Pervious vs. Impervious Investigation

Date: _______________ Time: ___________ Study Site: ________________________________

Names of field investigators: __________________________________________________________

Questions:

A. Is the study site covered more with pervious or impervious surfaces? 

Prediction: __________________________________________________________

B. What is the volume (m$^3$) of potential runoff of water from the study site? 

Prediction: ______ m$^3$

1. Take measurements of your study site. Map the site on graph paper.

2. Calculate the area of the study site: (The example below assumes a rectangular-shaped study site)

Length of study site: ________ Width of study site: ________ Study site area (length x width): ________

3. Calculate the total area of impervious surface on the study site:

Measure the dimensions of each impervious surface in order to calculate the area. Impervious surfaces include buildings, paved areas, sidewalks, etc.

<table>
<thead>
<tr>
<th>Description of Impervious Surfaces</th>
<th>Length</th>
<th>Width</th>
<th>Area</th>
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Total area of all impervious surfaces =

4. Calculate the % of impervious surface on the study site: ___________________________

% impervious surfaces = \( \text{sum of the areas of all the impervious surface} \times 100 \)

\( \text{total area of the site} \)

Is the study site covered more with pervious or impervious surfaces? Provide percentages in your explanation:

___________________________________________________________________________________

5. Calculate the volume of rainfall on the study site. Volume = Area of study site x depth of rain per day/month/year. Be careful! Make sure you convert all of your measurements to either metric units or standard units before completing calculations! Volume = ________ (ft$^3$ or m$^3$)

6. Calculate the runoff potential of the study site. Runoff potential = % impervious surfaces x the total rainfall depth. Runoff Potential = ______(ft$^3$ or m$^3$)

7. Record on your map your observations of the path water takes during a heavy rainstorm.

8. Record on your map or on the back of this sheet any other observations about water flow.