



**Soils:  
One of Our  
Natural  
Resources!**

Some call it dirt.....But it is  
Soil !!!

Soil is made of  
loose, weathered  
rock and organic  
material.



The rock material  
in soil contains  
three noticeable  
parts: sand, clay,  
and silt.



Soil, on the average, consists of 45% mineral, 25% water, 25% air and 5% organic matter.

This is just an average!



There are thousands of different soils throughout the world.

Five important factors influence the specific soil that develops.



# Parent Material

This refers to the minerals and organic materials present during the soil's formation.



# Parent Material

Materials from volcanoes, sediment transported by wind, water, or glaciers are some examples.



Our parent material is mainly Marine sediment (ocean in origin), or produced by stream-river action.

It may be thousands of feet deep!



# Climate

The climate of a particular region can have a major influence on the rate of soil formation.



# Climate

Weathering processes like the cycles of freezing and thawing, along with wetting and drying vary with each region.



# Living Organisms

Both plants and animals help create soil.



# Living Organisms

As they die, organic matter incorporates with weathered parent material and becomes part of the soil.



# Living Organisms

The actions of moles, earthworms, bacteria, fungi, and round worms mix and enrich the soil.



# Topography

The slope or hilliness of a region can have a major influence on the moisture and erosion of soils.



# Topography

In many regions, moist, poorly drained soils are located in low areas.



# Topography

Drier, well drained soils are often found in sloping hillsides. Erosion is often a problem here and can lead to lose topsoil.





# Time

It takes hundreds of years to form one inch of soil from parent material.



# Time

Only the top few centimeters are productive in the sense of being able to sustain plant growth.



# Time

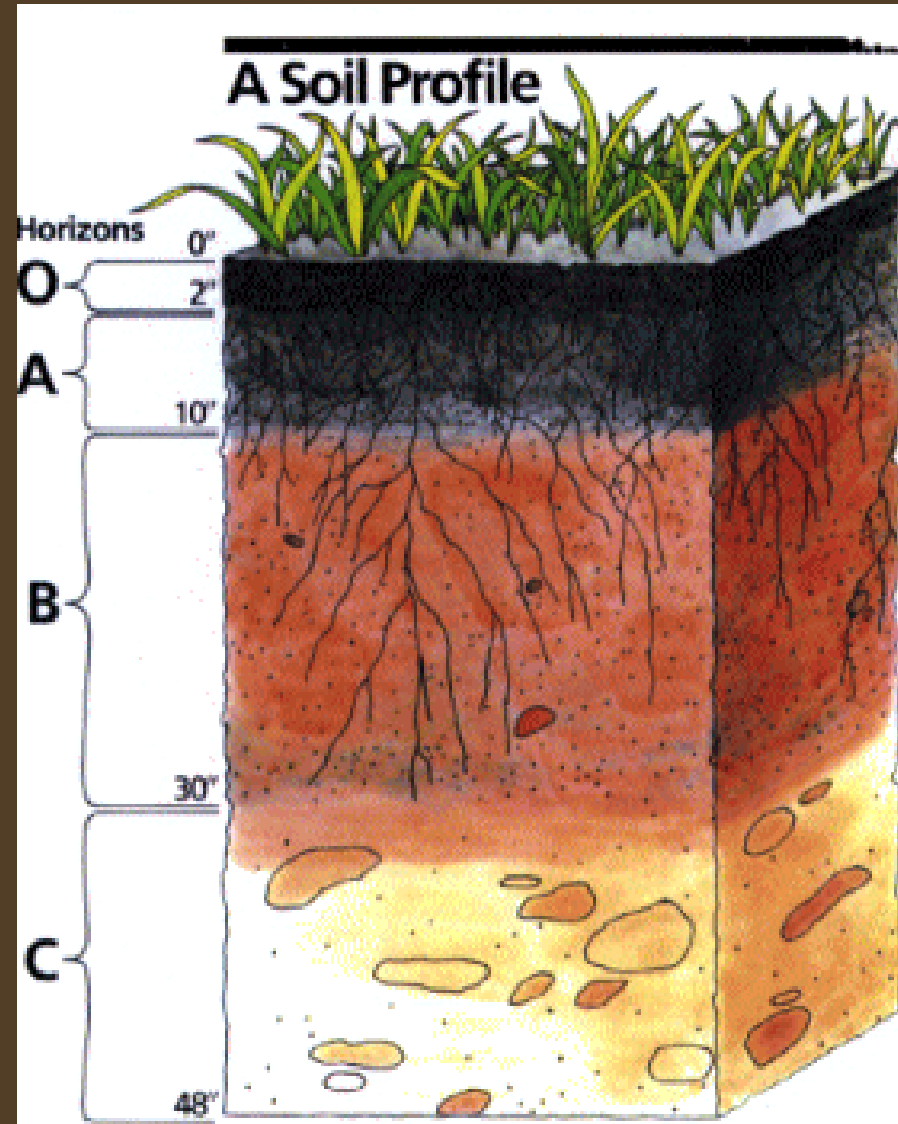
This is why soil  
conservation is  
so important!



