



## **Homework #2: Due March 3<sup>rd</sup>, 2009**

### **Textbook Problems: Chapter 2**

1, 8, 10, 13, 15a&b, 20, 26, 30, 31, 34, 36, 44

### **Extra Activities/Problems:**

None

Description of Weather Conditions/Emission Factors/Populations Choices in Smog City

Weather Conditions	Choices Included in the Area:
Sunlight :	Clear -Partly Cloudy - Cloudy
Inversion Layer:	No inversion - Low inversion - High inversion
Wind Speed:	Calm - Light Breeze - Breeze - Windy
Maximum Daily Temperature:	30°F - 40 °F - 50°F - 80°F - 90°F - 100 °F - 110 °F

Emission	Choices Included in the Area:
Energy Sources –	Some energy sources produce more smog-producing emissions than others.(level 1 is cleaner sources like a wind or solar technology, level 3 produces more smog like a coal-fired power plant) Levels: 1 2 3
Cars and Trucks –	This includes Passenger vehicles (all sizes), large and medium trucks, motorcycles Levels: 1 2 3 4 5
Off Road Vehicles –	This includes airplanes, trains, power boats, earth movers, tractors, harvesters, forklifts, bulldozers, backhoes Levels: 1 2 3 4 5

Consumer Products-	This includes paint thinner, charcoal lighter fluid, glue or other adhesives, gasoline Levels: 1 2 3 4 5
Industry –	This includes manufacturing facilities, power plants, oil refineries/storage/distribution centers, food and agricultural processing Levels: 1 2 3 4 5

Area Name:	Choices Included in the Area:
Population – Population in Smog City 2 affects air quality. Changing population, as shown by the “total emissions” chart and the emission sources in the cityscape, affects VOCs, NO <sub>x</sub> and SO <sub>2</sub> . The compounds react to form ground-level ozone and particle pollution. When temperatures are cool, changing population also changes the usage of wood-burning stoves, which emit particle pollution	In Smog City 2, you can increase the population from near-zero to about two million people. Levels: 1 2 3 4 5