



HUMBER ARBORETUM ECO CENTRE



SOIL

INTERESTING FACTS

- ✧ There are more living individual organisms in a tablespoon of soil than there are people on the earth.
- ✧ Almost all of the antibiotics we take to help us fight infections were obtained from soil micro-organisms.
- ✧ Agriculture is the only essential industry on earth.
- ✧ Soil influences the life spans of our roads and highways.
- ✧ Over half a billion kilograms of pesticides worth 25 billion dollars are used each year, much of it ending up in the soil. That is over 4 pounds per person.
- ✧ It takes 100 years for nature to create one inch of topsoil.
- ✧ Around one acre of land is used to supply the food for each person in the world.
- ✧ Soil makes up the outermost layer of our planet and is formed from rocks and decaying plants and animals.



COOL ACTIVITIES

I'VE BEAN THINKING

- ✧ This is a classic but is an amazing way for kids to see how plants and soil are so closely related. Get a couple packs of beans (make sure they are the same variety) and get a bag of each regular garden soil, sand, clay, and gravel.
- ✧ Split the students up into groups or do it as a class experiment it is up to you. You are going to set up 8 different pots as follows: 1st pot will have the garden soil, 2nd pot will have clay, 3rd pot will have sand, 4th pot will have gravel, 5th pot will have water, 6th pot will have garden soil but you will be compacting this soil very heavily, 7th pot will have a mixture of sand, clay and gravel, and finally the 8th pot will have sand, clay, gravel, and garden soil.
- ✧ Soak the beans the night before to soften them up and plant them in each pot at a depth of 2-3cm (except the water)
- ✧ When watering ensure that you water all pots at the same time and use the same amount of water for each pot.
- ✧ WATCH AND ENJOY!

REVIEW QUESTIONS

1. What is the humus layer of soil (topsoil) in a forest made up of? (ANS: In a forest the humus layer can consist of dead leaves, twigs, rocks, dead animals, bark, dead trees, dead plants)
2. What makes up the mineral matter in soil? (ANS: Mineral matter in soil can be found in the form of gravel, sand, silt, or clay.)
3. What are the different layers in soil referred to as? (ANS: The different layers in soil are also known as soil horizons.)
4. Why is soil percolation related to the plant species that grow in a certain area? (ANS: Soil percolation refers to how quickly water passes through the soil. Sand for example has a very fast percolation rate where as clay is very slow. Some plants like the white pine thrive on well drained sandy soils because , whereas plants like birch prefer to keep their roots wet so thrive more on poorly drained silty clay soils.)

