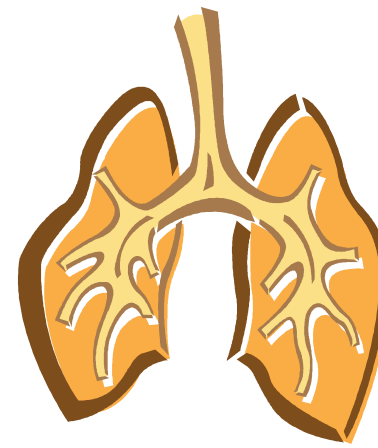


Curriculum Development



BIOLOGY and/or HEALTH classes



Combustion of diesel fuel generates significant quantities of particulate matter, especially that with a diameter of less than one micron.

Because of its size, diesel exhaust particulate matter has a large surface area to volume ratio, making it an exceptional carrier of adsorbed organic and inorganic compounds into the lungs.

Environmental Effects

High School
Ecology
Environmental
Science

- Haze can be caused by increased ground level **ozone**, brought on by **burning fuels**.
- If dense enough haze or “smog” could give the sky brownish look, reducing visibility, and causing **respiratory problems**.



Study Air Pollution



- The Environmental Protection Agency (EPA)
 - Standards for 6 air pollutants
 - carbon monoxide lead ozone
 - nitrogen oxides particulates sulfur dioxide
 - Primary air quality standards
 - Maximum exposure levels humans can tolerate without ill effects
 - Secondary air quality standards
 - Maximum exposure levels allowable to minimize the impact on crops, visibility, personal comfort, and climate
 - Compliance with standards
 - Attainment areas – geographic regions where standards are met or below
 - Non-attainment areas – geographic regions where the primary standard is not met

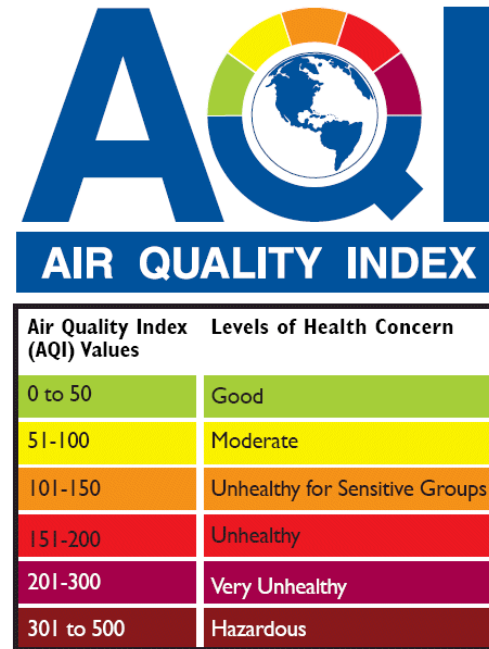


<http://www.epa.gov/aboutepa/region6.html>



Study about Air Quality

www.airnow.gov



Air Quality Educational Toolkit for Teachers
Grades 2-8

<http://www.airnow.gov/index.cfm?action=reso>

School Flag Program

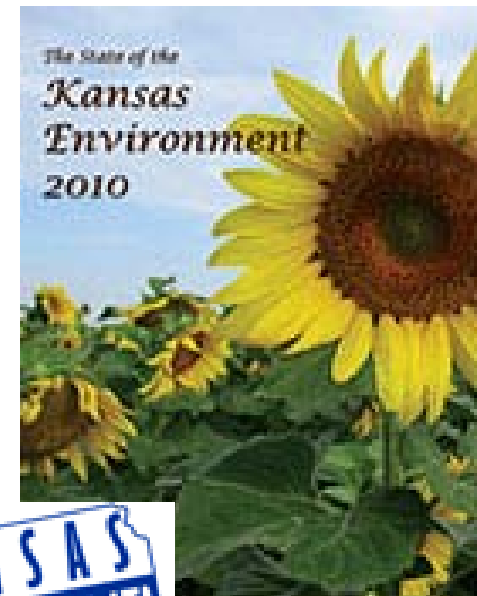


Interactive Kid Friendly Web Resource

- http://www.kdheks.gov/bar/kids_corner/

Interactive Site to learn about :

- Air pollution
- Sources of air pollution
- Air Pollution and Health
- Kids 4 Better Air
- Fun and Games





Air Pollution: What's the Solution?

