Porosity and Permeability Activity Sheet

A. Complete the following table:

<table>
<thead>
<tr>
<th>Material</th>
<th>Total Volume (milliliters)</th>
<th>Pore Space (milliliters)</th>
<th>Porosity (% Pore Space)</th>
<th>Permeability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Porosity = (Pore Space ÷ Total Volume) x 100

B. Make bar graphs of your results. Label the axes on your graphs (don’t forget to add the units).

* Remember, the material through which water takes the longest time to flow is the LEAST permeable.

C. Answer the following questions:

1. Which material is most porous? ___________________________

2. Which material is least porous? ____________________________
3. Rate the materials in terms of their permeability.

1  ______________________________________ (Least permeable)

2  ____________________________________________

3  ____________________________________________

4  ____________________________________________ (Most permeable)

4. How does soil type affect the movement of groundwater?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

5. Do you think soil can help protect groundwater from pollution? If so, how?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________