

**Activity name: *Environmental Risk – Asthma Assessment***

**Goals**

- to build students' knowledge and skills about releases of polluting materials into the environment
- to apply knowledge and skill in the community context.

Activity	Objectives
Asthma Assessment	<ul style="list-style-type: none"> <li>• Research what triggers asthma</li> <li>• Collect data on conditions in students' houses</li> <li>• Identify the hazards in their houses</li> <li>• Determine a plan to minimize exposure to triggers</li> </ul>

This activity allows students to use the process of risk assessment. It provides a real-world application of the math, science, technical, and critical thinking knowledge and skill concepts identified by ATEEC Fellows as necessary preparation for environmental technology occupations.

**Appropriate for which course(s)?:** Middle and high school science—possibly social studies

**Concept/skill learned (i.e. from K/S Table):** Identify and describe ecosystems, identify the signs and symptoms associated with exposure to toxic/irritating agents

**SCANS skills addressed:** Interprets and communicates information

**Cognitive Level:** Comprehension, analysis, and evaluation

**Learning objectives** - Students will be able to:

- Use the methodology of risk assessment to determine the risk of developing asthma from household asthma triggers

**Approximate time to complete activity:** 50 minutes

**Source of idea or activity (for published source, please include author, title, publisher, date):** Information on the EPA website: <http://www.epa.gov/>

**Materials/resources needed (equipment, print media, electronic media, videos, supplies, etc.):**

- Access to the Internet

**General Description of Activity:** Students will search their house for possible asthma triggers and develop a plan to limit their exposure to these triggers.

**Teaching Procedure:**

Introduce the topic of Risk Assessment using the Risk Assessment web page on this site or your own sources. Be sure to include the four steps of risk assessment. These steps are: identifying hazards, dose/response assessment, exposure assessment, describing (characterizing) risk. Students will be doing each of these 4 steps in their activity. Go over the activity ahead of time to be sure all required parts are available. Sensitivity is needed for students that may be homeless or live in less than ideal surroundings. These students may need to use the school as their “home” site.

**Student Procedure:**

1. Students will need to access the EPA website to obtain background information on asthma triggers. <http://www.epa.gov/iaq/pubs/asthma.html>
2. Students will come up with a data table to collect data on the conditions in their house as homework. Check data tables before students leave.
3. Have the students identify the hazards in their houses the next day. The teacher should lead the class in a discussion of the ideas of dose/response and exposure to risks. It is hard to rid houses of asthma triggers. An obtainable goal is limiting exposure to asthma triggers.
4. Have the students come up with a plan to minimize risks to asthma triggers in their home. The goal should be to limit exposure. They can also discuss which steps in their plans are easy to accomplish and which may be difficult. Have the students look at the values that come to light based on their choices.

*Activity submitted by:* Robin Ritter

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