Soil Monster - Soil Sam Grass Head

Materials In Kit

3 Knee high stockings
3 bags of seed
3 bags of soil types
3 cups
Googly eyes
Pipe cleaners

Things you Might Need

Glue gun or mod podge glue
Markers, fabric or buttons
Water

Hypothesis Question:

Which Soil Head does your team think will grow the longest hair?
Which one will grow the shortest hair?

Journal Log

Write notes on what you observe as the grass hair starts to grow.

***Instructions**

1. Each soil bag has been labeled with a soil type. Write the soil type on the back of the white cup that you will match the soil head to.
2. Open the stockings or hold it open with a cup and pour in 1 bag of seeds by the toe portion of the stocking.
3. Add one bag of soil.
4. Pull the stocking up and pat the bottom of the stocking to reform the stocking into a sphere.
5. Twist the end and make a firm knot.
6. Decorate the grass head and the cup you will be using to hold it.
7. Once the decorations are dry, dip the toe portion of the sock in water to moisten the seeds for a few seconds. Fill the outfit container with water and place the end of the stocking into the water and rest the grass head on top.
8. The stockings will pull the water up to the seeds in the soil and water the grass head for you
9. Check the container daily to make sure there is water inside, fill as needed.
10. Use the ruler to measure the hair.

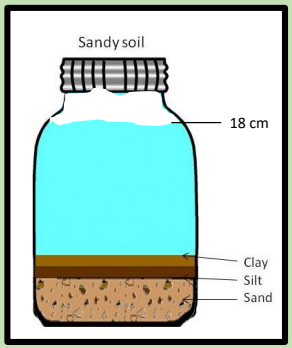
UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources | Research and Extension Center System

**Resource: City of Santa Clara Public Library- Kid's Space, "Grow your own grass head" April 2, 2020*

Soil Texture Mud Shake

Materials In Kit
2 Water Bottles
2 Small paper cups
1 bag of KARE Field Soil
1 Ruler

Things you Might Need
Cup to hold water
Shovel and bucket
Marker



*Instructions

1. Remove the label and empty the water from the water bottle into a cup.
2. From your backyard remove the first two inches of top soil, dig three inches deep and scoop the soil into a bucket. Mix the soil well and use the paper cup to measure a cup full of soil.
3. Pour the cup of soil into the empty water bottle.
4. Fill the water bottle up with water until it reaches one inch from the top.
5. Close water bottle lid tight.
6. Using your finger to hold the lid shake the bottle well for a few minutes until the soil is mixed thoroughly making a mud shake.
7. Leave the water bottle on a flat surface for 24 hours to allow the soil to settle.
8. Mark on the bottle each layer. There should be three layers (Sand, Silt and Clay). Use the ruler measure in cm each layer that settled starting from the bottom of the bottle. Calculate the percentage of each layer.
9. Repeat with KARE Field Soil.
10. Classify your soil type using the soil texture triangle on the next page.

Calculating the Percentage

(A) Sand, Silt & Clay _____ cm
(B) Sand and Silt _____ cm
(C) Sand _____ cm

(B) _____ cm — (C) _____ cm = Silt _____ cm

(A) _____ cm — (B) _____ cm = Clay _____ cm

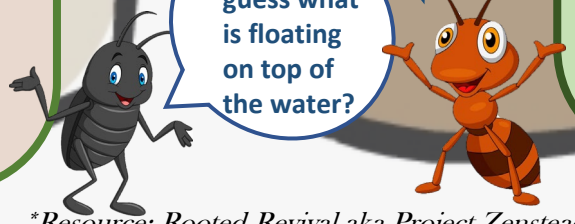
$$\frac{Silt\ \_\_\_\_cm}{(A)\_\_\_\_cm} \times 100 = \_\_\_\_\_\%\ \text{Silt}$$

$$\frac{Clay\ \_\_\_\_cm}{(A)\_\_\_\_cm} \times 100 = \_\_\_\_\_\%\ \text{Clay}$$

$$\frac{Sand\ \_\_\_\_cm}{(A)\_\_\_\_cm} \times 100 = \_\_\_\_\_\%\ \text{Sand}$$

Sand, Silt and Clay? Sand will settle first because it is the heaviest particle. Silt will settle next and clay will take longer to settle on top.

