



## *Dirt, Water, Air and Soil: Exploring the Skin of the Earth.*

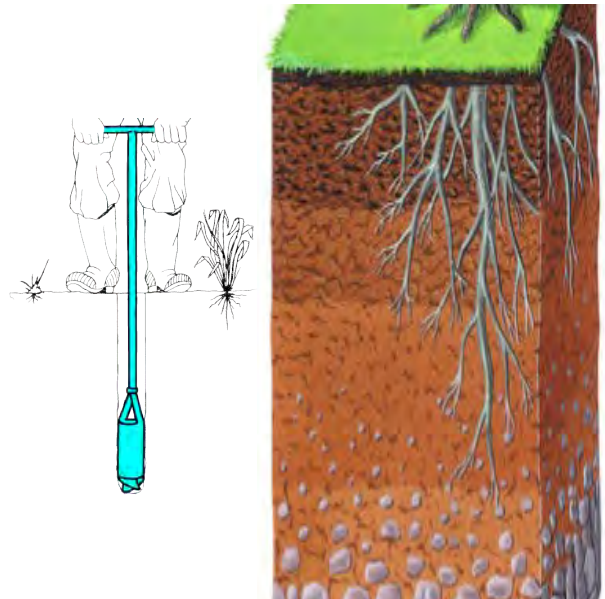
Students in grades 2 and 3 explore and compare ways that water, air and soil interact. An optional field trip allows students to explore the properties of sand at Hazelwood Lake Conservation Area and to see what the soil in the forest or school yard looks like, by doing a soil auger test and examining what is found.

### **Classroom Component**

The soil activity compares how sand, gravel, loam and clay transmit and store water. The water cycle is tied into the ways that soil can help store, recycle and clean our water. The concepts of porosity and permeability are explored using a water race in soil cylinders and by measuring the amount of water stored using measuring cups.

The ability of soil to clean water is done at a Kool-Aid test activity where students observe how sand can clean certain types of pollution.

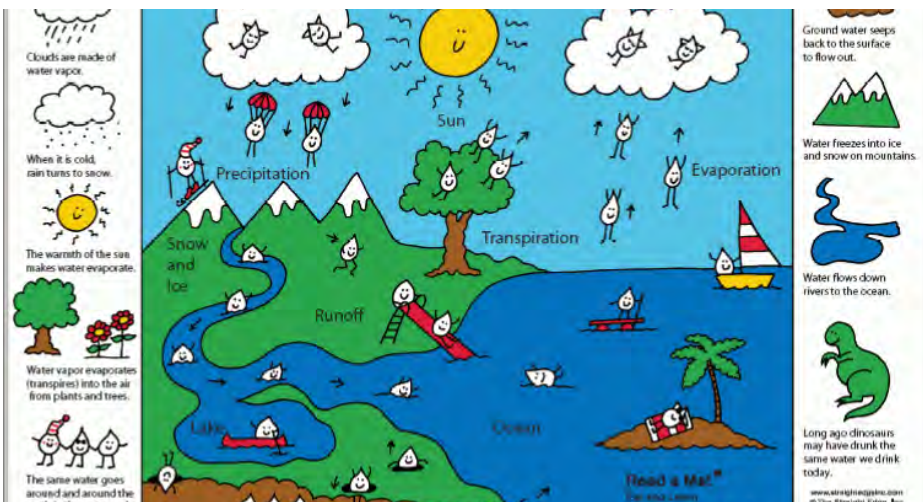
This activity is offered May through October once the soil is not frozen.



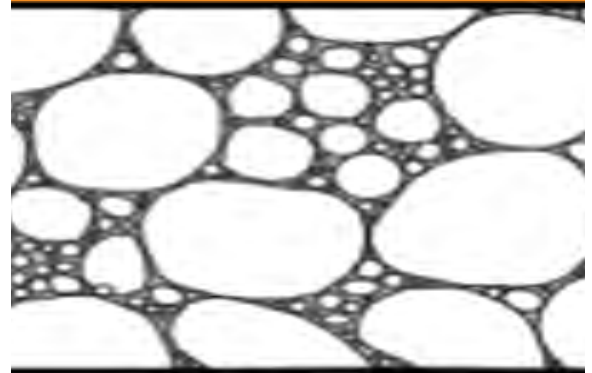
*A soil core can be taken at a conservation area or in the schoolyard (with permission).*



*Hands on exploration of soil on the beach, or forest.*



*The water cycle is part of a key process in which our water is "recycled" and cleaned.*



*Students learn the ways in which air and water travel through soil, and are trapped within.*

## **Curriculum Connections- Specific Expectations from Gr. 1-3 Science**

### **Grade 2– Air and Water**

Overall Expectations:

1. assess ways in which the actions of humans have an impact on the quality of air and water, and ways in which the quality of air and water has an impact on living things;
2. investigate the characteristics of air and water and the visible/invisible effects of and changes to air and/or water in the environment;
3. demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs.

### **Grade 3 –Soils in the Environment**

**1.2** assess the impact of human action on soils, and suggest ways in which humans can affect soils positively and/or lessen or prevent harmful effects on soils

**2.2** investigate the components of soil (e.g., nonliving things such as pebbles and decaying matter; living things such as organic matter, bacteria, earthworms, and insects),

**2.5** use appropriate science and technology vocabulary, including clay, sand, loam, pebbles

Human Impacts:

The actions of humans affect quality of soil:

- ◆ Characteristics of soil types affect how living things use them
- ◆ Ways in which components of soil provide shelter/nutrients for living things.

The in class session lasts between 90-120 minutes, the recommended field trip time is 2 hours. For in class presentations we can take a 1 metre soil sample using a hand auger in your schoolyard. An area of non compacted grass and soil must be available for testing (with school permission).