Urban Ecology: Yard Waste Pollution Study

Brooklyn College City as a Lab GK-12 Program **Time: 45 min (1 class Period)**
Academy for Urban Planning **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: Yard Waste Pollution Study
Grade and Subject: 11th (Urban Ecology)
Number of Days for Completion: 1
Overreaching Goals/ Outcomes: Students will understand how yard waste (dirt, grass, leaves, etc) can pollute local waterbodies during stormwater runoff.
Learning Goals/Outcomes: SWBAT- Qualitatively and Quantitatively describe how yard waste effects waterbodies. They will also understand the importance of a control group when conducting a scientific study.
Materials: Buckets of water containing dirt, leaves, and grass (one of each) and a control group containing clean water. Nutrient and pH tesing strips. Data Sheet.
Introduction: This is a 1-day classroom activity to be completed as part of a series of stormwater investigations.
Instruction/Direct Experience: A brief review of yard waste as pollution will be given, then students will be instructed to write a hypothesis for their experiment. Hypothesis will be discussed briefly as a class, then a brief discussion of laboratory methods will be given. Students will break into groups to complete the exercise. They will be asked to display their results in table and graph form. Students will fill in a guided "conclusions" section which asks them not only to make sense of their results but also discuss ideas for future stormwater research.
Independent Activities: NA
Assessment: Students will discuss results with the class.
Connections: This lesson builds off of previous lessons, (see stormwater introduction, mapping, calculations) and serves as part of a semester-long stormwater research project.