

Sparkling Science >
Science linking with School
School linking with Science

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**Enerkids
Pupils Research Energetic Solutions**

LEADING INSTITUTION

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SCIENTIFIC CO-OPERATION PARTNERS

University of Leoben, Styria
University of Kassel, Germany

ECONOMIC CO-OPERATION PARTNER

Rohöl-Aufsuchungs AG, Vienna

SCHOOLS INVOLVED

Praxisvolksschule der PH, Vienna
First Vienna Bilingual Middle School, Vienna
Kooperative Sportmittelschule Wendstattgasse, Vienna
Kooperative Mittelschule Jochbergengasse, Vienna
HTL Ettenreichgasse 54, Vienna



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Austrian Federal Ministry of
Science and Research

Enerkids

Students research energetic solutions

Crude oil and natural gas – the burning question

In the two-year long research project “Enerkids – pupils research energetic solutions”, students and teachers from the primary to secondary level out of five Vienna schools cooperate with the scientists and their assistants from the University of Leoben along with the University of Education Vienna in a cross-departmental, cross-gender mentoring model. In a three-stage process, students will research the central aspects of the current and future subject area, “Energy from the earth” (crude oil, natural gas, geothermal energy), in reality and in literature. From the outcome of this research, age appropriate pictorial pedagogic and pictorial statistic material will be created and ultimately evaluated, modified, and produced as a catalogue as well as experimental material which will be presented.

Series of workshops and crude oil kits

The central element of last year’s joint project was a series of workshops. To keep the students at the centre of the project, the kids were asked to formulate questions which were of interest to them. Some especially fascinating questions came from the practice elementary school, for example, “How did oil actually get into the Earth?” or “Was my teddy bear and its stuffing also made of oil?” or “What happens if you pour oil in a flower bed?”. All of these questions – and more – were resolved in the workshops.

Pupils and teachers as well as students and lecturers from the University of Leoben developed, tested, and documented descriptions of experiments associated with the subject oil. The resulting experiment descriptions should be integrated in an oil kit. These kits should help work with topics such as properties of oil, source of oil in nature, oil in our life, oil and our environment etc. in an interdisciplinary procedure.



Graphics regarding the topic “Crude oil, Natural Gas and Geothermal Energy”


During the series of workshops with the participating schools, graphics were developed by kids for kids. This was a novelty! “Normally” adults produce graphics for children and youth. Through the Austrian Museum of Society and Economy’s graphic studio, the templates and further drafts from the editor were graphically put together as a descriptive first version. In the graphic studio it was possible for the youth, who created the templates, to see the professional graphic artists at work and to join in their conversations. After an evaluation of these graphics a final version was produced.

In Vienna in the 21st district, also the evaluation of the graphics took place in cooperation with the University of Education Vienna and the cooperative secondary school Jochbergengasse 1. Kids from two classes intensively tested the graphics for their comprehensibility. On the basis of the evaluation results of a specialized analysis by the institute for petroleum engineering of the University of Leoben and a concluding subject-related didactical examination of the PH Vienna, the design of the final version was taken over by the graphic studio. The works will not disappear in a drawer, but will rather be disseminated through specific distribution strategies (DVD, homepage and continuing education events for teachers and students). A proof for the increasing use of these on a homepage published graphics is the increasing number of downloads. This fact was confirmed in the external evaluation report of the University of Kassel which also underlines the positive co-operation and the high quality of the project’s results. With these graphics, also current topics like the blow out in the Gulf of Mexico can be easily taught in schools.

Accompanying research project “Preconceptions”

Parallel to this research and development work, a small, already publicized research project about prior beliefs of crude oil deposits was conducted. As a main result, it is important to note that the preconceptions of the pupils and also the adults with different levels of education mainly do not correspond to scientific models. These preconceptions can not simply be erased or replaced, but rather reconstructed or further developed using constructivist oriented strategies according to the conceptual change approach. Learning environments such as these are created through this project.





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