

The partners



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Background and Aims

Science

(contents, thinking, working) support

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Mathematics concepts
 in terms of
mathematical literacy

Advantages

- authentic experiences of mathematical contents
- mathematics with concrete objects
- experience meaningfulness of mathematics
- discover similarities among subjects
- experience of each subject's limits
- deeper understanding of mathematical concepts

Development Activities

The development of teaching modules contains the development of:

- teaching idea (against the basic backdrop of math and scientific literacy through connecting science and maths)
- short description of background (scientific and didactical concepts) and further information (experiences, results of testing, literature)
- **proposals for lessons (content and methods)**
- **worksheets**
- material (e.g. equipment for experiments, dynamic applets, visual projections etc.)

Conceptional approaches

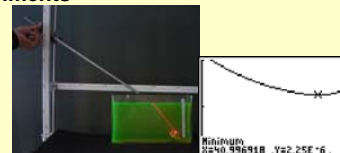
- **Mathematics through Every-Day-Life Problems and Scientific Questions**
- **Modelling Processes and Integration of Mathematics and Sciences**
- **Learning mathematical concepts like function and variable through experiments**



Physical experiments in math lessons



mathematical modelling scientific topics



catch mathematical aspects in science tasks

Research Activities concern

- the modules theoretical background
- learning activities of the students
- **concept understanding of the students**
- realisation in the classroom
- evaluation through teachers

Methods

- observation in the classroom
- questionnaires, interviews
- evaluation of the student's worksheets
- theoretical approaches upon the backdrop of mathematical education

www.sciencemath.ph-gmuend.de
Teacher Training Event in Slovenia, August 2009 !