

**Group 1. Socioeconomic factors by ZIP Code, Seattle, Washington**

| Component                         | Indicator                               | 98108<br>Beacon Hill<br>Georgetown<br>South Park | 98144<br>South<br>Central<br>District<br>Mt Baker | 98178<br>Rainier<br>Beach | 98106<br>White<br>Center<br>Delridge | 98122<br>North<br>Central<br>District<br>Madrona | 98102<br>Eastlake | 98107<br>Ballard | 98105<br>University<br>District<br>Laurelhurst | 98116<br>Alki | 98199<br>Magnolia |
|-----------------------------------|---|--|---|---------------------------|--------------------------------------|--|-------------------|------------------|--|---------------|-------------------|
| Socio-economic factors (Rank 1-3) | No college education (percent)          | 3  | 3   | 3                         | 3                                    | 2  | 1                 | 2                | 1  | 2             | 1                 |
|                                   | Below 200% poverty level (percent)      | 3  | 3   | 3                         | 2                                    | 3  | 2                 | 1                | 3  | 1             | 1                 |
|                                   | Non-white minority population (percent) | 3  | 3   | 3                         | 2                                    | 2  | 1                 | 1                | 1  | 1             | 1                 |

**Coloring Instructions:**

- 1) Assign an indicator from the table above to each of your three maps. Title each map accordingly.
- 2) Assign a shade from your set of pens/pencils to each rank in the table above so that the lowest number corresponds with the lightest color, the second lowest number with the second lightest color, and so on. Fill out the empty legend on each map to designate the color/number pairs.
- 3) Color each ZIP code on each map with the shade that corresponds to its rank in the table above. If it helps, feel free to write the rank from the table in each ZIP code before coloring.

**Ranking:** *The higher the number, the higher the likelihood that people who live in this community fall into this category..*

**Description of indicators :** *The poverty level is the minimum level of income deemed adequate to live. In 2014, for a family of four, the poverty level is approximately \$24,000 per year. Many people believe that it is impossible to live at this level without government assistance. People who are living below the 200% poverty level (living on an income twice as high as the poverty level) would have an annual income of approximately \$48,000 a year for a family of four.*

**Questions**

- 1) What patterns do you observe on the maps?
- 2) Where are people with no college education, in poverty, and people of color more likely to live?
- 3) What kinds of things might a person living below 200% poverty lever not have access to?
- 4) Does any of this surprise or concern you? Why or why not?



## Group 2 - Sensitive Populations by ZIP Code, Seattle, Washington

| Component                              | Indicator   | 98108<br>Beacon Hill<br>Georgetown<br>South Park | 98144<br>South<br>Central<br>District<br>Mt Baker | 98178<br>Rainier<br>Beach | 98106<br>White<br>Center<br>Delridge | 98122<br>North<br>Central<br>District<br>Madrona | 98102<br>Eastlake | 98107<br>Ballard | 98105<br>University<br>District<br>Laurelhurst | 98116<br>Alki | 98199<br>Magnolia |
|--|---|--|---|---------------------------|--------------------------------------|--|-------------------|------------------|--|---------------|-------------------|
| Sensitive<br>Populations<br>(Rank 1-3) | Presence of<br>children<br>under 5 years<br>(percent) | 3  | 3   | 3                         | 3                                    | 2  | 1                 | 2                | 1  | 2             | 2                 |
|  | Presence of<br>elderly 65<br>years and<br>older       | 3  | 3   | 3                         | 1                                    | 1  | 1                 | 2                | 1  | 3             | 3                 |
|  | Foreign born<br>(percent)                             | 3  | 2   | 3                         | 2                                    | 1  | 1                 | 1                | 1  | 1             | 1                 |

### Coloring Instructions:

1) Assign an Indicator from the table above to each of your three maps. Title each map accordingly.

 your set of pens/pencils to each rank in the table above so that the lowest number corresponds with the lightest color, the second lowest number with the second lightest color, and so on. Fill out the empty legend on each map to designate the color/number pairs.

