Urban Ecology: Tree Measurement Field Activity

Brooklyn College City as a Lab GK-12 Program
Academy for Urban Planning
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Time: 90 min (2 class Periods)
Hands On? Yes; Internet? No

Standards Met: ***Living Environment: Standard 1—1.1,1.3, : Standard 4; PI 5.1, 6.3c, 7; Earth Science: Standard 1; Key Ideas 1, 2, 3 : Standard 2; Key idea 1***

Title: Tree Measurement Field Activity
Grade and Subject: 11th (Urban Ecology)
Number of Days for Completion: 2
Overreaching Goals/ Outcomes: Students will understand the characteristics of healthy vs. unhealthy trees
Learning Goals/Outcomes: SWBAT- Identify and measure characteristics of healthy vs. unhealthy trees around their school
Materials: Tape Measures, Triangulation Triangles, Dichotomous Keys, Data Sheet, Pens/Pencils
Introduction: This is a 2 day field activity where students will measure, record, and interpret data about the trees surrounding their school.
Instruction/Direct Experience: **Day 1: Data Collection-** Students will be given a short introduction about tree health- specifically that of urban trees. They will be shown the "tools" they will have to work with (tape measures, dichotomous keys) and given a brief rundown of the data sheet they will be using. Once outside, students will work in groups of 3-4 to record data about trees surrounding the school (See file "TreeDataSheet"). Students will fill out one data sheet for each tree, but will be instructed to leave the "tree height" box blank- this will be filled in the next day. **Day 2: Triangulation-** Students will be given an introduction to the concept of triangulation to determine the height of the object. A worksheet will be provided so they can follow along (see file "TreeTriangulationWkSheet"). As they follow along, they will be asked to DO THE MATH to make sure that they fully understand the concept. If time allows, students can practice their skills to triangulate the height of objects in the classroom. Students will then go outside and work with the same groups as the day before; they will visit the same trees and determine their height via triangulation.
Independent Activities: NA
Assessment: Students will discuss their results with the class
Connections: This lesson will be built upon in later sections including, urban water cycle, urban air quality, and urban carbon cycle; connections will also be made in discussions about global climate change.