# Soil Profile

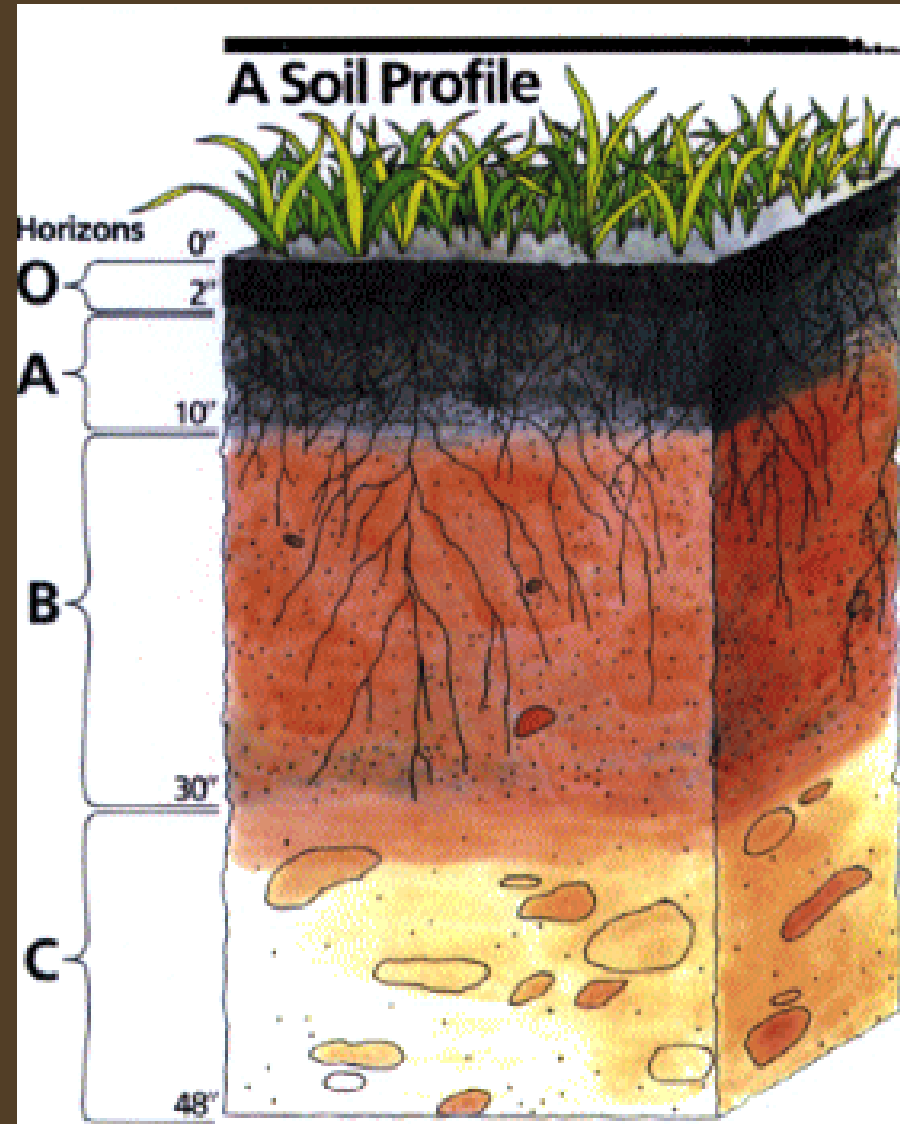
On the front of your coloring page, label the following →

In a cross-section of soil, various zones are formed.