3) Color each ZIP code on each map with the shade that corresponds to its rank in the table above. If it helps, feel free to write the rank from the table in each ZIP code before coloring.

**Description of Indicators:** People who are young, old, or who don't speak English as a first language are more vulnerable to stressors. A stressor is a physical, social, chemical, or psychological agent that puts a demand on your body. The higher the rank, the more vulnerable the population in that ZIP code is to stress.

### Questions

- 1) What patterns do you observe in the maps?
- 2) Where are there more children and elderly?
- 3) The title of this table is "Sensitive populations." Give some examples of things that might affect children or the elderly differently.
- 4) What surprises you or concerns you the most about your maps. Why or why not?



**Group 3 - Environmental Exposures by Zip Code, Seattle, WA**

| Component                          | Indicator                                  | 98108<br>Beacon Hill<br>Georgetown<br>South Park | 98144<br>South<br>Central<br>District<br>Mt Baker | 98178<br>Rainier<br>Beach | 98106<br>White<br>Center<br>Delridge | 98122<br>North<br>Central<br>District<br>Madrona | 98102<br>Eastlake | 98107<br>Ballard | 98105<br>University<br>District<br>Laurelhurst | 98116<br>Alki | 98199<br>Magnolia |
|------------------------------------|--|--|---|---------------------------|--------------------------------------|--|-------------------|------------------|--|---------------|-------------------|
| Environmental Exposures (Rank 1-5) | particulate matter (ug/m3 annual av)       | 5  | 3   | 2                         | 3                                    | 3  | 5                 | 1                | 2  | 1             | 1                 |
|                                    | Benzene (ug/m3 annual av)                  | 5  | 4   | 1                         | 1                                    | 3  | 5                 | 1                | 2  | 1             | 1                 |
|                                    | Confirmed and suspected contaminated sites | 5  | 1   | 1                         | 2                                    | 2  | 1                 | 2                | 1  | 1             | 1                 |

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- 2) Assign a shade from your set of pens/pencils to each rank in the table above so that the lowest number corresponds with the lightest color, the second lowest number with the second lightest color, and so on. Fill out the empty legend on each map to designate the color/number pairs.
- 3) Color each zip code on each map with the shade that corresponds to its rank in the table above. If it helps, feel free to write the rank from the table in each ZIP code before coloring.

**Description of Indicators:** These are indicators of pollution in a ZIP code and are ranked with 5 being the worst and 1 being the best. The first two are how much particulate matter and benzene people are exposed to in an individual's breathing zone. Benzene can cause cancer. Breathing particulate matter deep in the lungs can cause both cancer and heart and lung diseases.

**Questions**

- 1) What patterns do you observe on the maps?
- 2) Where is there more pollution? Less pollution?
- 3) Why is there less pollution in some parts of Seattle than others?
- 4) Is there anything that surprises you or concerns you about these maps? Why or why not?



**Group 4 - Environmental Effects (Built environment) by ZIP Code, Seattle, Washington**

| Component   | Indicator  | 98108<br>Beacon Hill<br>Georgetown<br>South Park | 98144<br>South<br>Central<br>District<br>Mt Baker | 98178<br>Rainier<br>Beach | 98106<br>White<br>Center<br>Delridge | 98122<br>North<br>Central<br>District<br>Madrona | 98102<br>Eastlake | 98107<br>Ballard | 98105<br>University<br>District<br>Laurelhurst | 98116<br>Alki | 98199<br>Magnolia |
|---|--|--|---|---------------------------|--------------------------------------|--|-------------------|------------------|--|---------------|-------------------|
| Environmental<br>Effects<br>(Built Env)<br>(Rank 1-5) | Tree canopy<br>(percent)                         | 5  | 4   | 4                         | 4                                    | 2  | 5                 | 5                | 2  | 2             | 1                 |
|   | Park area per<br>resident                        | 4  | 4   | 5                         | 3                                    | 5  | 5                 | 5                | 5  | 5             | 1                 |
|   | Number of<br>Toxic Release<br>Inventory<br>sites | 5  | 2   | 1                         | 3                                    | 1  | 2                 | 4                | 1  | 1             | 2                 |

