Student handout.

Part 1: Orientation to Google Earth

Explore the following areas by entering the city and state in the Google Earth search box. Does the area appear to have a high or low population density? Would you classify the area as mostly residential, industrial, agricultural, urban, or empty?

Area	Population density	Classification	Vegetation patterns
My town: Delco, NC	Low	Rural/Agricultural	Farms/Forest
New York, NY	High	Urban	None visible
Sacramento, CA	Medium/High	Residential	Parks
Coal City, WV	Low	Rural	Forest
Midland, TX	High	Urban	Parks
New Orleans, LA	High	Urban/Industrial	None visible

Explain your answers below:

(Sample student response)

It was hard to determine differences between urban and industrial areas because they would both occur in highly populated areas. I was surprised in the sparse population of Coal City. I expected a higher population because of its name. It was hard to classify Sacramento's population density because I was able to see a lot of houses very close together on Google Earth, but when I think of highly populated areas I mostly think of apartment complexes with very little greenery.

Part 2: Using Pollution Data

1. Go to *www.scorecard.org*.

2. Enter the zip code for your neighborhood. Click "Get report."

3. Use this report to collect toxin data from your local area and record this information in the table below.

a. Click on "Top polluters." What kind of companies are the worst polluters? Record in table.
b. Click on the "Back" button.
c. Then click on "Top chemicals." What is the most abundant chemical? Record in table.
d. Click on the "Back" button.

4. Now, repeat Step 3 for the remaining cities. Be sure to record your findings in the table below.

Data table for Scorecard.org results

Area	Top polluters	Most abundant chemicals	% of homes with high risk of lead hazards	Number of superfund sites
My town: Delco, NC	International Paper and Write Corporation	Methanol and Ammonia	3	0
New York, NY	Consolidated Edison Company	Sulfuric Acid	9	0
Sacramento, CA	Aerojet and Procter & Gamble	Hydrochloric Acid and Methanol	1	3
Coal City, WV	Left Fork Processing and Gravefork Coal Handling	Lead and Mercury	5	0
Midland, TX	Permian Fiberglass and Viking Pools	Styrene and Methyl Ethyl Ketone	1	0
New Orleans, LA	Air Chemicals Inc and Spectrum Control	Methanol and Ammonia	10	1

Part 3: Comparing Neighborhoods

1. Using the data you collected from Scorecard, predict the environmental health of each area in relation to the others. Next, use your assay of environmental health to rank the following neighborhoods from most healthy to least healthy.

Area	Ranking (1-6, 1 being perceived as the most healthy)
My town:_Delco, NC	3
New York, NY	5
Sacramento, CA	2
Coal City, WV	4

Midland, TX	1
New Orleans, LA	6

2. Select two of the areas listed above and, below, discuss the factors that contributed to your predictions and rankings of environmental health in each area.

(Sample student response)

Most of my ranking was based on the percentage of homes with a high risk of lead hazards. It was hard to rank Sacramento because even though it only has a lead risk of 1%, it has 3 superfund sites, which suggests a high amount of toxic waste. I ranked New Orleans as least healthy because of its high percentage of lead risk and containment of a superfund site.