- <http://www.k12science.org/curriculum/airproj/index.html>

By the end of this project, students will be able to:

- Describe what air pollutants are, when and how outdoor air pollution is formed, and what the health effects are from breathing polluted air.
- Read the Environmental Protection Agency's Air Quality Index (AQI) chart, record weather data, and determine the presence of air pollutants.
- Create graphs to help visualize or recognize trends.
- Predict when ground level ozone may occur.
- Use knowledge gained to create awareness about air pollution and the associated health effects

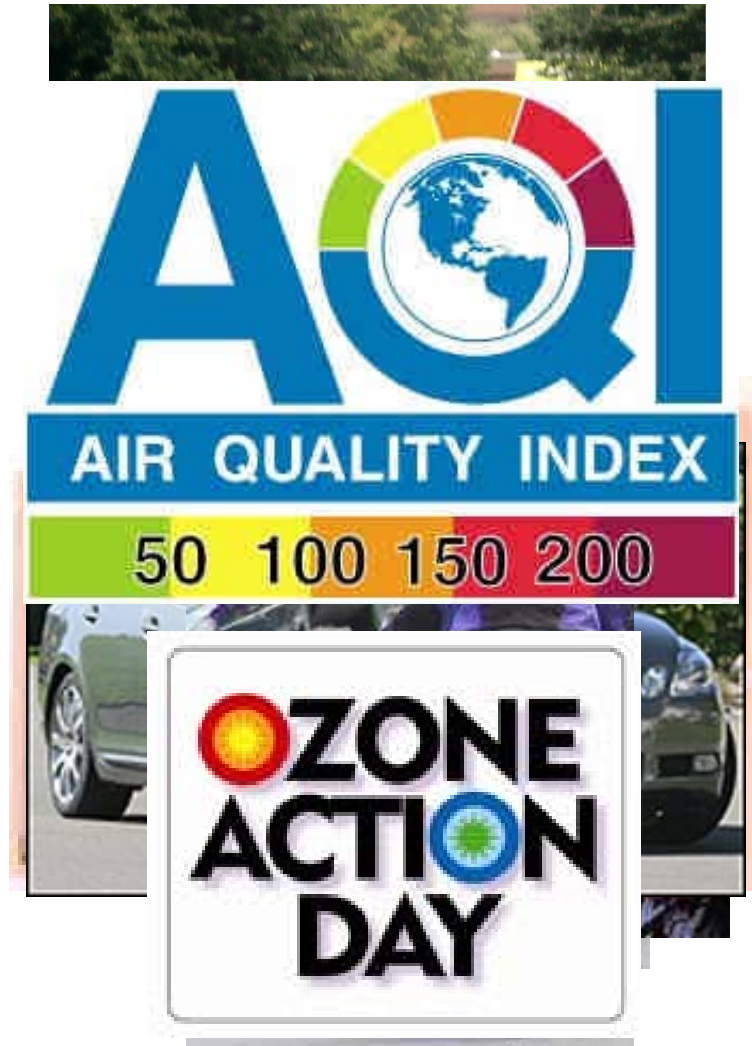


Air Pollution: What's the Solution?

- **FOR TEACHERS** [Curriculum Standards](#): National Science Standards, Environmental Education Standards, MA, NJ, NY, National Science Education Standards
- **Curriculum Primers**
 - [Ground Level Ozone Primer](#): A guide to a basic understanding of Ground Level Ozone and problems associated with the pollutant.
 - [Particulate Matter Primer](#): A guide to a basic understanding of Particle Pollution (Particulate Matter) and problems associated with the pollutant.
- [Lesson Rubrics](#): A rubric of all disciplines addressed by the various lessons.
- [Testing Equipment](#)
- [Assessments](#): Unit assessments including Concept Mapping exercises and a traditional test.
- [Student Publishing Areas](#): Have your students publish their experiments to the internet.

Social Studies

Take Action!



The End...or is it?

<http://www.kdheks.gov/bar/air-monitor/AQI.html>