



Groupmembers_____

Class period_____

Date_____

SOILS LAB REPORT

Procedure:

1. *Collect a soil sample following protocols on the back of your soil bag. Write a description of the location you sampled.*
2. *Mix your soil sample thoroughly in the bucket.*
3. *Spread soil out on the newspaper. Pick out any large leaves, stones or sticks and crush any large lumps. Record your observations of what you find in your soil sample in the data section below.*
4. *Follow the instructions on your soil kit handout for the Extraction process.*
5. *Follow the instructions on your soil kit handout for testing your assigned nutrient. [each group will be assigned one nutrient to test (N,P,K)]*

Results: *Record all data in the appropriate sections below. *Make sure that everyone in your group puts their name on the report!*

Soil sample observations

Record your observations of your soil sample composition. Include descriptions of texture, particle size, organic matter, and moisture levels. Is it fine or coarse; are there large pebbles and leaves/roots/sticks? Is there a lot of sand or clay? Is it dry and crumbly or wet and muddy?

Chemical Analysis

<i>Nutrient Tested</i>	<i>Nutrient level (Low,Moderate,High)</i>

Conclusions and Discussion:

Below is a list of common fertilizers that can be purchased at a store and applied to a vegetable garden or crop field.

Fertilizer Compound Name

KH_2PO_4 Monopotassium Phosphate

H_3PO_4 Phosphoric Acid

KNO_3 Potassium Nitrate

K_2SO_4 Potassium Sulfate

$\text{Ca}(\text{NO}_3)_2$ Calcium Nitrate

CaCl_2 Calcium Chloride

MgSO_4 Magnesium Sulfate

NH_4NO_3 Ammonium Nitrate

$\text{K}_2\text{MgO}_8\text{S}_2$ Potassium Magnesium Sulfate

1. *Based on your groups' findings, is your soil deficient in the nutrient you tested?*
 - a. *If your nutrient is 'LOW', what recommendations would you give a farmer (what should the farmer add to the soil) to increase the amount of the nutrient you tested? Choose the best fertilizer compound from the list above. (hint: you want the compound with the highest number of your nutrient's atoms in it)*
 - b. *If your nutrient is 'HIGH' or 'MODERATE', what fertilizer compound from the list above would you recommend to a farmer so that they don't waste money? (hint: you want to recommend the compound with the lowest number of your nutrient's atoms in it)*