

# Integrating IAQ Issues into Classroom Curricula

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## Presentation Overview

- Goals of Lesson Plan Project
- Lesson Plan Concepts
- Lesson Plan Design
- Meeting Educational Standards
- The ABC's of the Lesson Plans

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## Goals of the Lesson Plan Project

- **Promote** student awareness and action around indoor air quality issues
- **Plan** creative ways to teach and involve students in learning about the indoor environment
- **Provide** teachers resources to teach their curriculum standards through hands-on, interactive lesson plans
- **Produce** lesson plans that can work with any grade level and be used as independent activities or put together to build an IAQ unit

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## Lesson Plan Concepts

- National Education Association Health Information Network conducted an extensive review of existing lesson plans
- A compiled list of these lesson plans is available on their website
- Topic areas were identified for the creation of new lesson plans

TOPIC(S)	✓	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

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## Lesson Plan Design

*“Tell me, I forget.  
 Show me, I remember.  
 Involve me...  
 I understand.”*

-Chinese Proverb

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## Lesson Plan Design

- **Support an inquiry based teaching approach**  
*As suggested by the National Science Teachers Association through the National Science Education Standards*
- **Engage students in the learning**  
*Student engagement refers to a student's willingness, need, desire and compulsion to participate in, and be successful in, the learning process*

SOURCE: Rothstein, L., Behar, L., Demester, D., Elander, K., Johnson, M., & Sheldon, B. (1997). "The impact of teaching strategies on intrinsic motivation." *Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education*, p. 294.

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## Lesson Plan Design Components of the Lessons

- PURPOSE
- IAQ TOPIC
- OBJECTIVES
- SCIENCE/HEALTH STANDARD CORRELATIONS
- ESTIMATED TIME LENGTH
- LESSON PROCEDURES
- MATERIALS
- GROUPING
- ASSESSMENT
- MODIFICATIONS AND EXTENSIONS
- CURRICULUM CONNECTIONS
- RESOURCES

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## Meeting Educational Standards

- The lesson plans are standards driven
- The lesson plans have been tied to national Science and Health standards

### 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.

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## Meeting Educational Standards

- The lesson plans were created to support educational standards in other key subject areas
- Teachers can easily integrate these lesson plans with their grade level and school district curriculum

### CURRICULUM CONNECTIONS

Reading and Language Arts, International Reading Association and National Council of Teachers of English Standards, Standards for the English Language Arts

- 3: Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics)
- 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.

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**A** is for animal

**B** is for billboard

**C** is for comic book

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**D** is for diorama

**E** is for extrapolation

**F** is for floor covering

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**G** is for graphic organizer

**H** is for higher level thinking

**I** is for invention

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**J** is for judging

**K** is for KWLH

**L** is for literary luminary

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**M** is for mind mapping

**N** is for naming

**O** is for organizing

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**P** is for Problem Solving Wheel

**Q** is for questioning

**R** is for rubric

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**S** is for solving puzzles

**T** is for team work

**U** is for using the IAQ TFS Action Kit

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**V** is for Venn diagram

**W** is for word wall

**X** is for eXamining

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**Y** is for yarn

**Z** is for zoo

The End

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## How to Find the Lesson Plans...

*All of the lesson plans and resources can be found and downloaded online*

- Link from EPA IAQ website  
<http://www.epa.gov/iaq/schools/resources.html>
- Link from NEA Health Information Network website  
<http://www.neahin.org/>
- Go directly to the Lesson Plans  
[http://www.neahin.org/Lesson\\_Plan/iaqlessonplanindex.html](http://www.neahin.org/Lesson_Plan/iaqlessonplanindex.html)
- Additional Resources  
[http://www.neahin.org/Lesson\\_Plan/RecommendedEducationalResources.htm](http://www.neahin.org/Lesson_Plan/RecommendedEducationalResources.htm)

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## The Importance of Student Involvement

*“How wonderful it is that nobody need wait a single moment before starting to improve the world.”*

Anne Frank

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