

# Groups

## **Green Group: Location**

- This group will see if they can identify pollution trends according to location.

## **Red Group: Time**

- This group will see if they can identify trends in pollution concentrations by time of day.

## **Yellow Group: Health Effects**

- This group will monitor the occurrences of asthma attacks at several schools throughout the district and see if there are any correlations with air pollution levels.

## **Blue Group: Weather**

- This group will see if they can identify trends in pollutant concentrations with changes in weather.

## **Brown Group: Visibility**

- They will try to identify trends in visibility with respect to weather, type of pollution and concentration.

## Timeline

### Data Collection

<u>1<sup>st</sup> Week</u> (data entry)	30 minutes
<u>2<sup>nd</sup> Week</u> (data entry)	30 minutes
<u>3<sup>rd</sup> Week</u> (data entry)	30 minutes
(data compilation/report prep)	1 – 1.5 hours
(report to class )	30-45 minutes
<u>Monthly</u> (through a cold & warm season) (data entry, compilation, & report)	2-3 hours per month

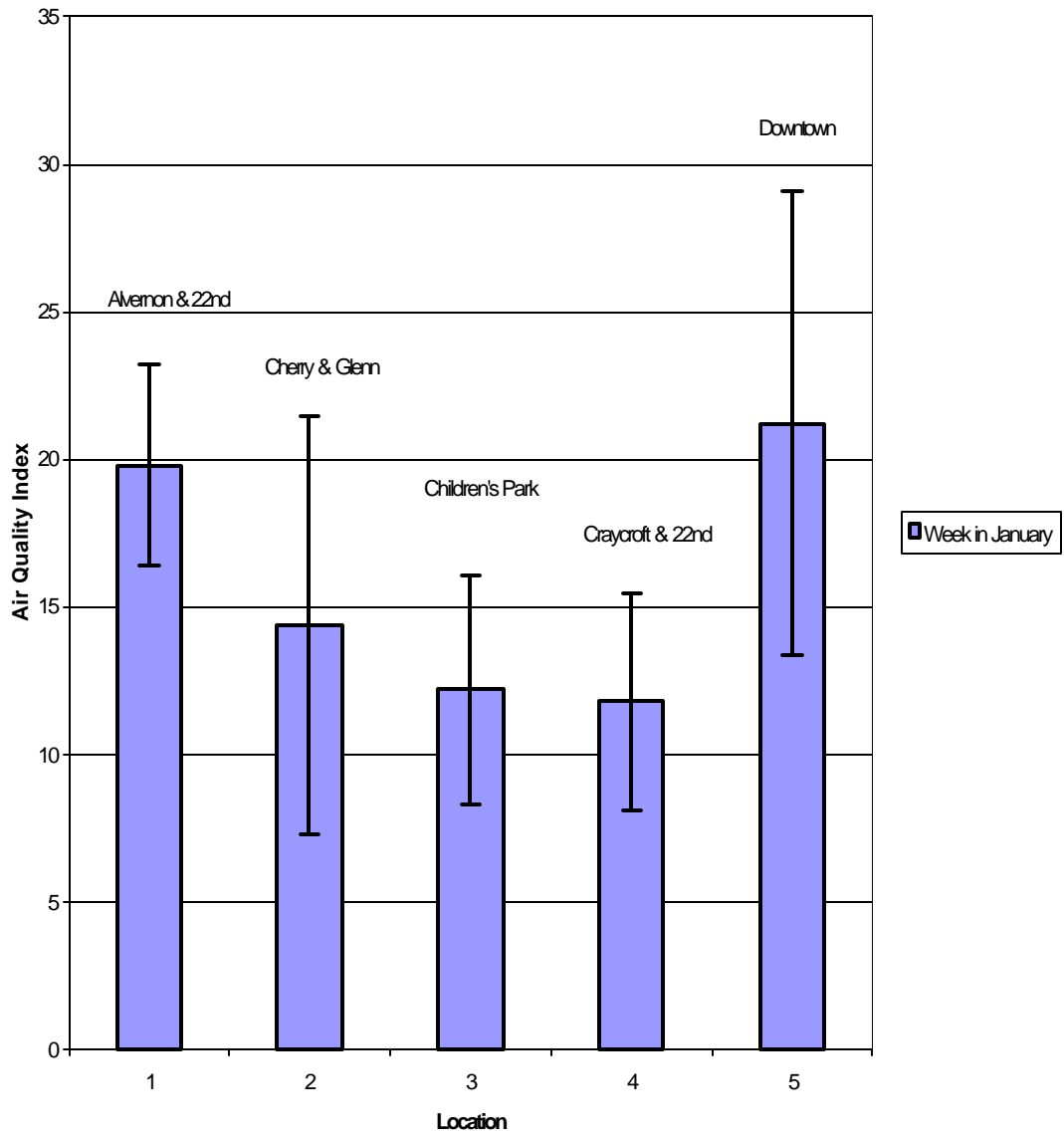
## Air Quality Index

Air Quality Index Color	Air Quality Index Values	Air Quality Descriptor	Health Effects
	0-50	Good	No health effects are expected.
	51-100	Moderate	Usually sensitive individuals may experience respiratory effects from prolonged outdoor exertion if you are unusually sensitive to ozone.
	101-150	Unhealthy for sensitive groups	Member of sensitive group may experience respiratory symptoms (coughing, pains when taking a deep breath).
	151-200	Unhealthy	Member of sensitive group have higher chance of experiencing respiratory symptoms (aggravated cough or pain), and reduces lung function.
	201-300	Very Unhealthy	Members of sensitive groups experience increasingly severe respiratory symptoms and impaired breathing.

## Introduction to Excel: Data Samples

<b>Day</b>	<b>Date</b>	<b>Alvernon &amp; 22<sup>nd</sup></b>	<b>Cherry &amp; Glenn</b>	<b>Children's Park</b>	<b>Craycroft &amp; 22<sup>nd</sup></b>	<b>Downtown</b>
<b>1</b>	1/27 /01	22	15	16	15	20
<b>2</b>	1/28 /01	15	3	6	6	8
<b>3</b>	1/29 /01	19	14	12	11	26
<b>4</b>	1/30 /01	19	22	15	12	25
<b>5</b>	1/31 /01	24	18	12	15	27

### Carbon Monoxide By Location



### Height Statistics

19														
18														
17														
16														
15														
14														
13														
12														
11														
10														
9														
8														
7														
6														
5														
4														
3														
2														
1														
	60"	61"	62"	63"	64"	65"	66"	67"	68"	69"	70"	71"	72"	73"

Height

