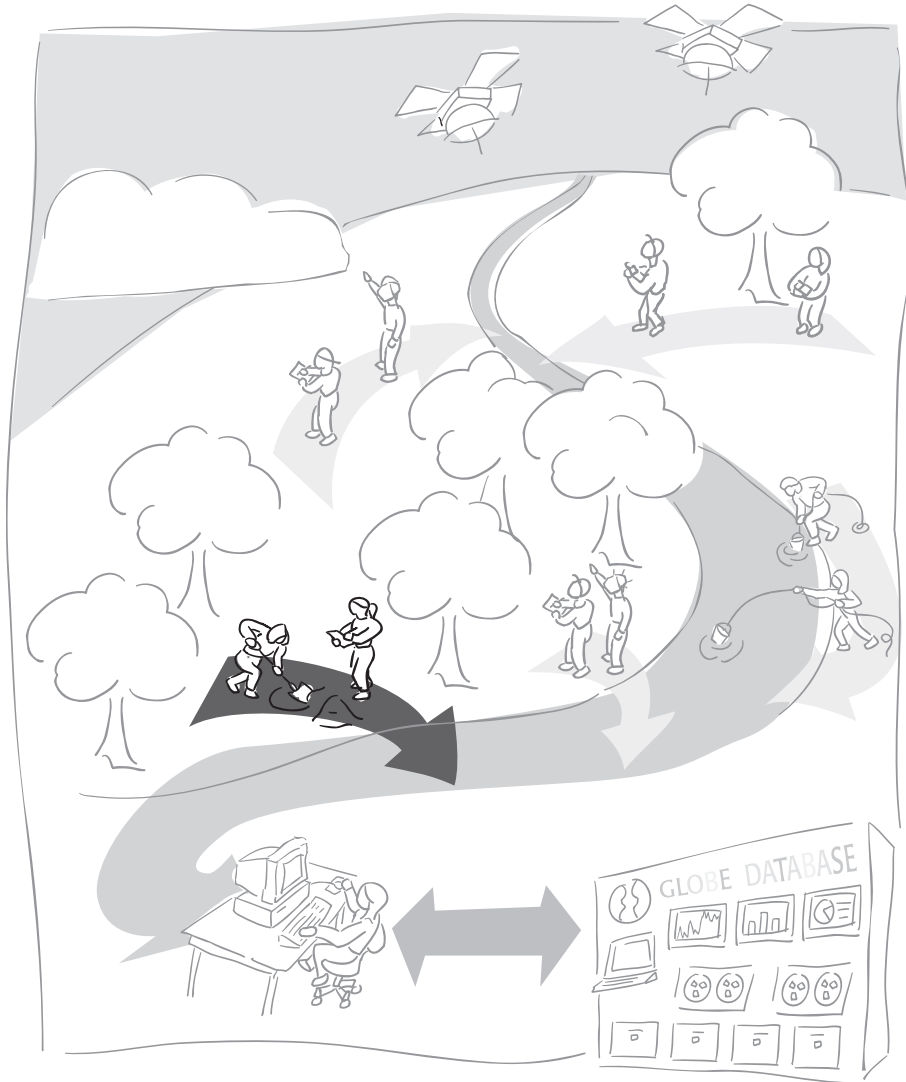


Soil Investigation



A GLOBE® Learning Investigation



Soil Investigation at a Glance



Protocols

Measurements taken at Soil Characterization Sites:

top and bottom depths for each horizon in the soil profile
structure, color, consistence, texture, and amounts of rocks, roots,
and carbonates

bulk density, particle density, particle size distribution, pH, and
fertility (N, P, K) of samples taken from each horizon

Measurements taken at Soil Moisture or Atmosphere Sites:

soil moisture monitored during annual campaigns, 12 times per year,
or during SMAP satellite overpass

soil temperature, daily or weekly, with diurnal variation 2 days every
3 months or monitored every 15 minutes

Suggested Sequence of Activities

Read the *Introduction*.

Read the *Protocols* to learn precisely what is to be measured and how.

Choose any *Learning Activities* that might support the *Protocols*.

Make copies of the *Data Sheets* in the *Appendix*.

Perform the *Soil Characterization Protocols*.

Perform the *Soil Temperature Protocol*.

Perform the *Gravimetric and Volumetric Soil Moisture Protocol*.

Perform the *Bulk Density, Soil Particle Density, Particle Size
Distribution, Soil pH, and Soil Fertility Protocols*.

Visit the GLOBE Website with your students and review the data
submission pages for Soils.

Submit your data to the GLOBE Student Data Archive using the
Internet or email.



Special Notes

If you choose to dig a soil pit, you may require help with digging. It is also important to obtain permission from your local utility company to make sure that there is not a pipe or wire buried at that location.

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Optional Davis Soil Moisture and Temperature Station Protocol*	

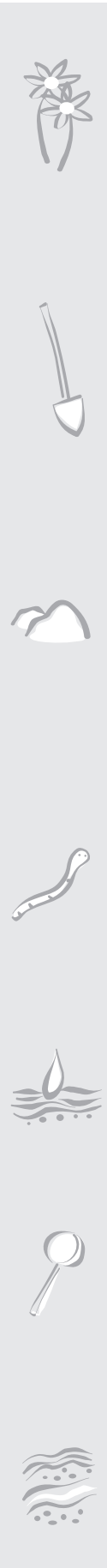


Learning Activities

Why do We Study Soil?*	
Just Passing Through - Beginners	
Just Passing Through	
Soil and my Backyard*	
A Field View of Soil - Digging Around*	
Soils as Sponges: How Much Water Does Soil Hold?*	
Soil: The Great Decomposer*	
The Data Game*	



* See the full e-guide version of the *Teacher's Guide* available on the GLOBE Web site and CD-ROM.



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