

AUP Campus Storm Event Calculation

Brooklyn College City as a Lab GK-12 Program
Academy for Urban Planning

Time: 45 min
(2 class Periods- consecutive days)
Hands On? Yes ; Internet? NO

Standards Met: *Living Environment: Standard 1; PI 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3 Standard 1; PI 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3; Standard 4; PI 1.1, 6.1, 6.3, 7.1, 7.2; Earth Science: Standard 1; Key Ideas 1, 2, 3 : Standard 2; Key idea 1 Standard 1; Key Ideas 1, 2, 3 : Standard 2; Key idea 1 Standard 4: PI 1.2*

Title: AUP Campus Storm Even Calculation
Grade and Subject: 11th (Urban Ecology)
Number of Days for Completion: 1
Overreaching Goals/ Outcomes: Students will learn about how much stormwater flows off their school's campus during simulated storm events.
Learning Goals/Outcomes: SWBAT- make and test predictions about stormwater flow in their school; transfer data from maps to make calculations; graphically depict and evaluate both predictions and results regarding pollution and stormwater control.
Materials: calculation worksheet (attached) and surfaces map (attached), rulers, calculators
Introduction: This is a 1-day lab activity where students will make and test predictions about stormwater run-off from their school's campus; interpret maps of stormwater flow including percent impermeable surfaces.
Instruction/Direct Experience: Students will be given a brief introduction to stormwater infiltration and guided through the stormwater run-off worksheet. Working in groups of 2-4, students will be given a map of their school's permeable and impermeable surfaces created in a previous lesson (see stormwater mapping). Using their interpretations from their maps students will calculate percent impermeable area and determine how much water will flow off their campus given a storm event of their choice (see worksheet).
Independent Activities: NA
Assessment: Students will discuss their results with the class
Connections: This lesson is a continuation of the stormwater intro lesson and stormwater mapping lesson and can be tied with lab exercises such as yard waste experiments (see lesson). Students understand how their school's stormwater plan could be improved by best management practices (such as rain barrels, more permeable surfaces).