NAME _____ **PARTNER** _____ **LAB SECTION** _____

EXPERIMENT 5: THE ION EXCHANGE PROPERTIES OF SOILS

LAB REPORT WORKSHEET

Data

What is the geographical source of the soil sample used in the experiment? Where did it come from specifically (garden, flower bed, yard, park, forest, etc)?

Mass of soil used in Part A (CEC): _____
Mass of soil used in Part B (% Base Saturation): _____

Calculations

Carry out all of the calculations per the instructions on pages 5.15 – 5.16 in the lab manual. Attach a photocopy of the corresponding notebook pages to this worksheet.

Results

Concentration of EDTA (M): _____

Average combined concentration of Mg^{2+}/Ca^{2+} in the % Base Saturation sample (M): _____

Concentration of Na^{+} in the % Base Saturation sample (ppm): _____

Concentration of K^{+} in the % Base Saturation sample (ppm): _____

Concentration of Na^{+} in the CEC sample (ppm): _____

Cation exchange capacity of the soil, CEC (meq/100 g): _____

Partial saturation of Na^{+} (meq/100 g): _____

Partial saturation of K^{+} (meq/100 g): _____

Combined partial saturation of Mg^{2+} and Ca^{2+} (meq/100 g): _____

% base saturation of the soil (%): _____

Soil rating according to the Stockholm Environmental Institute: ___

Analysis

1. How well does your soil resist acid rain? How does the geographic origin of the soil contribute to its CEC, % base saturation, and thus its sensitivity rating?

2. Were there any experimental errors or difficulties that would lower your confidence in your CEC and % base saturation values? Explain briefly.