Make a Seed Germinator

Materials

1. Tri-fold clear plastic egg carton
2. Potting soil
3. Scissor to separate tray.
4. Awl to punch holes for drainage.
5. Small scoop to shovel potting soil.
6. Masking Tape to make plant labels
7. Water Dispenser
8. Seeds
9. Indelible pen (not shown).

Follow these steps:

1

Separate the tray from the tri-fold egg carton.

2

Using the Awl or a scissor punch a small hole in the bottom of each of 12 egg compartments.

3

Place the punctured side down in the tray. The punctures allow for drainage and access to water.

4

Scoop out a small portion of potting soil.

5

Fill each seed compartment with soil. Allow the compartment separators to show.

6

Using the water dispenser dampen down the soil.

7

Fill the tray ⅓ full of water and place the earth-filled side into the tray.

Place 1 seed in each compartment.

8

Cover the seeds with a ⅓” - ½” inch of soil. Spray to

9

Close the lid on the Seed Germinator. Using the Masking tape write the name of the seeds with an indelible marker. It is also good practice to put the date of planting. These seeds were planted on March 12, 2016.

10

By March 20, 2016, four of the Sunflower seedlings had sprouted. They are still wearing their seed shell. These will fall off as the leaves grow.

The How's and Why's of Plants

What is Topsoil?

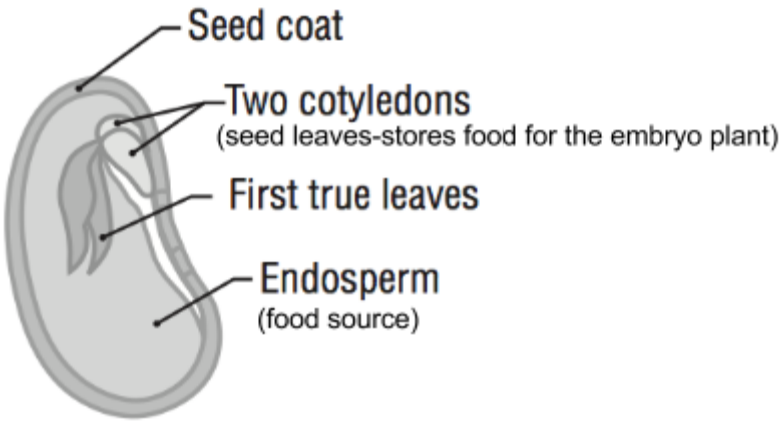
Soil (top soil) is a thin layer of material that is on the Earth's surface in which plants have their roots. It is made up of weathered rock and decayed plant and animal material and forms over a long period of time. Healthy soil is made up of 35%-40% air and water with more air than water. Sand particles are in the majority followed by silt then clay.

What is in the soil?

- *Sand particles–lightweight soil, that is free-draining but cannot hold nutrients.*
- *Silt particles–holds water, can be difficult to drain; holds a limited amount of nutrients.*
- *Clay particles–holds water but can become heavy and waterlogged when wet; can hold onto nutrients.*
- *Water–clings to soil particles (silt,clay) allowing plant roots to drink.*
- *Air–fills gaps in the soil allowing plant roots and animals to breathe.*
- *Organic matter–includes manure, leaf mould and compost that releases nutrients into the soil slowly as it rots and improves water holding. It helps hold the soil together.*
- *Animals–insects, bacteria and earthworms that help to break down organic dead matter.*

What is a seed?

Many plants begin as seeds. Seeds come in a diverse number of sizes, shapes and colors. Inside the seed is an embryo, a tiny plant, and the endosperm which supply the embryo with food. The cotyledons are small leaf structures that stores food for the embryo plant and through photosynthesis. The seed coat protects the embryo from injury and drying out.



Embryo of a Dicotyledon Plant
(Bean, Sunflower)

What does a seed need to germinate?

Seeds require oxygen, water and the proper temperature to germinate. Different types of seeds have different light and temperature requirements. When the right conditions have been met the embryo plant begins to grow. It pushes open the seed coat. Tiny leaves appear and push out of the soil. Roots grow down into the soil. Some seeds need cold temperatures (winter season) to break down their seed coat. This is called stratification.

What is the Anatomy of a seedling?
What do plant roots do?
A plant's roots suck water and nutrients up out of the soil and into the plants. Roots hold soil in place when it rains so it can't be washed away. When soil washes away it is called erosion. Heavy rains on treeless surfaces can result in mudslides
What does a plant need to grow?
What is condensation?
When water changes from a gas to a liquid. Drops of water on the surface of the egg carton. Dew on grass in the early morning.
What is water vapor?
Water in its gaseous state. Steam rising from boiling water.
What is evaporation?
When a liquid such as water changes into a gas (water vapor).
What is precipitation?
Water droplets or ice particles condensed from atmospheric water vapor and massive enough to fall to earth as rain, snow or hail.
What is groundwater?
Water that percolates through the earth becoming part of an underground body of water.
*Wha**t is the water cycle?***
The system of earth's water supply as it moves from the atmosphere to the earth and back. This includes precipitation, transpiration, evaporation, runoff, infiltration, percolation, and storage in water bodies and groundwater.
What is the anatomy of a adult plant?
What is photosynthesis?
What is phototropism?
Why are plants important?
What is a native plant?
Do plants have names?
Where do seeds come from?

References
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