

ecoMentors Lesson Plan Template: Helping kids explore the planet! www.ecomentors.ca		
Title: Soils - The Living World Below!	Grade Level(s): 3	Time/Date:
School:	Teacher:	
Directions to school, class:		
Contact Info:		
Ontario Curriculum Connection: Earth and Space Systems – Soils in the Environment		
Vocabulary: Words & Concepts your class may be learning, look these up yourself too!		
Soil - The top layer of the earth's surface, consisting of rock and mineral particles mixed with organic matter		
Erosion - condition in which the earth's surface is worn away by the action of water and wind		
Pollution - make unfit for or harmful to living things, especially by adding waste matter		
Compost - mix of decaying organic matter, as from leaves and manure, used to improve soil structure nutrients		
Materials and Equipment: List these before and while you plan and revise so you're prepared.		
Green bin information card – downloadable at http://www.toronto.ca/greenbin/pdf/infocard/card.pdf		
Compost work sheet		
What is your class accomplishing?: Learning & Activity Goals, Objectives		
<ul style="list-style-type: none"> • Discover soil is not just dirt but a rich source of life and nourishment for many organisms • Investigate the components of soils and describe the effects of moving water on soils • Recognize the dependence of humans and other living things on soil and recognize its importance as a source of materials for making useful objects. • Identify living things found in the soil 		

PROCEDURE

The Spark: Introductions, Demonstrations, Show and Tell, Topic Intro (Break the ice!) ~5-10min
<i>Hello students today, we will be talking about soil. What is soil? How do you spell it?</i>
Ask students to introduce themselves by saying their name and let them name 1 thing that can be found in the soil.
Brainstorming, Getting ideas, Connecting ideas (assess their knowledge!) ~10-20min
Ask students to brainstorm on things that grow underground, use the following categories for the students to brainstorm: Vegetables, Trees, Insects, Animals
<i>What would you have to do to live underground? How would your life change?</i>
<i>What is soil made of?</i> Let students brainstorm about things that can be found in the soil; explain how sand is formed, and what happens with decomposing plants and animals! > compost!
<i>Why is soil important?</i> The organic parts of the soil (remains of plants and animals) make plants grow. <i>A corn plant grows in a field. What does the corn plant take from the soil to grow?</i> Organic matter and other particles that help the plant grow. <i>What happens to the soil when we plant a lot of corn every year, and harvest them?</i> Actually we remove organic matter. Since the corn uses a lot of organic matter from the soil, the amount of organic matter in the soil decreases. What is left is sand which is really hard to grow things on. <i>What can we do to return organic matter to the soil?</i> Fertilize. <i>What happens when farmers fertilize too much? Where does the fertilizer go?</i>
<i>What are things in the soil that we use to make things?</i> Metals (<i>can anyone name different metals?</i>), precious stones (<i>can anyone name different kinds of different precious stones?</i>), rock, sand (glass), coal, oil, gas,

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play ~10-30mins

What are some things that pollute the soil? Ask the students if they can think of pollutants. If they name a pollutant ask students the following questions:

Where does this pollution comes from ? Is this pollution a Liquid or Solid? How does this pollution hurt the soil environment. How can we stop this pollution?

You may also need to ask , *“What is a Solid/Liquid how do you spell it?”*

You can also ask the students to come to the board to write down the pollutants.

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play(Pt. II or Cont...) ~10-30mins

Soil Game

Count the number of students in the classroom. Split the class in half. One half becomes soil particles, the other half trees. The trees raise their arms as branches. The soil particles squat and hold a tree`s leg (roots). Let every soil particle pick one tree to hold on to.

Then; start cutting down trees. Before you do that explain that every tree can hold maximum 2 soil particles. So when a tree is cut down, the soil particle must move to the neighbor tree. Keep cutting down trees (the cut down students can pretend to be logs in the corner of the classroom) until every remaining tree has 2 soil particles.

Explain that when you continue cutting down trees, the soil particles lose their support. Ask the teacher to be rain. Every time you say ‘Rain!’ the teacher walks through the forest and sweeps away the soil particles without roots to support them. All the way to the ocean! (other corner of the classroom)

Keep cutting down trees until no trees are left and all soil particles are in the ocean.

What just happened? What do we call the process of soil being washed away by rain?

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play(Pt. II or Cont...) ~10-30mins

Art Project

Ask students to draw a picture with the following things in it. Write these down on the board so students can stay focused. Also ask the students to divide their sheet of paper in half so when they draw their picture, half the sheet is underground and the other half above.

Things that live in the soil.

Things that pollute the soil.

What people can do to stop soil pollution.

Ask students to share their pictures and tell the class about each section.

Contingency, Plan B, extra game or activity (Back up plan) ~5-10mins

What goes into your compost

What is compost? Ask students *“Does anyone use a green bin at their house?”* *What can go into a compost bin and what should not?* Take out the Compost work sheet (you`ve cut out the items ahead of time, of course) and go through each item. Ask students whether they think that each item should or shouldn`t go in the green bin. Make two lists (Yes, No) on the black board under the larger questions of *“What goes in a green bin?”*

Presentation of Findings ~5-15mins

Review, Conclusion and steps towards continued action ~5-10mins

Draw a Mountain on the black board. Ask the class: *where does the water go after it hits the mountain?* (creeks, rivers, ocean...) *What happens when rain hits loose soil?*

What effect does erosion have on farming? Washes away fertile soil. *How can we prevent erosion?* Plant trees! Draw trees and roots on the mountain! Ask students what they can do to protect the soil and keep it healthy.

References

City of Toronto Green Bin - <http://www.toronto.ca/greenbin/pdf/infocard/card.pdf>

Great work ecoMentor! After use of Lesson Plan revise, add ideas and repeat!