



# Soil – Fill-in Answers

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# Land and Soil

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- Land and Soil are two different things.....
- Soil is **the surface layer of matter that enables plants to grow** and is created from the mixture of components of the **lithosphere, hydrosphere, and atmosphere.** Soil is a vital element because **it fulfills the needs of plants.**



What would happen without  
soil in our Earth?

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**–Life on Earth would not  
be possible!**



# Explain the two formation processes of soil:

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1. The Alternation of the bedrock -

**Corresponds to the crumbling of the bedrock through erosion**

**As water percolates through the rock and freezes, ice exerts pressure inside cracks and causes the rock to break**



# Explain the two formation processes of soil:

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2. The influx of Organic Material from Living Things –

**Due to the accumulation of different kinds of debris (ex: leaves, fruit, feathers, hair, carcasses, etc).**

**This debris then eventually turns into humus (top layer of soil)**



# Soil Profile

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- The deeper you dig in the soil, **the bigger the elements you will find in the soil**
- There are different layers of composition and structure called the soil's **horizons**.



# Horizon A

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- is found on the surface. It is in this layer that **plant** and **animal** matter is transformed into **humus**.
- Horizon A changes significantly when **water** infiltrates it. Horizon A is therefore low in **minerals** because rain carries it over to **horizon B**. This is called **leaching**.



# Horizon B

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- is the area where minerals that **are leached** from the surface layer accumulate.
- There is **little organic matter** but many minerals. The rock in this layer is less fragmented than that of horizon A.

# Horizon C (need to fix)

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- Provides the raw material for the upper layers. It is here that the partially degraded **bedrock**, and the various materials that compose it are found.



*You need to  
know this!*

# Soil Texture and Structure

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- The texture of soil depends on the size of particles composing it and these sizes vary from gravel to microscopic bits of clay. Soil is usually a mix of 3 particle types: **sand, silt, & clay.**



What are the most fertile soils and what are they made up of? Why are they the most fertile?

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- **Argilloarenaceous silts: made of clay and sand**
- **They are the most fertile because they retain water and allow minerals to adhere**