School Gardens

Assessing Soil with Students

Middle and high school soil tests to help students learn about soil

For an overview or introduction to soil, see this: https://ucanr.edu/sites/glennmg/files/278231.pdf from Kevin Marini, UCCE from Placer/Nevada Counties.

Test	What will it tell you	How to use it	For Further Information
Jar Test	Soil texture analysis. The makeup of your soil in percentages of sand, silt and clay	Do compare the soil texture in different areas of the garden to know what to plant where.	https://ucanr.edu/sites/ucmgnapa/files/254562.pdf
Soil Ribbon Test	Is soil made up of more clay or sand?	If soil has a high clay content it will form a longer ribbon than if it is high in sand.	
Soil Percolation Test	How fast does soil drain	If soil drains slowly you'll want to consider the plants you add since plants that need fast draining soil will be unhappy. If you have slow draining soil consider adding mulch and compost to amend your soil. You would also allow more time between irrigations. If you have fast draining soil you'll want to irrigate more frequently and install plants that are drought tolerant.	
Can Test, Tuna Can Test	Sprinkler irrigation output	Run this test to decide how quickly and evenly water is emitted from a sprinkler. Use this number to decide how long to run your irrigation.	https://ipm.ucanr.edu/TOOLS/TURF/MAINTAIN/output.html

Lessons to Consider to Teach About Soil

Garden Lesson Plan: Soil from Nature Lab - geared to grades 6-8. Includes NGSS and Common Core. Essential Question: How does a garden help to produce healthy soil?

USDA Soil Education: Chemical Movement and Retention - How the charge of ions in soil affects the movement of chemicals in soil.

Soil for Youth - a range of activities from University of British Columbia for high school science classes around:

1. Soil Hand Texturing
2. Finding your soil (using soil maps)
3. Earthworm Farm
4. Protecting our Soils
5. Six Ecosystem Function of Soil
6. Soil Order Competition
7. Macro- and Meso-fauna Extraction
8. Mini Soil Monoliths
9. Cinematic Soils
10. Organic Acid Leaching Demo