Experiment 2
Instructions: How much water can soil absorb?

Materials:

Get various soil samples such as plant soil, sand, clay or clayey soil and loam or loamy soil (6 tablespoons of each sample).

For each soil sample you need:

- 1 paper cup
- 1 tablespoon
- 50ml measuring cup for water
- 1 clear glass / clear cup *

You will also need:

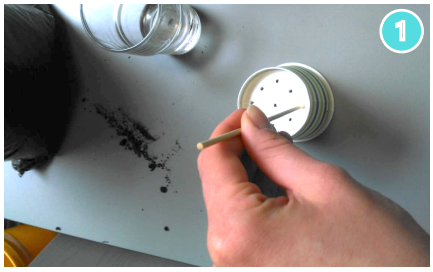
- 2 toothpicks or wooden skewer to perforate cups
- 1 piece of paper towel
- 1 pen for labeling paper cup
- 1 pair of scissors
- 1 measuring cup with 250 ml water
- 1 worksheet “How much water can soil absorb?”

* The glass should be chosen so that you can hang the paper cup in it like shown in the picture on the left. There should be enough space between the bottom of the cup and the bottom of the glass to catch the water running through.

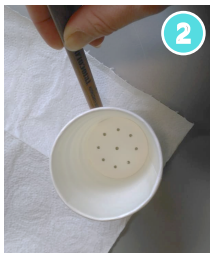
Experiment setup and execution:

(Before you start, read this page and both pages of the worsheet!)

1. Carefully poke nine holes into the bottoms of the paper cups with the wooden skewer as follows: make a circle of eight holes and a hole in the middle.

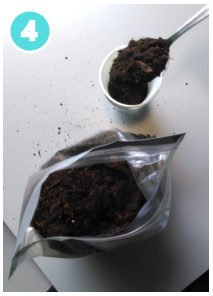


2. Place the paper cups on the paper towel and trace the edge of the bottom of the cup.



3. Cut out the marked circles, place them in the paper cups and moisten them with 1-3 drops of water. Make sure that the paper towel sticks tightly to the bottom of the paper cup and that all the holes are covered.

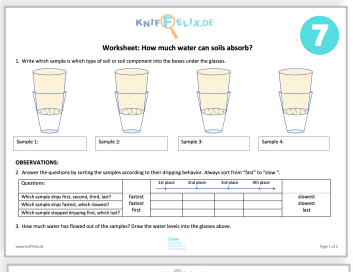
4. Place the paper cups into the glasses. Fill each paper cup with 6 tablespoons of a soil sample. Make sure that you distribute the soil evenly in the cups.

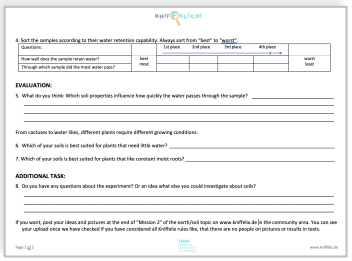


5. Label your samples (e.g. loam or loamy soil, sand, ...).

6. Pour 50 ml of water into each of the paper cups at the same time and compare *:
   - How quickly does the water start to drip from the samples?
   - How quickly does drop follow drop?
   - How quickly does it stop dripping from the samples?

7. Note your observations on the worksheet.





* Before adding water, see what you should note on the double-sided worksheet and how? NO times need to be measured! Observe the results in comparison to each other! Decide which group members will pour the water and wo will watch in which glass the water drips fist and last.