

*The purpose of this lesson is to develop an understanding for the meaning of vocabulary words during a study or unit about Indoor Air Quality (IAQ).*

<b>TOPIC(S)</b>		COMPOSITION OF AIR		DEFINING THE INDOOR ENVIRONMENT
	EFFECTS OF INDOOR AIR POLLUTION ON OCCUPANTS		SOURCES OF INDOOR AIR POLLUTION	MOVEMENT OF AIR Natural and mechanical airflow (HVAC)
	IDENTIFYING INDOOR ENVIRONMENT POLLUTANTS		SOLVING INDOOR ENVIRONMENT PROBLEMS (Preventing and Fixing)	√ VOCABULARY-Integrates most or all of the preceding topics

### OBJECTIVE(S)

The students will be able to create and complete a puzzle using the definitions of their vocabulary words.

### SCIENCE/HEALTH STANDARD CORRELATIONS

#### National Science Education Standards, Science Content Standards

##### 6.1 Science as Inquiry

- Levels K-12: Abilities necessary to do scientific inquiry, Understanding about scientific inquiry

##### 6.6 Science in Personal and Social Perspectives

- Levels K-4: Personal Health; Changes in environments
- Levels 5-8: Personal Health; Populations, resources, and environments, Natural hazards
- Levels 9-12: Personal and community health; Environmental quality; Natural and human-induced hazards

#### Mid-continent Research for Education and Learning (McREL), Science Standards

Earth and Space Sciences 1.1, 1.4, 1.5 and Physical Sciences 8.1, 8.3, 8.5

*\*See "Curriculum Connections" section for standards that apply to other content areas.*

### SUGGESTED GRADE BAND

4-5, 6-12 science

### ESTIMATED TIME LENGTH

1 class period

### LESSON PROCEDURES

1. Make copies of the **Puzzle Template**—one per student (see Materials section) on heavy weight paper, such as card stock.
2. Provide an **IAQ Vocabulary List** (see Materials section) to the students. If the vocabulary list is a part of an ongoing IAQ unit, then the students can use a list of words and definitions that have been previously introduced.

3. Give each student a **Puzzle Template**.
4. On the back (blank) side of the template, have students design a puzzle using a designated number (your choice) of the vocabulary words and definitions. They can use words and illustrations to complete the design. The words, definitions, and illustrations need to be written or drawn across more than one puzzle piece. If the students were to copy a word and definition onto each puzzle piece, then there would be nothing to “figure out” when putting the puzzle back together.
5. Have students turn the puzzle over to the pre-printed side to cut out the pieces. Place the pieces in a bag or envelope.
6. Assign each student a partner, have the partners exchange and complete the puzzles.
7. Have students check on their partner’s completed puzzles for accuracy.

### **MATERIALS**

**Puzzle Template**—one per student (see IAQ Lesson 19 Supplement\_Puzzle Template.doc), **IAQ Vocabulary List**—one per student (see IAQ Lessons 14-21 Supplement\_Vocabulary List.doc), markers, crayons, colored pencils, bags or envelopes (one per student)

### **GROUPING**

whole class, small group

### **ASSESSMENT**

Teacher can observe for active participation and meaning comprehension while the students are creating and completing the puzzles. If using the modification suggestion (see below), teacher can collect the puzzles before the students exchange them with a partner to evaluate for accurate definitions.

### **MODIFICATIONS/EXTENSIONS**

Keep the puzzles in a classroom center, allow the students to select and complete puzzles throughout an IAQ unit, as time permits. Pre-select the vocabulary words for each student to use in the puzzle. Provide the words, not the definitions. Have the students look up the words to determine the definitions that they will use to complete the puzzle.

### **CURRICULUM CONNECTIONS**

[Reading and Language Arts, International Reading Association and National Council of Teachers of English Standards, Standards for the English Language Arts](#)

# Understanding the Indoor Environment

## Vocabulary Development

### Vocabulary Puzzles

- 4: Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes
- 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information)

#### **Social Studies, Center for Civic Education, National Standards for Civics and Government**

- Content Standard K-12, V: What are the Roles of the Citizen in American Democracy? /What are important responsibilities of Americans?

#### **Health, American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), National Health Education Standards**

- Health Education Standard 1, Grades PK-12: Students will comprehend concepts related to health promotion and disease prevention

#### **RESOURCES**

- **EPA's IAQ Tools for Schools Action Kit** (3<sup>rd</sup> Edition), Reference Guide, Appendix M, Pages 79-84