Chemistry research - the sorption properties of the forest soil and its influence on the trees.

My research is to know and understand what it means that forest soil has sorption properties and why it is important for the trees.

The subject of the research is soil taken from the forest.

Aim of the study

Through a chemical experiment, I want to check whether the soil has sorption properties.

Objectives of the study

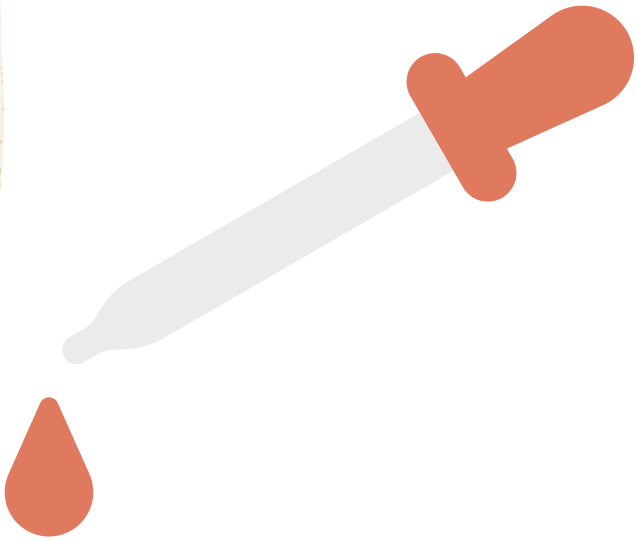
1. Collect soil from the forest.
2. Prepare laboratory equipment.
3. Prepare a mixture of soil, water and ink.
4. Write down the appearance of the mixture in the worksheet (color, state of aggregation, smell, etc.).
5. Stir the contents of the beaker vigorously for 5 minutes.
6. Let the beaker and its contents stand for 10 minutes.
7. Assemble the filter set.
8. Record observations after mixing.
9. Discuss the observations with the teacher.

Research methods

The method of research is learning by inquiry. I learn by observing what happens in a beaker.

Tools that can be used.

Jar - 1L and spatula, wash bottle with distilled water, Pasteur pipette with a volume of 2 ml.



How to investigate

I took with spatula the soil from the forest, no more than half a 0.5L jar. Upon arriving at the lab, we assembled the needed lab equipment with a teacher. Then, to a 250 ml beaker, I added 150 ml of distilled water, 0.5 ml of ink and 2 tablespoons of soil. On the worksheet, I wrote down my first observations (what the mixture, color, consistency, smell, state of aggregation, etc. look like). In the next stage, I intensively stirred the contents of the beaker (for 5 minutes), and then I put the beaker on the windowsill. To find out if anything had changed with the mixture, I assembled the filtration equipment and poured the first portion of the resulting mixture into the filter. Finally, I wrote down my observations (what has changed, what happened to the ink, what does the filtrate look like and what does the soil look like).

Findings

I learned that the soil, due to its sorption properties, can also easily absorb those substances that are not beneficial for its functioning and the live of trees. If we throw garbage into the forest, soil very quickly becomes polluted by what it absorbs from the thrown waste which can be destructive to the trees in the forest.

Literature used

https://zpe.gov.pl/a/gleba---jej-sklad-i-wlasciwosci/D14dVHTfV
https://www.youtube.com/watch?v=Br8DiSHu08c
https://www.youtube.com/watch?v=IJwyxJB7_w8