

Soils • Utah Standards 3.2 - 3.3

Hands-on Professional Development For 4th Grade Teachers

The Offering

Grade	4
Topic	Soils
Standards	3.2 3.3

A 2 hour hands-on science workshop that will introduce you to 14 hands-on labs and activities selected specifically to present Utah Standards 3.2 and 3.3 to your students. Details on back.

Workshop Specifics

Host: Sara Mcaffee
Provo School District

Fee: \$ 95./teacher

Date: January 14, 2020

Time: 4:00 PM to 6:00 PM

Location: Grandview Learning Center
1591 North Jordan Avenue
Provo, Utah

Instructor: Bryce Hixson



Loose in the Lab

Questions?
Call 801-568-9596

To Register for the Workshop
Click [HERE](#)

4th Grade Science • Soils

Workshop Objectives

This is a hands-on workshop that uses Utah rocks and soils to teach the standards for 4th grade geology. By the end of the workshop teachers will be able to:

Objective 2:

- a. Identify the processes of physical weathering that break down rocks at Earth's surface.
- b. Distinguish between weathering and erosion.
- c. Model erosion of Earth materials and collection of these materials as part of the process that leads to soil.
- d. Investigate layers of soil in the local area and predict the sources of the sand and rocks in the soil.

Objective 3:

- a. Observe and list the components of soil and distinguish between the living, nonliving, and once living components of soil.
- b. Diagram or model a soil profile showing topsoil, subsoil, and bedrock, and how the layers differ in composition.
- c. Relate the components of soils to the growth of plants in soil.
- d. Explain how plants may help control the erosion of soil.
- e. Research and investigate ways to provide mineral nutrients for plants to grow without soil.

Time Requirement

120 Minutes

Resources Provided

a. Lab Guide

Each teacher will receive an 96-page lab guide that outlines the 14 activities presented during the training. Each lab has teacher background and prep pages, reproducible student directions and assessment sheets. The guide also contains a Table of Contents that matches the state core objectives with the lab activities, Science Safety, Lab Procedure, Vocabulary and a Materials Source Guide.

b. Hand-on Materials

Each teacher will receive and keep their own participant's kit. The kit contains all of the materials needed to participate in the workshop and complete each of the activities. Play and then take it home with you.

Standards & Curriculum Outline

Objective 2 • Creation & Movement of Soil

a. Weathering

Lab: Tumbling Rocks

Lab: Freeze, Thaw, Repeat

b. Erosion

Demo: Fan Blasted Dunes

Project: Erosion Boxes

Lab: Glacial Sculpting

Lab: Worm Composter

c. Rocks to Sediment

Lab: Matching Soils & Sources

Art: Utah Soil Map

Objective 3 • Soil Component & Value

a. Components of Soil

Lab: Living vs. Non-Living

b. Soil Profiles

Lab: Topsoil to Bedrock

c. Soils and Plant Growth

Lab: Wrinkly Crinkly Plants

Lab: Nutrient Highway

d. Plants and Control of Soil Erosion

Demo: Regulating Water Flow with Plants

e. Hydroponics

Project: Pumice Gardens

Fees & Options

1. Just the Workshop Please \$ 95.

Each teacher will receive two hours of hands-on instruction, a lab guide and a set of hands-on materials to use and keep.

2. Classroom Kit & Workshop \$ 165.

Ideal for a single classroom with 30 students.

3. School Kit & Workshop \$ 325.

Ideal for a school science closet or as a resource kit available to be checked out from the district for an instructional unit. **Can be used four (4) times before the consumable items need to be refilled.** Perfect for school science specialists or lead science teachers.