

Report on the workshop "Water"

Introduction

On 14th March 2008 the further education symposium "fiddle about, research – Natural Sciences in daily school business" took place at the Zurich University of Applied Sciences in Wädenswil.

The Ecological Engineering Group led the workshop "Water" and used the event to publish a guide about a learning-path (nature trail) on the subject of water, based on the example of the Reidbach in Wädenswil.

Getting into the subject

The workshop was for the employees of the primary schools in Wädenswil. After a brief welcome by the tutor the group went to the Reidbach. Unfortunately there had been some heavy rainfall during the previous night and in the morning, so that the stream had flooded. An implementation of the exercises of the learning-path was therefore not possible. We needed to switch to the streamlet in the Grüntal Campus.

At the research location, the workshop participants were introduced to the idea of the guide about the learning path, based on the example of the Reidbach in Wädenswil. They then took part in the various experiments which can be carried out at a streamlet.

Describing the streamlet

A sheet of paper, a pencil and a pad were distributed to the workshop participants. They were instructed to describe the stream section where the experiments were carried out. The participants described the streamlet with carefully chosen words and detailed drawings. They also measured the current velocity and the flow quantity.

Filter experiment

The workshop participants received a simple model of a soil filter made up of an empty PET-bottle. These bottles were cut in half. The upper part of the bottle was turned around and stuffed with stones, gravel and sand. Then the lid could be removed and the upper half of the bottle was stuck in the lower half. If muddy water is poured into the container, it should be clean after trickling through the filter. Unfortunately, there was often too little fine material in the filter, so that the purified water was not clear after flowing through the filter.

Searching for aquatic animals in the river

The sedimentation experiment also leads on to the next task: the search for aquatic animals in the river. First, the workshop participants were instructed on where to look for the small organisms and on how to carefully collect them. Then, they took a sample using the kick-sampling-method coached by the tutors, and searched for small animals hiding under stones.

In the laboratory the participants were given the task of identifying the animals they had collected by putting them into groups of similar looking animals and using a water organism identification sheet. They put animals of the same species together in the same containers. They were shown how to examine the organisms using a microscope and how to carefully handle the small animals using pipettes

and small brushes. The tutors explained to the participants how to define the water quality on the basis of the small animals.

Retrospect

The participants were teachers from different school levels and there were also employees of the primary schools who were not teaching. All except one said that they could use some of the ideas of the learning path with their pupils.

Outside and in the laboratory, the participants were very active. Despite the cold weather and the light rain in the morning, the workshop participants were eager to take turns in rummaging for little animals in the water. Back inside, they seemed very interested in analyzing the organisms with the binoculars.

In conclusion the workshop was a complete success and the participants left with new ideas about what to do with their pupils.

As part of the EU project 'Play With Water' the Ecological Engineering Group developed a guide for a nature trail on the subject of water, based on the example of the Reidbach in Wädenswil. The exercises which we carried out today were part of the nature trail.

We are looking forward to receiving short feedback about your experience.

Would you organise this field trip with your class?

.....
.....

Which level do you teach?

.....

What do you think? Are girls and boys fascinated differently by such a trip?

.....
.....

Do children with a foreign mother tongue understand this field trip?

.....
.....

Free comments, appreciation, critique:

.....
.....
.....
.....
.....

Evaluation of the 'Water' workshop

Questions	Answers				
Would you organise this field trip with your class?	Yes 24	No 1	Maybe 4-6	All grades 1	No teaching 1
Which level do you teach?	Kindergarten 8	1-3 8	4-6 7		
Are girls and boys fascinated differently by such a trip?	Yes 1	No 24			
Do children with a foreign mother tongue understand this field trip?	Yes 21	No 1	Maybe 2	Difficult 1	
Free comment, appreciation, critique:	Fascinating 4	Was good 12	Helpful suggestions 3	Instructive 2	Too complex 1
					Thanks 7

The No answer to question one was a kindergarten teacher who thought that the exercises were too complex for his children. 25 persons filled in the evaluation sheet.