

**In-Class Activity**

**Part 1. Smog City Activity 2, 3, 4**

**Instructions:** [Click here](#) to learn what controls pollution emissions and our air quality. Follow each step and answer the questions below.

Step 1: Before moving the controls, record the current temperature and air quality index below.

Temp =

AQI =

Step 2: List the 10 controls that affect air quality on the left side of the page.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

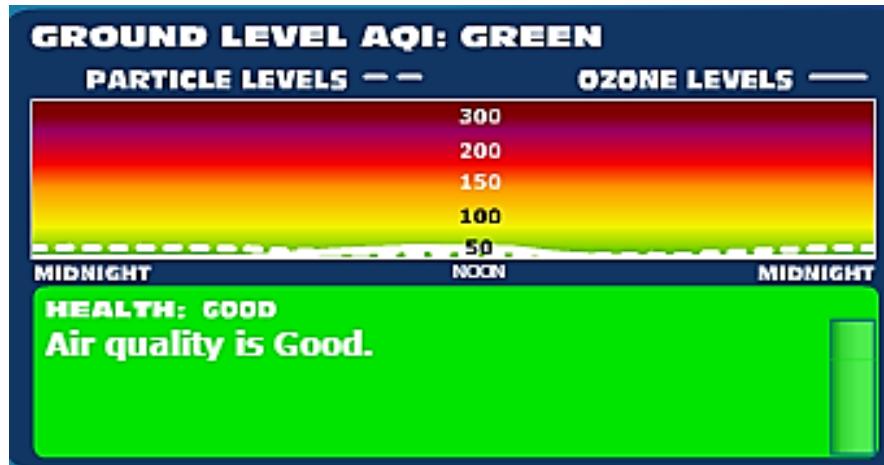
7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

At the bottom right of the Smog City 2 Experience, you will see an Air Quality Index (AQI) chart like the one below. The top panel shows the AQI by color and number. The dashed line represents the particle levels by the time of day, and the solid line represents ozone by the time of day.



Step 3: Move the emissions and population controls to the maximum settings. Change the wind speed to calm (far left).

### Questions

1. What happens to ground-level ozone and particle levels?
2. What time(s) of day would particle pollution levels be the highest?
3. Without altering the weather conditions, how can you reduce particle pollution?

Step 4: Set the temperature to 110°F (far right).

### **Questions**

1. What happens to the ground-level ozone and particle pollution?
2. At what time of day would ground-level ozone levels be the highest?
3. Move the population slide. What effect does the population control have on air pollution?

Step 5: Check the Random Events box (lower left). As you use the weather, emissions, and population controls, watch the cityscape for wildfires and dust storms.

### **Questions**

1. How do wildfires and dust storms affect air quality?

## **Part 2. The Air Quality Index 2**

**Instructions:** [Click Here](#) to learn more about the current and forecasted air quality in the U.S. Scroll over the colored tabs below the map to review the air quality index (AQI) and finish filling in the table below. Summarize the health effects in one sentence.

<b>Color</b>	<b>AQI Rating</b>	<b>Health Effects</b>
Green	Good (0 – 50)	Air quality is considered satisfactory, and air pollution poses little or no risk.

Click the ‘Current AQI’ tab above the map and determine the current state of our air quality. Draw on the map below and label areas where air quality is good, unhealthy, etc.



## Questions

1. Which states have the highest AQI? Check your answer by clicking on ‘Current AQI’ under the ‘Highest 5’ tab below the map.

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

5) \_\_\_\_\_

2. Which regions of the U.S. (i.e., northeast, southwest) have good air quality?

3. Based on what you have learned about how the weather affects air pollution, if the air quality is good, what type of weather conditions would you expect to be present? How about if the air quality is poor? You may use the exercise from Part 1: Smog City to help you answer this question. (Hint: Consider precipitation, clear vs. cloudy days, etc.)

**Air Quality:** Good

**Weather Conditions:**

**Air Quality:** Poor

**Weather Conditions:**