
IT'S OUR AIR
It's Our Air!
STUDENT PAGE

Air Quality: An Introduction, Review and Analysis of Pollutants

Students, begin your first portion of this lesson by view this video as a review of air pollution, how it is measured, how it impacts the community and key issues in North Carolina:

1. Scientific Literacy and Air Quality: It's Our Air 3.1

Next, view video number two, this one discusses how your lifestyle impacts air quality and actions you can take to help improve air quality:

2. Introduction to Solutions and Home Energy Choices: It's Our Air 3.2

Complete the chart and information about the pollutants on the next pages. You will need to use the EPA website that is specified in the instructions. You do not want to simply do a Google search for these pollutants. Go to the designated site and work through this activity as directed, then come back and go to set 4 to watch the final video.

3. Student Analysis Activity: Trends in Air Quality since Clean Air Act (go to next page)

4. Clean Air Act and NC Clean Smokestacks Act: It's Our Air 3.4

Student Page
Page #1

Choose Campaign for Clean Air Act Anniversary Celebration

As a marketing director for the EPA, you've been asked to create a campaign to celebrate the 50th anniversary of the Clean Air Act. The campaign will focus on one historic event that led to the passage of the Clean Air Act as a way to engage the public in the history and the success of the act. Your job will be to research the improvements in air quality since the Clean Air Act was passed (Part A), choose the historic event to highlight in the campaign (Part B), and write a report explaining your decision (Part C).

PART A: Trends in Air Quality Since the Clean Air Act

Fill in the following chart.

For the first two blank columns, use information from the Six Common Pollutants website (www.epa.gov/criteria-air-pollutants). On the website, choose a pollutant. Then you can click on "health" and "air emission sources" to find the information you need. You can also reach information about air emissions sources for each criteria pollutant here: www.epa.gov/air-emissions-inventories/air-emissions-sources.

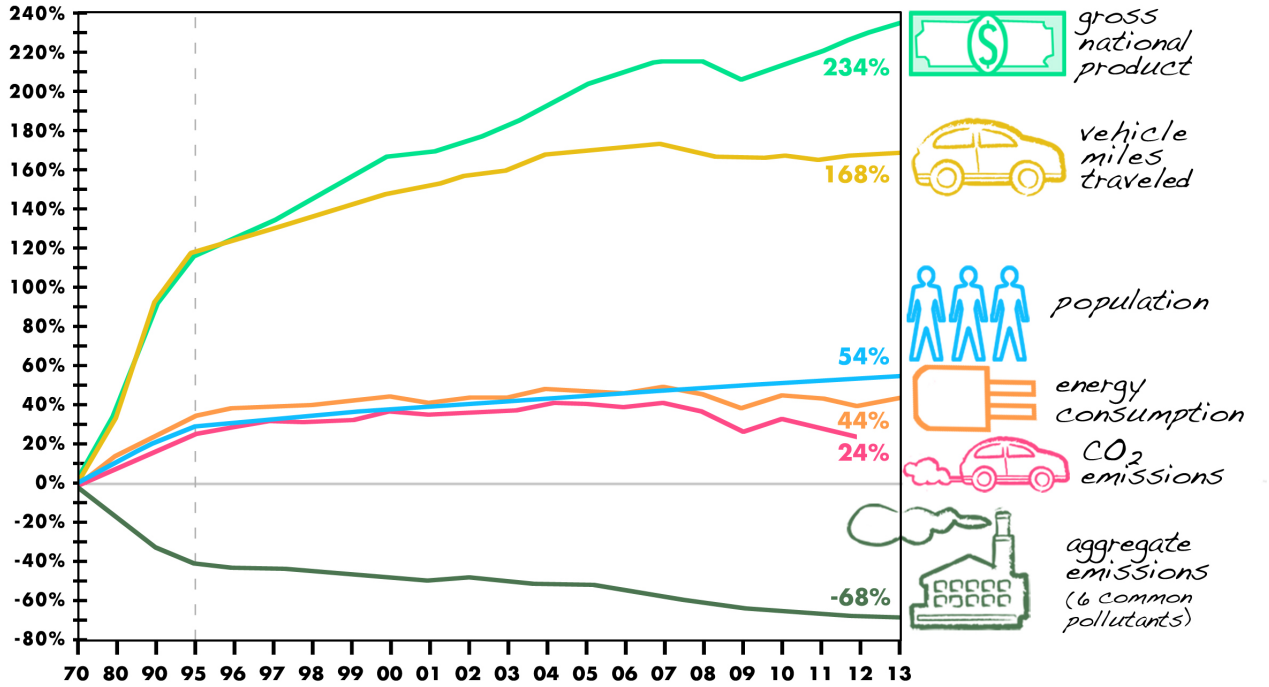
To fill in the last two columns of the chart, use information from the EPA Air Trends website (www.epa.gov/air-trends). Note that the air trends data are given since 1980 for most of the pollutants, even though the Clean Air Act was passed in 1970. That's because it took some time to develop the technology and infrastructure to monitor the pollutants accurately, precisely, and consistently in all the locations across the United States.

The Six Criteria Pollutants: Sources, Health Effects, and Decrease over Time

Air Pollutant	Some of the main sources	Some of the main health effects	Decrease in national average	Describe decrease over time and relationship to standard
Carbon monoxide (since 1980)				
Ground level ozone (since 1980)				
Lead (since 1980)				
Nitrogen dioxide (since 1980)				
PM10 (since 1990)				
PM2.5 (since 2000)				
Sulfur dioxide (since 1980)				

PART A: Trends in Air Quality Since the Clean Air Act (continued)

Pollution Trends in the United States



Source: www.epa.gov/air-trends
NOTE: After 1995, these data are shown in one year increments.

Using the information in the graph above, answer the following questions:

1. How much have emissions of the six common air pollutants declined in aggregate (as a group) since 1970?

2. Do you think those emissions would have declined that much without the Clean Air Act? Why or why not?

3. Do you think the Clean Air Act is the only reason the emissions declined over that time period? What other factors may have played a role?

4. Can the economy still grow while emissions of air pollutants are being reduced? Justify your answer using information from the graph.