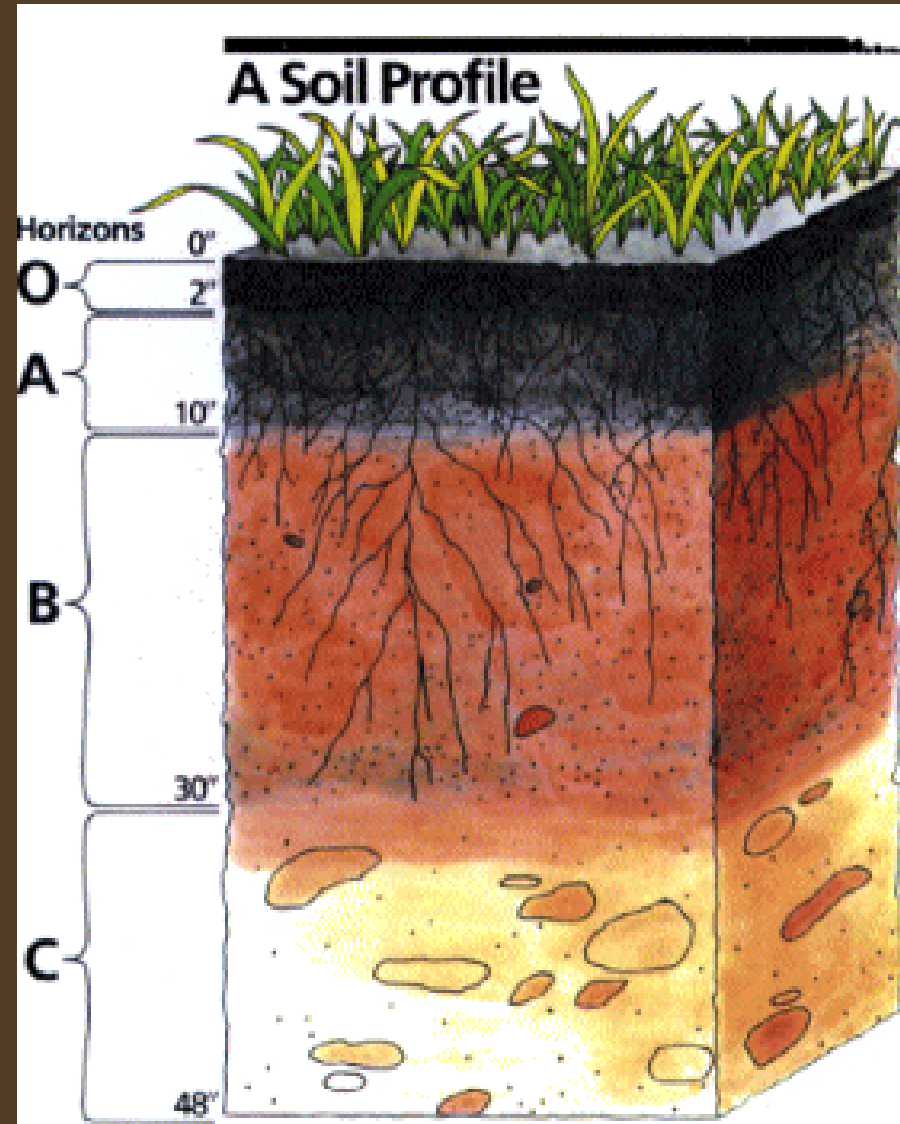
# O Horizon: Organic Layer

It consists of leaf litter and other organic material lying on the surface of the soil.



