



Chemical Education

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First Contact with Chemistry

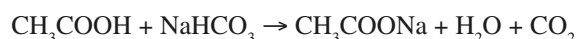
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Abstract: *tunBasel* is an interactive experience show for 7 to 13 year olds. Its aim is to counteract skilled labour shortage in the science and technology sectors.

Keywords: Awareness · Children and young teenagers · Experience show · Interactive · Natural sciences and technology

The ‘balloon experiment’ is fun, and it is also easy to carry out. Just pour some vinegar into a volumetric flask and baking soda into a balloon, attach the balloon to the rim of the flask, lift it up to let the baking soda trickle into the vinegar and watch what happens. Chemists know it as:



This simple chemical experiment at the aprentas booth was one of around 50 thrilling activities in the fields of natural sciences and technology at the public fair ‘*tunBasel*’ in March 2024 at the Messe und Congress Center in Basel.

Science and Technology for Young Explorers

tunBasel is an interactive experience show for children and young people aged 7 to 13 that aims at awakening an interest in technology and science at an early age in a playful way, inviting and encouraging them to experiment and experience. Renowned institutions such as various companies from the technical, chemical and pharmaceutical industries, university departments and other educational organisations take part in *tunBasel* and present amazing and challenging experiments. The wide range of the activities they offered this year included, for example, visualizing the DNA of a tomato, building an elevator model, programming a robot, and also surgery – not on a person but on a sweet pepper, using tiny instruments to remove the seeds.

The ‘*tun*’ in *tunBasel* stands for ‘Technik und Naturwissenschaften’, technology and natural sciences. It also means that there is not only a lot to see, but that visitors can also do things themselves. The main target groups are school classes with teachers as well as children and teenagers accompanied by their parents.

Career Ideas

tunBasel started off in 2010. Initiated by Endress+Hauser, a measuring instrument manufacturing company, and the vocational training association aprentas, it was organized and supported by the chamber of commerce of the cantons Basel-Stadt and Basel-Landschaft.

Their common aim was to counteract skilled labour shortages by drawing attention to careers in technology and science,



Fig. 1. Chemical and technical experiments at *tunBasel* (photo: Manuel Weiersmüller).

and demonstrating how varied and intriguing they are. Appealing to the very young in an age-appropriate, playful, and interactive way, the purpose was to raise their awareness a few years before they would have to decide on a subject to study, or for a profession to learn.

A positive side-effect of activities like the balloon experiment can be seen in the general image of chemistry in society. There is a naive but rather widespread perception of chemistry as something that is done in laboratories by brilliant but crazy nerds who mix artificial and dangerous ingredients together to create something that will probably explode. With the young ‘*tun*’ visitors, the experience of inducing a chemical reaction themselves, using generally known substances such as vinegar and baking powder, might contribute to a basic understanding of chemistry as an integral part of everyday life, deeply rooted in nature.

From *tunBasel* to *tunSchweiz*

In 2010, the first *tunBasel* already exceeded expectations with, among many other visitors, more than 150 school classes. In 2024, taking place for the seventh time, it attracted about 470 classes and a total of about 12,000 young people.

Over the years, the ‘*tun spirit*’ has spread to other Swiss regions. Since 2010, over 20 successful *tun* experience shows have been organized in Basel, Bern, Lausanne, Lucerne, Solothurn, St. Gallen and Zurich. In order to coordinate common activities such as the *tun* shows with various associations, companies and private persons, and to raise the necessary funds to put them into practice, the foundation *tunSchweiz* was established.

Early November this year *tunSolothurn* took place for the fourth time, proving once again a highly successful and popular event of this kind is also possible in a smaller setting. French-speaking Switzerland participates, too. In February 2025, *MINT-Vaud* in Lausanne will be held for the second time, at a particularly inspiring venue, the SwissTech Convention Center of the Ecole Polytechnique Fédérale de Lausanne (EPFL).

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Continued Efforts

Have the *tun* shows, actually led to more students and apprentices in the *MINT* (mathematics, information technology, natural sciences and technics) sector? No precise answer is possible; the impact of the *tun* shows is hard to measure for several reasons, one of them being that other initiatives like the SimplyScience foundation or *girls@science/boys@science* have also been launched in the last few years. The fact remains that the skilled labour shortage has not disappeared, and continued efforts are needed.

Received: September 13, 2024

References

For further information see tunBasel.ch and tunSchweiz.ch