



## Exploring the role of soil in climate change at school level

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In order to create an understanding of the importance of Sustainable Development Goal 15: Life on Land in society, school projects have proven to be a suitable means to convey the principles of sustainable land use to a larger audience.

In a project called “Bokli”, led by Environment Agency Austria, school children learn about the importance of protecting land ecosystems in relation to climate change. The principles of circular economy are explained on the basis of a raised bed with a compost worm box, covering the topics bio-waste treatment, composting, carbon cycle, climate change, plants and soil. For one school year plants are cultivated and harvested in the raised bed, progress documented, researched and knowledge passed on to kids of the same age via peer-teaching.

Experimenting, measuring, observing, documenting and critical thinking form the didactic basics. For a whole school year, children looked after their raised beds, supervised by their teachers.

The so-called Soil-Climate-Day held at the Federal Research and Training Centre for Forest marked the beginning of the project. In small groups the students carried out experiments on climate parameters, water storage capacity, humus content and soil life. Playfully, they acquired the most important basic scientific information about the climate and soil. They created collages, drawings and texts on how to reduce climate change and how to protect soil.

The raised bed experiments enable to answer simple scientific questions around nutrient cycles, the decomposition of different materials, weather and climate. In a built-in humus box compost worms are supplied with organic waste, which is collected in the class. A mini camera can be pushed into the bed which allows the children to see what happens in the soil. The pupils observe and nurture the plants and determine the soil and climate parameters around the raised bed. After completion of the raised bed experiments, students are familiar with core elements of scientific work: research questions, experimental set-up, documentation, evaluation and interpretation.

In a peer teaching session the students did not just pass on what they had learned to their peers and younger classmates, they also invited their parents who were introduced to soil science.

In order to learn more about soil, the classes visited companies that work successfully with soil. For example, a worm farm, a large garden market, an outdoor climate experiment with lysimeters and a biocosmetics company were visited to learn about the importance of soil for the production processes.

At the end of the project, an orienteering race was organised during which students could show team spirit, their skills, athletic performance, language skills and knowledge about soil and climate change.

The experts of Environment Agency Austria, the University of Natural Resources and Applied Life Sciences, the Austrian Agency for Health and Food Security and the Federal Research Center for Forests made sure that the contents and processes were of a high professional quality. The project is funded by the Austrian Research Promotion Agency (FFG) through the Talente Regional programme, project duration August 2017 - February 2019.