# A Horizon: Topsoil

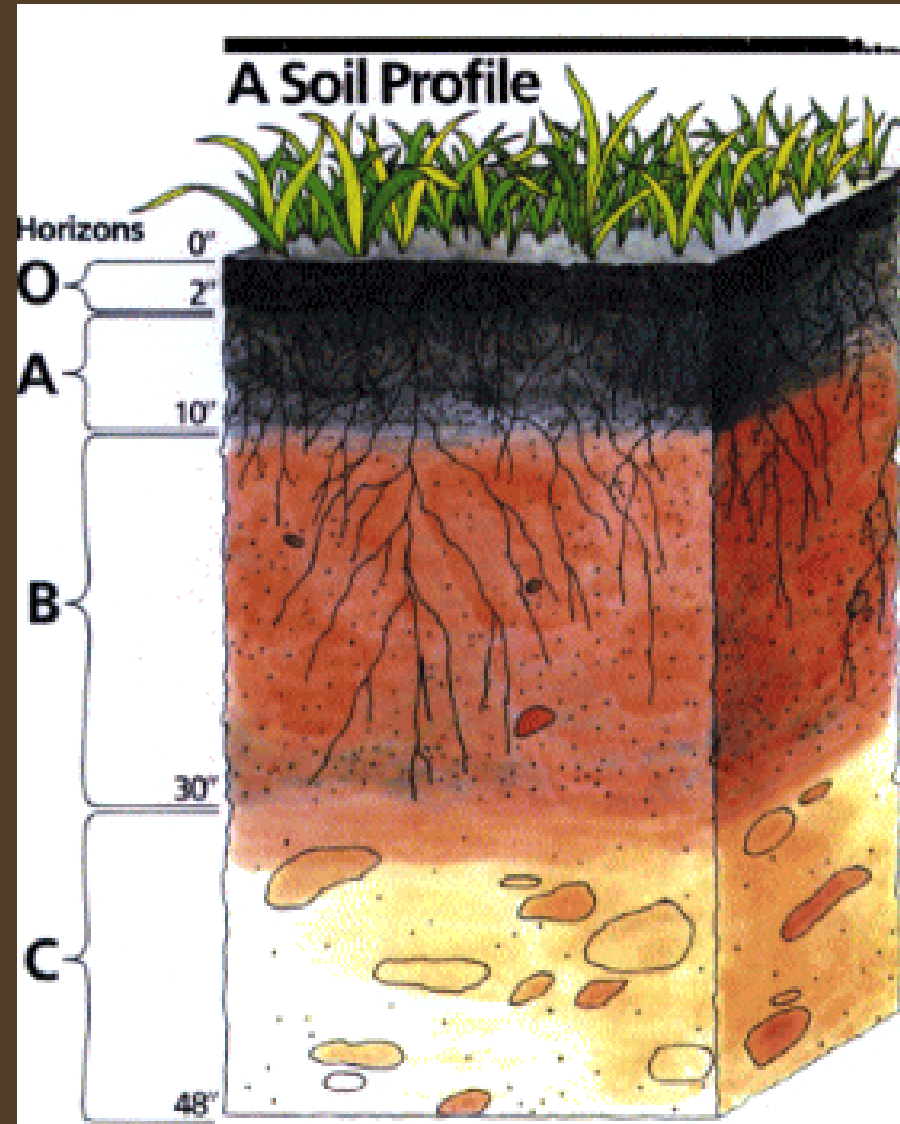
This layer is usually loose and crumbly with varying amounts of organic matter.



# A Horizon: Topsoil

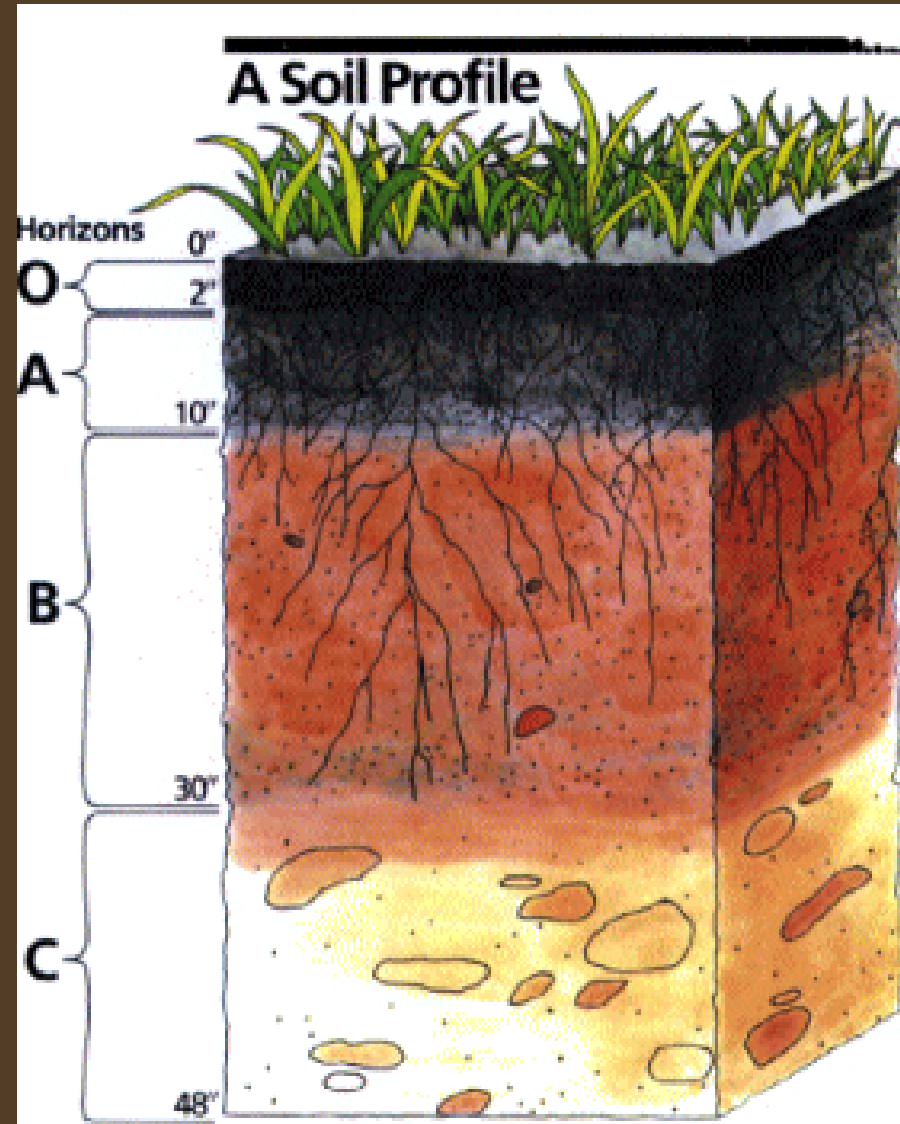
This is generally  
the most  
productive layer  
of the soil.

