

CO Buildup City - City Size Protocol

Purpose: To see if there is a relationship between the city size and air quality.

Materials:

- Data collection chart
- CO Buildup City Simulation at <http://coep.pharmacy.arizona.edu/air/index.html>

Procedures:

1. Open the CO Buildup City simulation
2. Click “Go”
3. Leave the time of day at the default setting.
4. Change the growth to the lowest setting – a small city. Read the Air Quality Index on the sign labeled AQI for CO. Record this data in the column marked “Air Quality Index.”
5. Observe the cars, CO pollution, movement of CO pollution, and sun. Record this information in the observational notes.
6. Repeat with the remaining city sizes. When needed, click the “explain” button to see why the CO levels are where they are.

Data:

<u>Time of Day</u>	<u>Air Quality Index</u>	<u>Observational Notes</u>
Small City		
Medium City		
Large City		
Metropolis (Extra large)		

Conclusion:

How does the size of a city (its growth) affect the buildup of CO in a city?
How does this affect the air quality?