

**First Place Winner**  
**Cameron Snavelly – 7<sup>th</sup> Grade – Pine Forest Middle School**

If you've ever noticed that dull brown haze on the horizon, you've probably wondered, "What is it?" It is ozone. When you breathe ozone it can be harmful to your body. Now you're most likely wondering, "How can you breathe ozone? Isn't way up in the atmosphere?" Well yes, ozone is in the atmosphere, but ozone can also be in the air you breathe. And this is why. Power plants, industrial sources, cars and trucks give off harmful pollutants that contribute to the formation of ozone. When there is a source of heat such as the sun or other heat source, nitrogen oxides react with volatile organic compounds and create ground level ozone.

If air quality is new to you, then this probably made no sense whatsoever. So I'm going to explain it more thoroughly. Some of you, needless to say, are still wondering what ozone really is. Ozone is a type of oxygen. It is also highly reactive. Ozone can be helpful and it can also be harmful. When ozone is high in the planet's atmosphere it protects the Earth from ultraviolet rays that cause sunburn when exposed to skin for very long (this depends on how sensitive your skin is). It can also cause damage to your eyesight. But ozone is dangerous in the air that supports life here on Earth. It is very harmful to breathe ozone because it can damage your lungs and nasal passages. Ozone is the main cause of air pollution. It is harmful to breathe, especially in groups like young children, anyone with asthma or respiratory disease and people that work and exercise vigorously outside.

You may be suffering from ozone intake and not even know it! Some of the symptoms of ozone intake are coughing, wheezing, and irritation of the throat, mild to intense chest pain, trouble breathing and even asthma attacks.

One way you can limit unhealthy ozone intake is to limit working and exercising in the afternoon on high ozone days. But how you ask? Simply by doing the work in the morning because ozone levels are lower in the morning. You can exercise inside because ozone is filtered by most air conditioners and household furnishings.

The NC DAQ (division of air quality) and the Environmental Affairs Department of Forsyth County, as well as our local paper gives daily ozone forecasts. This way you know when you should and shouldn't go outside for long periods of time. These forecasts use a color code to show the ozone levels for that day. The codes are green= good, yellow=moderate, orange= unhealthy for sensitive groups, red= unhealthy, purple= very unhealthy. These forecasts are available in many areas; Asheville, Charlotte, Fayetteville, Hickory, the Triad and the Triangle.

Now that we know all about ozone, what can we do to help? There are many ways you can contribute to reducing ozone levels and the easiest way is to carpool. For example, if you own a van and you're going to church and you know Sarah is going, offer to pick her up. If you know Carl is going and his house is on the way, you can pick him up as well. Carla lives next door and she is going to her dad's house, so you bring her there because his neighborhood is across the street from your church. This way 3 less cars are contributing to ozone pollution. And if everyone carpooled, this would also reduce the stress of traffic.

Another easy way to help reduce ozone is to empty household appliances of CFC's to be reused. Appliances such as refrigerators and air conditioners uses CFC's and should not be thrown out without being emptied or allowed to leak as CFC's will cause harm when in the air. Although CFC's do not make ozone, it chews up the good ozone. That's why the ozone is thinning over very urban area like North America. You can also replace old appliances or air conditioners with newer ones that are less likely to pollute the air with CFC's.

You can also help by combining errands together. Make a list so that you don't forget anything and cause an extra trip. Have an errand day for example and get everything you'll need to do that week. Or have one day that you don't go anywhere. Don't forget that list!

Now you know all about ozone and how to protect yourself and others from it. I know it doesn't sound like much, but in the end it all adds up to cleaner air.