

The North Carolina Division of Air Quality offers free education programs in the Triangle and Western regions of North Carolina. Our staff will come to your classroom, home school group, environmental field day, career day, health fair or public event. Programs are correlated to the North Carolina Essential Standards, and can be combined, expanded and customized according to available time and teacher goals. All lessons are taught in an interactive style to engage students and stimulate critical thinking.

Program topics include air quality problems and solutions, basic air chemistry and combustion, properties of matter, weather and atmosphere, sources of pollutants, ground-level ozone, particle pollution, visibility, acid deposition, energy use and its impacts on air quality, and air pollution health effects. Programs may be available in other regions of the state depending on staff availability. Please contact us with questions or for help designing a program for your classroom.

Lessons and Educational Programs



Air is All Around Us *Elementary School*

Students learn about the ingredients and properties of air, make connections between air and other curricula areas including weather, and learn the concept of air pollution and how it can be reduced by individuals. NC Essential Standards: 2.P.2, 2.E.1, 3.P.2, 3.P.3, 5.P.3, 5.E.1, 5.L.2

Properties of Matter *Elementary and Middle School*

Is air “nothing” or is it “something?” How can we observe it? In this program, students discover that air is a form of matter that occupies space, exerts pressure and has mass, and examine the different forms of matter through grade-appropriate experimentation, investigation and discussion. NC Essential Standards: Elementary School: 2.P.2, 3.P.2, 3.P.3, 4.P.2, 4.L.1, 5.P.2, 5.P.3; Middle School: 6.P.2, 6.P.3, 7.E.1, 7.P.2.3, 8.P.1

Driving Choices *Middle and High School*

Students learn about air using molecular models, develop an understanding of the effects of burning, experiment with a hybrid gasoline-electric vehicle, and discuss how transportation and vehicle maintenance choices can have a positive or negative effect on our air. NC Essential Standards: Middle School: 6.L.1, 6.L.2, 6.PCH.1.7, 6.PCH.3, 6.PCH.3.2, 7.E.1, 7.E.1.6, 7.L.1, 7.G.1, 7.E.1, 8.P.2, .PCH.3; High School: Bio 2.1, Bio 2.2, EEn.2.2, EEn.2.5, EEn.2.8, Chm.1.1, Chm.1.2, Chm.2.1, Chm.2.2, Chm.3.1



For programs in western N.C., contact:

Keith Bamberger
Asheville Regional Office, N.C. Division of Air
Quality
(828) 296-4500
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For programs in the Triangle region or other areas of North Carolina, contact:

Milli Hayman
Central Office, N.C. Division of Air Quality
(919) 707-8718
milli.hayman@ncdenr.gov



Where There Is Smoke *Middle and High School*

Students use molecular models to learn about air and combustion, discuss how fire is used to power transportation, electricity generation and industry, and examine how daily actions add up to either worsen or improve air quality.

NC Essential Standards: Bio.2.1, Bio.2.2, Bio.4.2, Chm.1.1, Chm.1.2, Chm.2.1, Chm.2.2, Chm.3.1, EEn.2.2, EEn.2.5, EEn.2.6, EEn.2.7, EEn.2.8, PSc.2.1, PSc.2.2, PSc.3.1, PSc.3.3

Air Quality Policy and Management *Middle and High School*

Students learn how and why air quality is managed. Topics include the history of air pollution; sources and health impacts; air monitoring; the Clean Air Act, its requirements and enforcement structure; and societal and personal choices affecting air quality. Students can engage in role play as scientists, regulators and industry executives to gain insight into how air quality management works.

NC Essential Standards: 7.G.1, 7.E.1, Bio.2.1, Bio.2.2, EEn.2.2, EEn.2.5, AH2.H.2, CE.C&G.2, CE.PFL.1, CE.E.1

Field Trips and Homeschool Groups: *The Division of Air Quality has classroom space available on a limited basis for programs at our downtown Raleigh headquarters. Visiting groups may arrange a tour of the energy- and water-conserving features of our green building, and we are just two blocks from the N.C. Museum of Natural Sciences, the N.C. Museum of History, the North Carolina General Assembly and the State Capitol. Contact Milli Hayman to schedule a program and/or tour at our downtown Raleigh headquarters.*

North Carolina Division of Air Quality's Mission Statement:
To Protect and Improve the Outdoor Air Quality of North Carolina

The Division of Air Quality (DAQ) works with the state's citizens to protect and improve outdoor, or ambient, air quality in North Carolina for the health, benefit and economic well-being of all. To carry out this mission, the DAQ has programs to operate a statewide air quality monitoring network to measure the level of pollutants in the outdoor air, develop and implement plans to meet future air quality initiatives, assure compliance with air quality rules, and educate, inform and assist the public with regard to air quality issues.

For programs in western N.C., contact:

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