## VOCABULARY

**Air Quality Index (AQI)** – A scale developed by the EPA (Environmental Protection Agency) to report the levels of certain air pollutants, and their effects on human health.

**Parts Per Million** – A unit of measurement that describes the number of parts of something within a million parts of something else.

**Carbon Monoxide** – A toxic gas made from incomplete combustion (burning) of carbon-based materials like gasoline, coal, and methane (natural gas). The abbreviation for carbon monoxide is CO, which shows its chemical composition of one carbon atom attached to one oxygen atom.

**PM 2.5** – Particulate matter that is very small, less than 2.5 microns in size. These particles are created by combustion, mostly from vehicles. Because they are so small, they can go deep inside the lungs.

**PM 10** – Particulate matter that is “larger”, approximately 10 microns in size. These particles can include dust, pollen, and ash. They can irritate the upper respiratory system like the nose and upper lungs.

**Micrograms** – A unit of measurement that depicts very, very small quantities of a substance - 1/1,000,000 or 0.000001 of a gram.

**Military Time** – Time units that sequentially number the hours in a day from 0:00 (midnight) to 23:00(11 p.m.).

**Ozone** – A gas made up of three molecules of oxygen (O<sub>3</sub>). In the upper atmosphere ozone protects the earth from ultra violet rays, but if ozone is created in the lower atmosphere (what we breathe) it can negatively affect plant and animal life.

## **DATA COLLECTION**

**STEP 1:** Go to the Real-Time Air Quality Activity website.

**STEP 2:** Find your group on the webpage.

**STEP 3:** Click on Your Spreadsheet.

**STEP 4:** Save the spreadsheet in your file folder. Keep the Excel window open.

**STEP 5:** Open a new browser and go back to the Real-Time Air Quality Activity website.

**STEP 6:** Click on Your Data.

**STEP 7:** Follow the instructions in your folder to enter the data in your spreadsheet.

Real-time Air Quality Activity - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Location: <http://swehsc.pharmacy.arizona.edu/coep/airexercise/>

Bookmarks What's Related

<b>Green Group</b>	<b>Location</b>	<a href="#">Get your instructions pdf file</a> <a href="#">Get your data spreadsheet</a>
<b>Red Group</b>	<b>Time</b>	<a href="#">Get your instructions pdf file</a> <a href="#">Get your data spreadsheet</a>
<b>Blue Group</b>	<b>Weather</b>	<a href="#">Get your instructions pdf file</a> <a href="#">Get your data spreadsheet</a>
<b>Yellow Group</b>	<b>Health</b>	<a href="#">Get your instructions pdf file</a> <a href="#">The Nurse Form</a> <a href="#">Pollution Tracker Data</a> <a href="#">Get your spreadsheet</a>
<b>Brown Group</b>	<b>Visibility</b>	<a href="#">Get your instructions pdf file</a> <a href="#">Visibility Page</a> <a href="#">Get your data spreadsheet</a>

**For all groups:**

[Practice spreadsheet](#)

[Monitoring Location Maps](#)

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# Monitoring Sites

