



**SOL-BASED ENVIRONMENTAL EDUCATION PROGRAMS
FOR HIGH SCHOOL EARTH SCIENCE
PETER FRANCISCO SOIL & WATER CONSERVATION DISTRICT**
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- **Rock and Minerals** (ES.1, ES.4 and ES.5)

Students will learn some fascinating facts about rocks and minerals. Students will divide into groups and be given a mineral to identify using several tests. Then students will play a rock cycle game where they divide themselves among 11 stations and roll a die to determine their next station on their journey as a rock or mineral. At each station they collect a bead and end up making a bracelet.

- **Secrets Buried Under the Ground Soil Study** (ES.5 and ES.6)

Students will learn interesting facts about soil and then visit 4 stations for hands-on experience. Station 1 – Soil Textural Triangle (students learn about the soil textural triangle and get an opportunity to do some practice exercises), Station 2 – Horizon boxes (students work in groups and use different materials like clay, gravel, sand, fine mulch, potting soil, compost, etc. to create soil horizons. A cup of dyed water will be poured into each horizon box to show the class how water moves through different soils.) Station 3 – Texture Bowls (students will use the USDA soil texturing field flow chart and a spray water bottle to identify the type of soil in 3 different bowls) and Core Sample (students will observe a core sample and determine the depth for each new horizon as well as use the Munsell Color Chart book to list the color for each individual horizon. Station 4 – Soil testing for nitrogen, potassium, phosphorus and pH. We also display a soil community biorama.

***New resource available for teachers to check out: Carolina Investigations Soil Formation and Properties kit which is a series of laboratory activities addressing the formation and physical characteristics of soil.