![C:\Users\ReedC\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\VM7T4T21\MC900132639[1].wmf]()Partner 1 Name: Click here to enter text.

Partner 2 Name: Click here to enter text.

**Investigating Air Pollution**

**Data Collection**

**Part I—Particulates in the Air (5pts)**

|  |  |
| --- | --- |
| Location of Slide Placement | Click here to enter text. |
| Observations after Click here to enter text. days | Click here to enter text. |
| Square 1 Count = | Click here to enter text. particles |
| Square 2 Count = | Click here to enter text. particles  |
| Square 3 Count = | Click here to enter text. particles  |
| Average = | Click here to enter text. particles per in2 |

**Part II—Smoke and Acidic Gasses in Air**

**Experiment A—Smoke from a Match (6pts)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Color  | Before: | Choose an item. | After: | Choose an item. |
| pH | Before: | Click here to enter text. | After: | Click here to enter text. |

**Experiment B—Inside/Outside Air (6pts)**

|  |  |
| --- | --- |
| Location of Air Samples Taken | [ ]  Outside the School [ ]  Inside the Classroom |
| Color  | Before: | Choose an item. | After: | Choose an item. |
| pH | Before: | Click here to enter text. | After: | Click here to enter text. |

**Part III—Acid Rain**

**Experiment A—Simulated Acid Rain (2pts)**

|  |  |
| --- | --- |
| Marble chip with “unpolluted water” | Observations: Click here to enter text. |
| Marble chips with “simulated acid rain solution” | Observations: Click here to enter text. |

**Experiment B—Rainwater (2pts)**

|  |  |
| --- | --- |
| Color of acid rain test strip after sampling | Choose an item. |
| pH of Rainwater | Click here to enter text. |

**Analysis Questions**

*Thoroughly* respond to each question using complete sentences. Use additional sources to help you *correctly* respond (Yes! You will have to do some research). Make sure to list your sources and cite the source used to respond to a question within the text of your answer. (2-3pts each)

**Part I—Particulates in the Air**

1. Did your test area have slight, moderate or high particle pollution, as defined in the lab procedures? List and describe three *sources* of particle pollution *in your test area* (not *types* of particles, but *where* the particles are coming from).

Click here to enter text.

1. What is Seattle’s particle pollution count *right now* (try searching “air quality reports” for our area…particulate matter is frequently included)? What sort of particles are likely in our area’s air? How/why might particle count change throughout the course of a year?

Click here to enter text.

1. What kind of health risks does a high particle count mean for our respiratory system and body?

Click here to enter text.

1. How does our body try to prevent particles from entering our respiratory system (lungs)? List and describe *at least* three ways:
	1. Click here to enter text.
	2. Click here to enter text.
	3. Click here to enter text.

**Part II—Smoke and Acidic Gasses in Air**

1. What effect does smoke have on the pH of atmospheric moisture (Remember, the atmosphere was simulated by the solution in the sampling container)? In other words, how did the pH of the solution change and what does that change mean environmentally?

Click here to enter text.

1. List and describe three possible *sources of* acidic gasses in the air (not *gasses* themselves, but *where* the gasses are coming from)?
2. Click here to enter text.
3. Click here to enter text.
4. Click here to enter text.
5. What could result from acidic gasses mixing with atmospheric moisture? Based on your data above, is the outside air around Skyline or the inside air in our classroom acidic? How do you know?

Click here to enter text.

1. Hypothesize what would happen if you exhaled your breaths through a straw into the solution you created in the sampling container? What do you think would happen to the solution’s color, if anything? Why do you think this? What would a color change mean about the composition of our exhaled air?

Click here to enter text.

**Part III—Acid Rain**

1. What effect did the simulated acid rain have on the marble chip? What did you observe?

Click here to enter text.

1. What kind of impact could acid rain have on human health, either directly or indirectly?

Click here to enter text.

1. What is a typical or normal pH for unpolluted rainwater? According to your data for Experiment III, Part B, are the limestone/marble buildings or vegetation in our area in danger of deterioration/damage? Why or why not?

Click here to enter text.

**MLA Works Cited** (include in-text citations)—5pts

Lab background and procedures adapted from FLINN Scientific, Inc.

Click here to enter text.