



DOEE AIR QUALITY

Educational Resource



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

About this resource: [The Department of Energy and Environment](#) (DOEE) Air Quality Division works to protect the health and welfare of District residents, visitors, and the natural environment by reducing the concentration of pollutants in the outdoor air. Air pollution is one of the most significant causes of environmental pollution. Reducing pollutants in the air is important for improved human health and a better environment.


The activities in this packet, created by [AirNow](#), [Clean Air Partners](#) and [Casey Trees](#), are designed to help students understand the air quality index, the importance of good air quality, and the correlation between air pollution and public health.

Learn more about the DOEE air quality division by visiting doee.dc.gov/air.

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AIR QUALITY PLEDGE BINGO

Do something that can positively impact air quality. What did you do?	List one method to get around that doesn't pollute the air?	Find something that you can repair . What was it?	How many gallons of air do you breathe per day?	Eat something local. What did you eat?
The air you breathe is composed primarily of?	Find a way to reuse something. What is it?		Find a way to reduce energy. How did you do it?	What is the Air Quality Index-AQI today?
What is the primary source of oxygen on Earth?	What is the condition in which a person's airways swell, making it difficult to breath?	What can you recycle today?	What is one thing that you can do to keep your lungs healthy?	Do something that can reduce carbon dioxide in the atmosphere. What did you do?

PLEDGE BINGO FACTOIDS

1. **Conserve and Reduce Energy:** Your home energy consumption translates into air pollution. Any energy reduction, conservation and improvement in efficiency will reduce air pollution.
2. **The 5 Rs — Reduce, Recycle, Reuse, Repair, Refuse:** Manufacturing goods and dealing with solid waste (garbage) create air pollution.
3. There are many things you can do to **improve air quality**. Here are some examples: walk, bike, combine trips, do not idle, and conserve energy.
4. **Eating local:** Purchasing local food helps the environment by reducing food miles (fuel consumption = air pollution). Most foods are shipped over 1,500 miles to get to grocery stores!
5. **The amount of air that we breathe** depends on our age, size and level of activity. On average, a person at rest takes about 16 breaths per minute. This means we breathe about 960 breaths an hour, 23,040 breaths a day and between 2,000-3,000 gallons per day.
6. **Asthma** is a chronic condition that affects the airways. It causes wheezing and can make it hard to breathe. Some triggers include exposure to an allergen or irritant, viruses and exercise. If you have asthma know your triggers.
7. The **Air Quality Index** is used for reporting daily air quality. It tells you how clean or polluted your air is, and the associated health effects.
8. **Keeping your lungs healthy:** Stay away from smoke and other environmental irritants. Eat healthy. Exercise. Improve indoor air quality.
9. Air is made up of **78% nitrogen, 21% oxygen** and 1% mixed gases.
10. More than 50% of the oxygen on Earth comes from phytoplankton in the ocean.

WHY I CARE ABOUT CLEAN AIR: STUDENT ENGAGEMENT ACTIVITY

Teachers/Educators/Parents:

1. Using the template, allow students to express why clean air is important to them personally through drawing, writing, or a combination of both.
2. Scan or take photographs of the completed templates.
3. On your personal or organization's social media accounts, post your students' work, making sure to mention @AirNow, @EPA, and @DOEE_DC and include the #AQAW2020 hashtag in the text of the post. You may choose to either post selected individual pictures, or you may upload a group of pictures to an album.
4. Beginning May 4, 2020, EPA will select some posts/pictures to feature on our social media and website during Air Quality Awareness Week. If your post/pictures are selected to be featured, EPA will notify you via your social media account!

Students:

1. Draw a picture, write a poem, do something creative to tell the world why clean air is important to you. Fill in the cloud with pictures or words to express what you think and how you feel.
2. Scan or snap a picture of your work.
3. Post (or ask someone to help you post) the photo on a social media account. Make sure to mention @AirNow, @EPA, and @DOEE_DC and include the #AQAW2020 hashtag in the text of your post.
4. Beginning May 4, 2020, EPA will select some posts/pictures to feature on our social media and website during Air Quality Awareness Week. If your post/pictures are selected to be featured, EPA will notify you via your social media account!

WHY DO I CARE ABOUT CLEAN AIR?

I care about clean air because ...




#AQAW2020

First Name: _____ Age: ____

City, State: _____

BE A TREE DETECTIVE AND ESTIMATE THE AIR QUALITY BENEFIT

How can I estimate the benefit of a tree on air quality ?
Be a tree detective...let's look for the Data



Scarlet Oak - *Quercus coccinea*
Has magnificent, brilliant red color of its autumn leaves.
The official tree of Washington D.C. 11/08/1960

© Robert O'Brien

OSSE

CLEAN AIR PARTNERS DC-MD-VA

Casey Trees WASHINGTON DC

1:08 29:14

[Click Here to View the Instructional Video](#)

[Click Here to Download the PowerPoint Presentation](#)

Additional Resources

AirNow Educational Resources:

Air Now Activities on the Air Quality Index
airnow.gov/education/students/games/

Air Now Activities on Clean vs. Dirty Air, AQI, Pollution and Health
airnow.gov/education/students/

Environmental Protection Agency Educational Resources:

EPA Woodsmoke Education:
epa.gov/burnwise/wood-smoke-activity-book

EPA Hands on Activity on Particulate Matter in the Air
epa.gov/airnow/flag/Air-Strips-LP.pdf

