Percolation Lab

Materials:

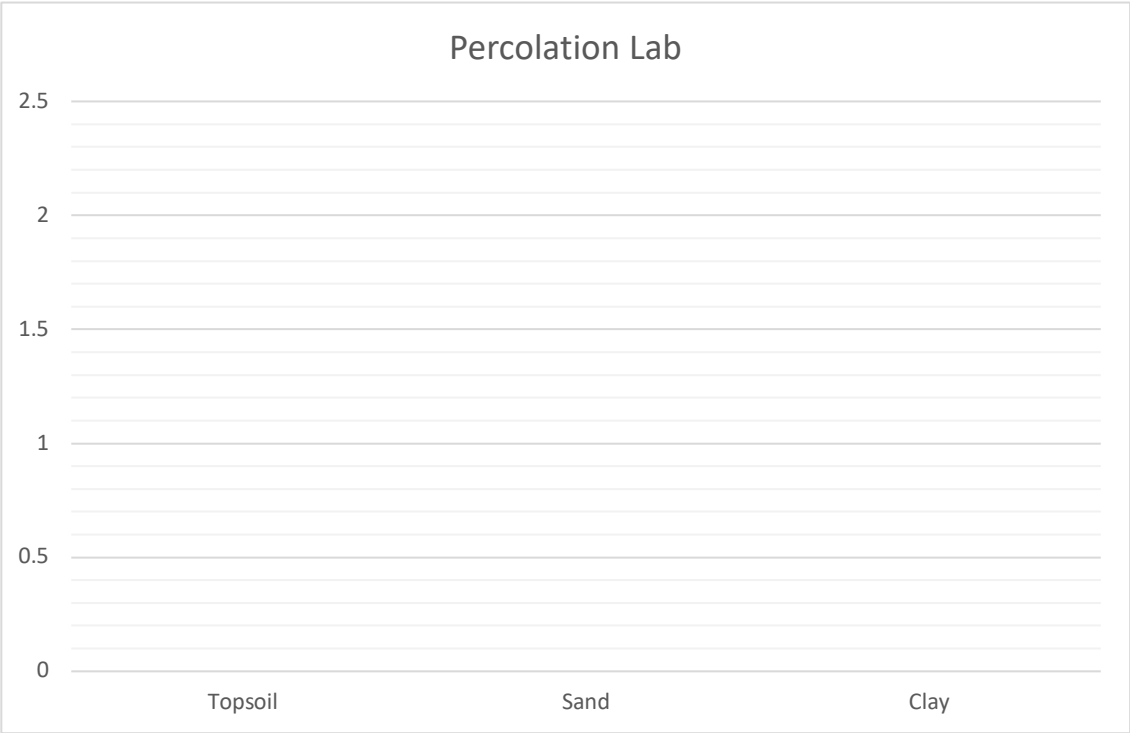
3 soil samples (topsoil, sand, clay)
1 graduated cylinder
1 plastic beaker
3 paper cups
3 cotton balls
Water source
Stopwatch
Pencil
Ruler

Directions:

1. Using your pencil, punch a hole in the bottom of each paper cup. Try to make each hole the same size.
2. With your ruler, mark a line inside each cup halfway from the top.
3. Place a cotton ball over the hole in the bottom.
4. Fill the first cup to the mark with topsoil.
5. Measure 40 mL of water in the graduated cylinder.
6. **When one member is ready to use the stopwatch and another is holding the paper cup over aplastic beaker, pour the water through soil sample (all at once).
7. As soon as the water emerges from the hole in the bottom of the cup, time the flow for 30 seconds.
8. After 30 seconds, measure the water collected in the plastic beaker and record your data.
9. Repeat steps 4-8 using the sand sample.
10. Repeat steps 4-8 using the clay sample.
11. Calculate the percolation rate of each sample (divide the amount of water collected by 30 seconds). (example 30 mL percolated through the soil sample in 30 seconds.
    30 mL ÷ 30 sec. = percolation rate
    Percolation rate = 1 mL/sec. (1 mL per second)

Sample	Water collected mL	_____÷ 30 sec.	Percolation Rate
Topsoil			
Sand			
Clay			

12. Graph your results from the table using a bar graph.



13. Based on your lab results, answer the following questions.
    a. Which soil sample had the slowest percolation rate?_____
    b. What characteristics of this sample do you think caused it to have the slowest percolation rate?
    c. Which soil sample had the fastest percolation rate?_____
    d. What charecteristics of this sample do you think caused it to have the fastest percolation rate?