

Lab Report Template

Clayton Read

Project 4.2.3 – Buffering Soils

Problem

To determine which soil texture has the highest buffering capacity?

Hypothesis

Clay will have a higher buffering capacity than sand, and loam.

Materials

2 250ml beakers
1 250 graduated cylinder
3 cups
Tape
Sharpie marker
Rise bottle
Sodium Hydroxide
Vernier PH sensor
LabQuest
Loam
Sand
Clay

Procedures

1. Fill all three cups with different soils and then label them clay, loam, and sand
2. for each cup of soil measure 200ml of water and dump 200ml water into each of the cups of soils
3. Stir each cup of water for 1 minute with spoon or stir rod
4. Add 20 drops of sodium hydroxide to each cup of soil
5. Measure sand first and find the PH
6. Rinse off PH sensor with distilled water into rinse beaker
7. Now do the loam soil and measure the PH of the loam
8. after that rinse off the PH sensor in rinse beaker
9. Now find the PH of the clay
10. After finding the PH of the clay you rinse off the PH sensor
11. Then you clean up all materials you used and record your results

Data Collection

Table 1 PH of Soil Textures

Soil texture	0 drops NAOH	20 Drops
Sand	6.15	7.5
Loam	7.20	10.0
Clay	7.82	10.15

Analysis of Results

All of the PH's went up when we added more water and drops of sodium hydroxide in the cups of soils. Our clay had the highest PH when it was just soil and water and clay had the highest PH when we added 20 drops of our base. Our highest difference was with the

Conclusions

Based on our results our hypothesis was correct clay had the highest buffering capacity. Something in our experiment we could have changed was maybe use more or less drops of our base, use more or less water, or we could have use more or less soil.