

Important substances in soil for living organisms

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Introduction: complete the table

Description	Sandy	Clay	Loam
Aeration			
Particle size			Mixture of small and large
Drainage	Excellent drainage		
Cultivation/ nutrients		Hard to cultivate in	

Introduction: complete the table

Description	Sandy	Clay	Loam
Aeration	Excellent, large spaces	Poor, small spaces, stick together	
Particle size	Large,	Small	Mixture of small and large
Drainage	Excellent drainage	Poor drainage,	
Cultivation/ nutrients	easy to dig, dries quickly, limited nutrients	Hard to dig in, sticky when wet, excellent nutrients.	

Recommendations: take note

Sand soils: prevent sandy soil from drying up by spreading a layer of dead leaves, peat or manure over the surface. This is called **MULCHING** and also help to keep the soil warm.



Clay soils: add lime which will cause clay to clump together into soil crumbs, a process know as **flocculation**.



Exploration questions:



Bauxite soils:



Importance of earthworms to soil:

Earthworms eat soil, grind it in their gut and any undigested particles are then passed out through the anus on the surface of the ground as worm castings.

Earthworms improve soil by

(a). They turn it over: constantly burrowing through the soil, they loosen it and mix it up. This helps to drain and aerate it and ensure that various nutrients are evenly spread out. In this way worms do what a gardener does when he digs his garden.



Importance of earthworms to soil:

(b). They fertilize it: worm castings contain nitrogenous waste which makes them very fertile. They also contain calcium carbonate which helps to make the soil less acidic. Worms also help to fertilize the soil by pulling leaves into it. Once buried the leaves quickly decay and useful nutrients are released from them. The worms add further goodness to the soil when they themselves die and decay.

(C) They make it finer: having been ground up in the worms gut worm castings are very fine. Seeds get covered with the fine soil, which protects them and helps them to germinate successfully. And when the young roots emerge they can push their way easily through.

Harmful soil organisms:



Larva beetle



Millipede



Nematodes



Spores of fungus

Termites and the soil

They burrow soil like earth worms, and help turn it over. They also breakdown humus but the problem comes when they turn their attention to young trees and in the logwood industry for humans.



Conclusion:

1. What are the important substances in soil?
2. What are two benefits of earthworms?
3. What are two harmful organisms?
4. Why is the termite not consider an organism to benefits plants like the earth worm?