

Air Quality Index Flag Program



Background Information and Resources

The information in this document is from the Environmental Protection Agency (EPA). Read more at:

Ozone: epa.gov/ground-level-ozone-pollution

Particulate Matter: epa.gov/pm-pollution/particulate-matter-pm-basics#PM

Air Quality Index: airnow.gov/

Ozone & its Health Effects

While ozone in the stratosphere helps protect us from UV radiation, ground-level ozone, or the ozone we breathe, is very harmful to human health and the environment. Remember, ozone is “good up high, but bad nearby”. Ozone forms when emissions from vehicles and other sources mix in the presence of sunlight, and concentrations tend to be highest on hot, sunny days with little to no wind. People most at risk from breathing air containing ozone include people with asthma, children, older adults and people who are active outdoors, especially outdoor workers. Ozone can cause the muscles in the airways to constrict, trapping air in the alveoli. This leads to wheezing and shortness of breath.

Particulate Matter & its Health Effects

Particulate matter (PM), also called particle pollution, is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, pollen or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope. PM contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Some particles less than 10 micrometers in diameter can get deep into your lungs and some may even get into your bloodstream. Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or PM_{2.5}, pose the greatest risk to health. They are small enough to cross the blood-brain barrier.

Air Quality Index (AQI)

The Air Quality Index (AQI) is used for reporting daily air quality. It tells you how clean or polluted your air is, and the associated health effects. You can view the local AQI here: nctcog.org/trans/quality/air/ozone.

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health alert: everyone may experience more serious health effects.



AQI Flag Activity

1. If your school does not currently have a School Green Team, sign up to join by visiting: FortWorthTexas.gov/KFWB/School-Green-Teams and clicking on the application button.
2. Request air quality flags from Keep Fort Worth Beautiful. Send us an email at KFWB@FortWorthTexas.Gov with your name and the name of your school. We will provide one free set of Air Quality Index (AQI) flags in green, yellow, orange, red and purple. You may purchase or make additional flags for your school.
3. Register your flag program at <https://www.airnow.gov/index.cfm?action=airnow.schoolflagprogram>
4. Choose the location(s) where you want to display the flags. These may include indoor and outdoor flag poles, on the walls or doors near the main entrances of the school, in the school library, cafeteria, gym and/or hallways.
Flag Locations:
 5. Place a poster of the AQI chart next to the flag location, so students will understand what the flag colors represent. You can make your own posters or use the one provided here: fortworthtexas.gov/files/de3fefcd-791d-4a48-84e7-392c8b6c06ed.pdf
 6. Each morning, check the AQI forecast for the day and hang the flag of the corresponding color. You can check the AQI at airnow.gov or at nctcog.org/trans/quality/air/ozone.
 7. Track the AQI color or index number for each day and record it. At the end of the school year, record the total number of days for each AQI color and write them below.
Green: _____ Yellow: _____ Orange: _____ Red: _____ Purple: _____
8. Have your students answer the following questions as a group, and send this completed form to KFWB@FortWorthTexas.Gov no later than May 8, 2020 to receive recognition as an "Air Aware School".
 - Was the air quality during the school year mostly good, fair, or mostly bad?
 - When is ozone season?
 - If you recorded the AQI over the summer, do you think the results would be different?