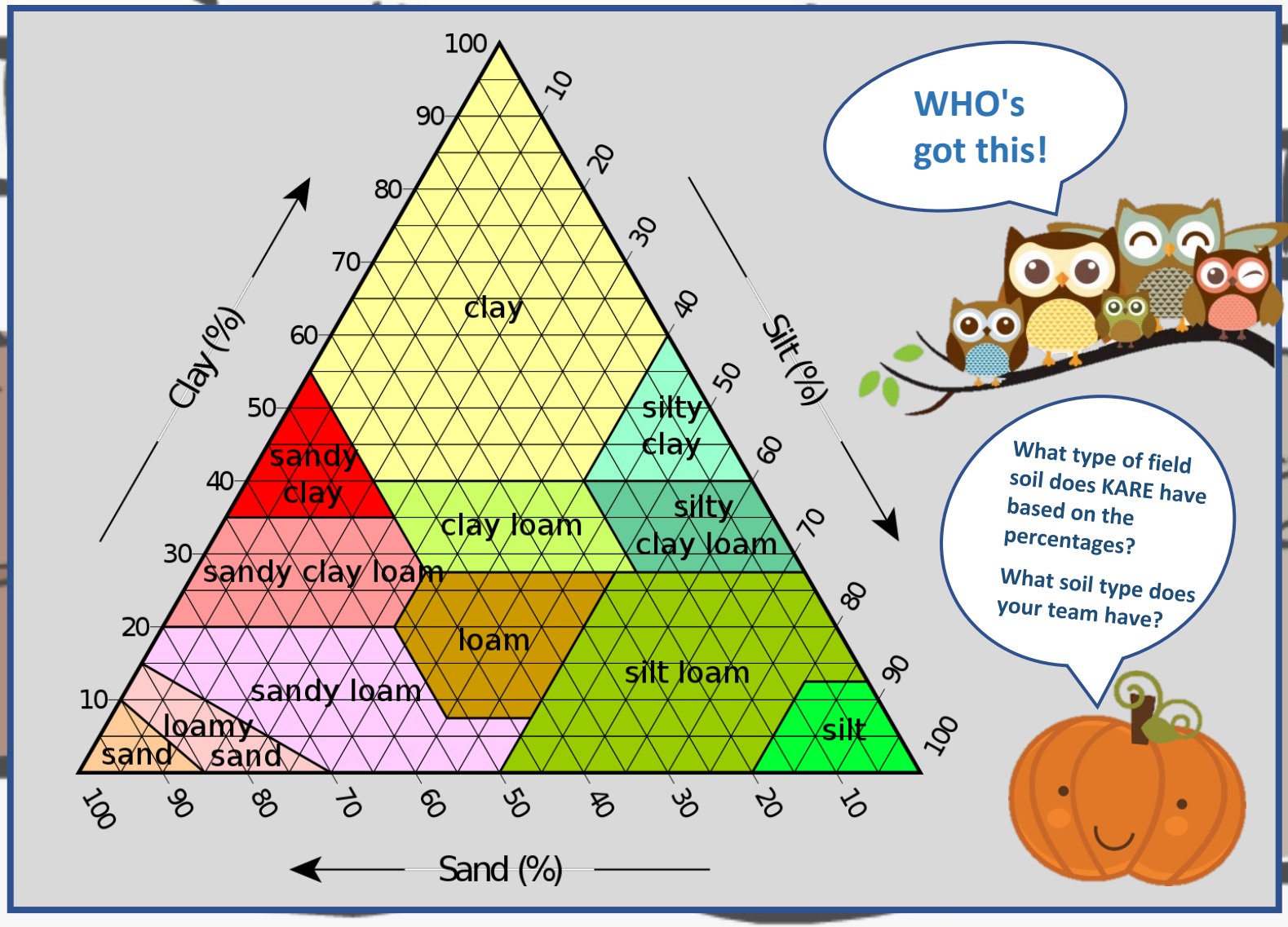
Can you guess what is floating on top of the water?



UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources | Research and Extension Center System

*Resource: Rooted Revival aka Project Zenstead "How to Test Soil for a Better Garden" April 20, 2019
https://rootedrevival.com/how-to-test-soil-texture/

**USDA-NRCS Soil Texture Triangle



*Resource: USDA-NRCS Soil Texture Triangle, March 18, 2016