different properties at different elevations. Clouds, formed by the condensation of water vapor, affect weather and climate.

Content Standard D - EARTH IN THE SOLAR SYSTEM

The sun is the major source of energy for phenomena on the earth's surface, such as growth of plants, winds, ocean currents, and the water cycle. Seasons result from variations in the amount of the sun's energy hitting the surface; this is due to the tilt of the earth's rotation on its axis and the length of the day.

Arizona Science Education Standards

Strand 6 - EARTH SCIENCE

Concept 1 – Structure of the Earth

PO 1. Describe the properties and the composition of the layers of the atmosphere.

PO 5. Describe ways scientists explore the Earth's atmosphere

Teacher Background

Asthma is a chronic illness that temporarily causes the airways to become narrow, causing difficulty in breathing and related anxiety. It is estimated that 20.3 million Americans (4 million children) suffer from asthma, which can be life threatening if not managed properly. Asthma is the leading cause of chronic illness of children in the United States, and most responsible for absenteeism from school.

Related and Resource Websites

Asthma and Allergy Resources

http://coep.pharmacy.arizona.edu/hope2/asthma_allergy_resources.html

AMBIENT Project Air Module

<http://www.rsmas.miami.edu/groups/niehs/ambient/teacher/air/Tair.html>

Air Info Now

<http://www.airinfo.org/>

Time	1 class period (45 minutes)
Preparation Time	5 minutes making copies
Materials	Copies of Asthma Quiz
Teacher Preparation	Copy quizzes

Activity

1. Ask students to list all the people they know who have respiratory illnesses making sure to tell who has what illnesses. You may want to prompt students with illnesses like asthma, allergies, emphysema, etc.
2. Have the students share their information with the class and assemble that data into a chart at the front of the room.
3. Tell your students, "Today we will be discussing air quality and asthma. To see what you already know, we will be taking a short quiz. Make your best guess if you don't know. I will give you the answers at the end of the quiz."
4. Pass quizzes out to students. To keep interest high, it might be preferable to take the quiz together and discuss the answers after each question. This gives the students a better opportunity to share what they already know. You may also opt to administer the quiz in its entirety and give answers after.
5. Ask students to write the following in their science notebooks (or on a paper to turn into you)...
 - 3 – things that they learned
 - 2 – things they think are important to share with their families
 - 1 – questions they still have