Conservation  
efforts are  
focused here!



# B Horizon: Subsoils

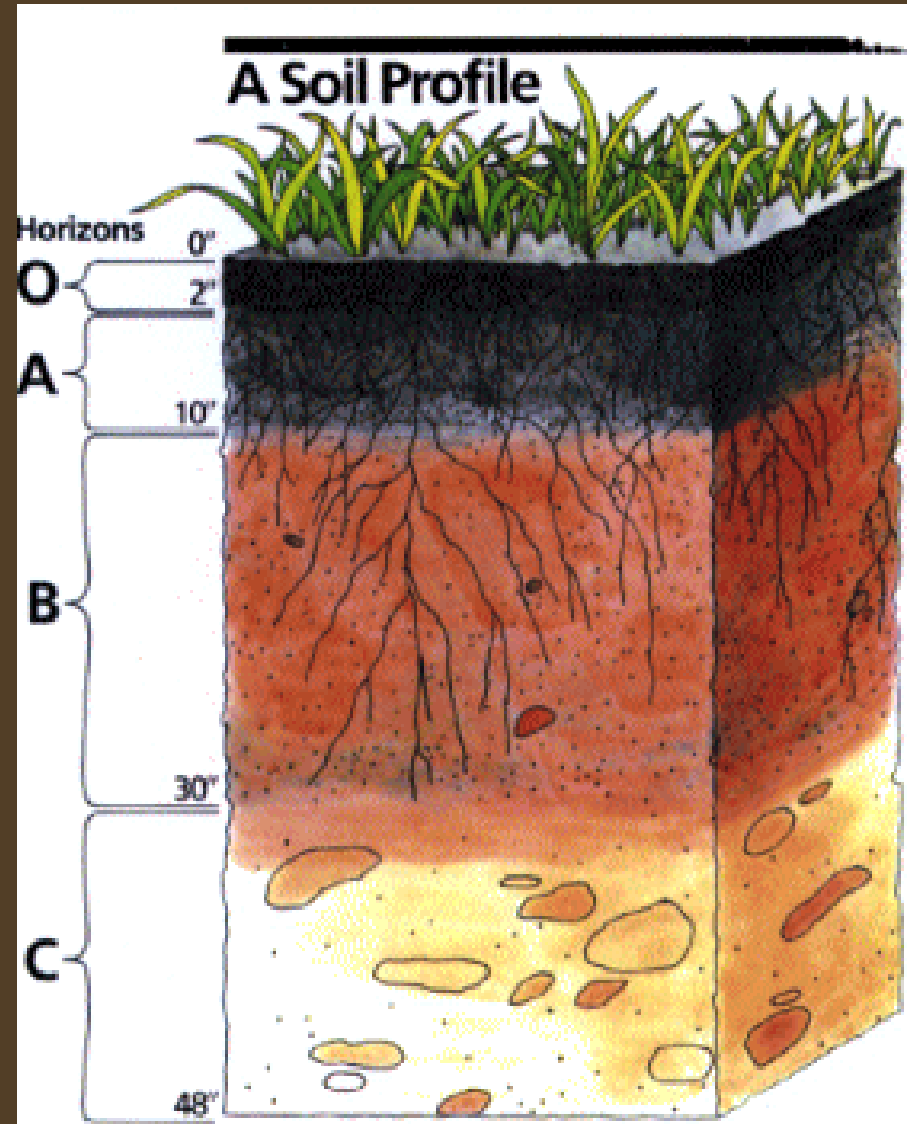
Subsoils are usually lighter in color, dense and low in organic matter.





