Name _____

Soil Components - Student Worksheet

Garden soil is part:

1. Minerals (broken bits of rock. Non-living things)
2. Humus (living things and their products)
3. Water and air
4. Mulch

Please note that in Science we classify as "living things" anything that has ever lived. Things that are alive, are dead or are their products are all classified as "living".

We can measure the amount of these three components of soil by moving dry soil about in a controlled way. This yandying, or dry panning, separates things according to size and density. Aboriginal people used to separate edible seeds from sand by "panning" them in a flattened container called a "yandy" or "coolomon". Your teacher may demonstrate this.

Separating Soil

Materials per group

- White plates
- Dry garden soil
- Hand lens or magnifying glass
- Old newspaper to collect any accidental overflow

Name _____

Soil Components - Student Worksheet

Method

1. Place plate on newspaper on desk.
2. Your teacher will add some soil.
3. Gently rotate the plate with one side slightly raised until the parts or components of the soil start separating.
4. Observe using a hand lens or magnifying glass.

Observations

Separation using water movement

Materials per student or group

- About two tablespoons of garden soil
- A piece of scrap paper to make a cone
- A test tube or small jar with lid
- Water
- A ruler
- Newspaper to protect the desk.

Name _____

Soil Components - Student Worksheet

Method

1. Place the paper cone with the open end downwards leading into the test tube or jar.
2. Feed soil down the cone into the test tube or jar until it is one third full.
3. Fill the test tube or jar with water until it is two thirds full.
4. Draw what you see in the before column.
5. Place your thumb over the top of the test tube to seal it or screw the lid firmly onto the jar. If your thumb is too narrow to seal the top of the test tube you can use the pad of flesh at the base of your thumb.
6. Shake the tube or jar well for 30 seconds. Make sure the water and soil are well mixed.
7. Hold the container upright and immobile for at least two minutes.
8. Observe what has happened and draw this into the worksheet provided.
9. Label the layers

Name _____

Soil Components - Student Worksheet

Observations

Before	After
	

Estimate the percentage or fraction of soil is humus

Height of soil including humus _____mm

Height of humus alone _____mm

$$\text{Percentage humus} = \frac{\text{Height of humus alone}}{\text{Height of soil including humus}} \times 100$$

= _____%

To be able to grow plants, soil should be over 10% humus.

Do you have good garden soil? _____

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