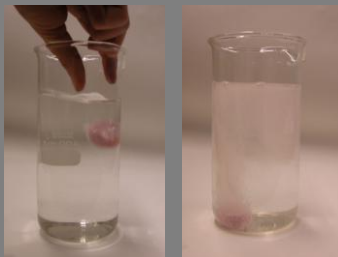




## PROFILES IBSE Teaching/Learning Materials – Overview

compiled by the PROFILES Working Group of the Freie Universität Berlin – Germany



### KieWi & Co. – Substances in Everyday Life – “Where do the fizzy bubbles ‘in’ fizzy tablets come from?”

A Module for Science Instruction – especially Chemistry – for Grades 5 to 7

Developed by: Sabine Streller, Claus Bolte (2007)  
 Institution: Department of Chemistry Education, Freie Universität Berlin – Germany  
 Homepage: [www.chemie.fu-berlin.de/didaktik](http://www.chemie.fu-berlin.de/didaktik) - Mail: [didaktik@chemie.fu-berlin.de](mailto:didaktik@chemie.fu-berlin.de)

### Abstract

In this PROFILES module, children will have the opportunity to examine a phenomenon that they will know from everyday life and which they may have asked themselves about before - “Where do the fizzy bubbles ‘in’ fizzy tablets come from?” The children will systematically examine the components of fizzy tablets. Judging from experience, the children will most likely suggest examining each of the ingredients separately and dissolving it in water. In doing so the children will realise that separate solution of the ingredients does not produce fizzy bubbles. This primarily “frustrating result” is deliberate since the children are meant to learn that experiments do not necessarily lead to the expected or desired result. It is only when adding two of the ingredients to water (citric acid and sodium hydrogen carbonate) that the desired result is achieved – fizzy bubbles are produced. By proceeding in this way, the children learn how scientific research works and that set-backs are to be expected. Only a systematic analysis of the variables will deliver successful results and solutions to problems. Further experiments, such as how many bubbles are created and how this can be quantitatively measured as well as whether different fizzy tablets produce the same amount of bubbles, round up the module.



Professional Reflection-Oriented Focus on Inquiry-based Learning and Education through Science

**Subject:** Science and/or Chemistry

**Grade level:** 5<sup>th</sup> to 7<sup>th</sup> grade

**Curriculum content:** Properties of substances, comparing substances, relation between the uses and the properties of substances

**Kind of activity:** Enquiring, explaining, laboratory work, building models, group activities etc.

**Anticipated time:** 4 lessons of 45 minutes for the example

**Overall Objectives/Competencies:** Observing scientific phenomena and describing them by using everyday as well as technical language; investigation and description of the change of substances in a chemical reaction; design and implementation of simple experiments.

Attached files		
1.	<a href="#">Student activities</a>	Describes the scenario in more detail and the tasks the students should carry out
2.	<a href="#">Teaching guide</a>	Suggests a teaching approach

## Acknowledgement:

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