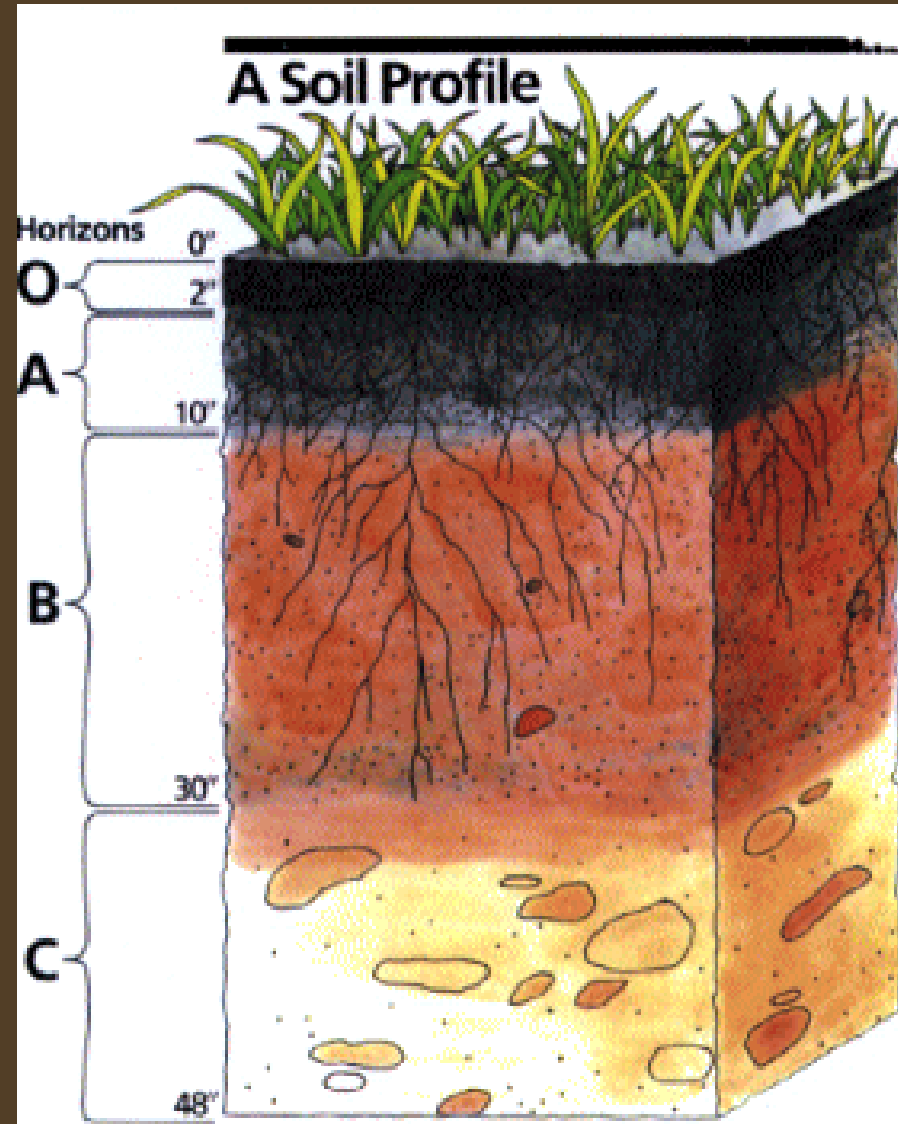
# C Horizon: Transition

This layer of transition is almost completely void of organic matter and is made up of partially weathered parent material.



# Bedrock

Below the C horizon the unweathered bedrock will be found.



What would happen to  
land based life as we  
know it, if there was no  
soil layer?

\* Answer on the back of your foldable \*