**Name:**

**Date:**

**School:**

**Facilitator:**

6.05 Soils Types Lab

**Hypothesis:**Which material do you think will have the highest permeability (fastest time)?

Which material do you think will have the lowest permeability (slowest time)?

Which material do you think will have the highest porosity (largest spaces)?

Which material do you think will have the lowest porosity (smallest spaces)?

Record your data for the experiment.

Calculate the percent porosity and record. Use this formula.

% porosity = volume of port space (amount of water) x 100

 Volume of material

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sediment** | **Total Volume (ml)** | **Volume left in cylinder (ml)** | **Pore Space Volume (total volume – volume left)** | **% porosity** | **Permeability (seconds for water to pass through)** |
| **Example** | **100 ml** | **65 ml** | **100 – 65 = 35** | **35/100 x 100 = 35%** |  |
| **Sand** | **100 ml** |  |  |  |  |
| **Pea gravel** | **100 ml** |  |  |  |  |
| **soil** | **100 ml** |  |  |  |  |

**Answer the following analysis questions.**

1. Which earth material had the highest porosity? Explain why.
2. Which earth material had the highest permeability? Explain why.
3. Which earth material had the lowest porosity? Explain why.
4. Which earth material had the lowest permeability? Explain why.
5. What do you think causes the difference in time that it takes water to pass through the different materials?
6. In what type of soil would you recommend locating a drinking water well? Explain why.