**Coloring Instructions:**

- 1) Assign an Indicator from the table above to each of your three maps. Title each map accordingly.
- 2) Assign a shade from your set of pens/pencils to each rank in the table above so that the lowest number corresponds with the lightest color, the second lowest number with the second lightest color, and so on. Fill out the empty legend on each map to designate the color/number pairs.
- 3) Color each zip code on each map with the shade that corresponds to its rank in the table above. If it helps, feel free to write the rank from the table in each ZIP code before coloring.

**Description of indicators:** For trees, the higher rank means there are not as many trees as other parts of Seattle. For parks, the higher rank means there are not as many parks as the rest of Seattle. For Toxic Release Inventory sites, higher rank means more industry that pollutes. The built environment refers to the human-made surroundings that provide the setting for human activity such as buildings, parks, or green space, transportation, water supply, etc. A Toxic Release Inventory (TRI) site is an industrial facility that manufactures or processes more than 25,000 pounds of a TRI-listed chemical or otherwise uses more than 10,000 pounds of a listed chemical in a given year.

**Questions:**

- 1) What patterns do you observe on the maps?
- 2) What ZIP codes have more environmental benefits (parks) and less environmental burdens (TRI sites) and which ones?
- 3) Why should people have parks and trees in their neighborhood?
- 4) What factors do you think control where Toxic Release Inventory sites are placed?
- 5) Is there anything that surprises or concerns you about these tables? Why or why not?



**Group 5 - Public Health Effects by ZIP Code, Seattle, Washington**

| Component             | Indicator  | 98108<br>Beacon Hill<br>Georgetown<br>South Park | 98144<br>South<br>Central<br>District<br>Mt Baker | 98178<br>Rainier<br>Beach | 98106<br>White<br>Center<br>Delridge | 98122<br>North<br>Central<br>District<br>Madrona | 98102<br>Eastlake | 98107<br>Ballard | 98105<br>University<br>District<br>Laurelhurst | 98116<br>Alki | 98199<br>Magnolia |
|-----------------------|--|--|---|---------------------------|--------------------------------------|--|-------------------|------------------|--|---------------|-------------------|
| Public Health Effects | Heart disease death rate per 100,000                     | 2  | 2   | 3                         | 4                                    | 5  | 1                 | 3                | 1  | 2             | 2                 |
|                       | Childhood (0-17) asthma hospitalization rate per 100,000 | 5  | 5   | 2                         | 4                                    | 4  | 2                 | 2                | 5  | 1             | 1                 |
|                       | Lung cancer death rate per 100,000                       | 3  | 3   | 5                         | 3                                    | 4  | 1                 | 4                | 1  | 1             | 2                 |

**Coloring Instructions:**

- 1) Assign an Indicator from the table above to each of your three maps. Title each map accordingly.
- 2) Assign a shade from your set of pens/pencils to each rank in the table above so that the lowest number corresponds with the
- 3) Color each zip code on each map with the shade that corresponds to its rank in the table above. If it helps, feel free to write the rank from the table in each ZIP code before coloring.

**Description of indicators:** *The lower the rank, the lower the number of people afflicted by the factors in each category.*

*Heart Disease death rate/100,000 means the number of people who die from heart disease per 100,000 people.*

*Childhood asthma hospitalization rate per 100,000 means the number of children between the ages of 0-17 who are hospitalized because of a severe asthma attack. Lung cancer death rate per 100,000 means the number people who die of lung cancer per 100,000 people*

**Questions:**

- 1) What patterns do you observe on the maps?
- 2) People with worse health problems are likely to live in which areas?
- 3) What factors do you think contribute to these health problems?
- 4) Is there anything that surprises or concerns you about these maps? Why or why not?

