

Chemistry for DUMMIES: How to Popularize and Introduce Chemistry to the General Public

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Abstract: To mark the occasion of the International Year of Chemistry, each week in 2011 I posted a two-minute film demonstrating and explaining a simple and safe experiment to be carried out at home using everyday household products on the site www.chimie.ch/nuls.

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Chemistry too often gets a bad press, being considered synonymous with pollution or accidents. I wanted to take advantage of the International Year of Chemistry to show the general public another facet of this science: the experimental and amusing side. I thus created a series of films, each lasting two minutes, with the same basic structure: the demonstration of an experiment, followed by its theoretical explanation, and then a practical application in our daily life.

The target audience was the general public, who did not necessarily have any knowledge of chemistry. I therefore christened this project 'La chimie pour les NULS' (Chemistry for DUMMIES), with the aim of encouraging those who have never attended a single chemistry course to nonetheless take an interest. To avoid any cause for concern, I chose experiments that only required everyday household products, not presenting any danger. This was one of the constraints of my project, since I think the best way of demonstrating chemistry to the public is for people to experience it themselves by trying out experiments in their own homes.

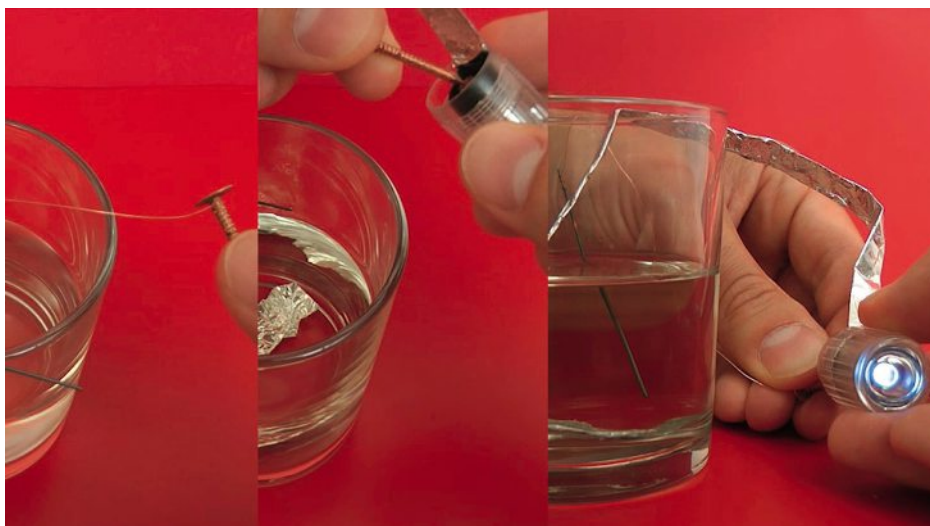
I therefore planned 52 experiments in advance so that I wouldn't run out of ideas mid-year. The filming tests, editing and preparation of the credits also formed part of this preliminary work for roughly six months before broadcasting began. On 1st January 2011, the first episode of *La chimie pour les NULS* was posted online. Each Saturday, a new episode was added to the series.

I divided the year into four seasons of 13 episodes, mixing the subjects and topics dealt with: from silver cleaning and how toothpaste works to thermal reactions or batteries, all the various branches of chemistry were tackled in the course of these 52 episodes: states of matter, acid–base reactions, redox reactions, thermodynamics, stoichiometry, organic chemistry and physical properties of matter were thus indirectly presented.

So is it possible to popularize chemistry and make it accessible and attrac-

tive to the general public? The answer is an unequivocal yes! To date, the site has recorded over 350,000 visits, 270,000 of which were in 2011. Each week I sent a newsletter announcing the new episode to over 1,800 subscribers. I received more than 1,200 emails, mainly to congratulate or thank me, but also asking me questions about chemistry. Only a very small number came from professionals in the chemical field; the majority were from adults, parents, grandparents but also children, who all found my site "brilliant".

This feedback from Internet users allowed me to evaluate the effectiveness of *La chimie pour les NULS* as a promotional tool for chemistry. Although the public reached represents only a small fraction of the population, the site has had a certain impact. On the one hand, among young people (who often watched the films with their parents or grandparents) some of whom wrote telling me they wanted "to be-



Photomontage of episode 4x03: The aluminum-bleach battery. Some aluminum foil and a pencil lead connected to a copper nail by a copper thread are immersed in a glass of bleach. This produces a battery capable of lighting a torch bulb.

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come a chemist like you when I'm older" and on the other, among the adult population for whom this was an opportunity to discover or rediscover chemistry from a new angle and form a very different opinion of it. I also received lots of messages regretting that the year was over and asking me if I wouldn't like to continue. I'm therefore happy to establish that the passion for science well and truly exists, even if the public concerned doesn't represent millions of people.

I also had the chance to discuss all this with my colleagues teaching chemistry or natural sciences all over French-speaking Switzerland: the response was very positive, with some of them showing the films to their pupils and discussing them with them. Although my films were not originally designed as a teaching tool, I must admit that they are very suitable for certain subjects and am delighted at the idea that my colleagues can take advantage of this opportunity.

The secret of this success? It probably involves a complex alchemy combining

various ingredients. First, the fact that the films last only two minutes is an invitation to watch them. I sometimes had to meet the challenge of not going far over this time limit, as we live in a world where everything has to happen very quickly. There is also the entertaining and reproducible side of the experiment. While some people admitted to me that they have not tried any of the experiments but appreciated seeing them filmed, others told me they really enjoyed getting involved. In this respect, I think the quality of the film played an important role, as the result is very visual.

Finally, there's no use having all these ingredients if you don't know how to mix them together; the broad media coverage (newspapers, radio, TV, internet) made the site known and played a major part in this success story. This is confirmed by the site statistics, since more than 80% of visits were from Switzerland, where media coverage was more than intense. In comparison with the populations of other French-speaking countries, Switzerland wins hands down.

And last but not least, *La chimie pour les NULS* resulted in the publication of a book containing the 52 experiments, with explanations both 'for dummies' and at *maturité fédérale* level, for use in class. A DVD-ROM and a BluRay version complete the collection. The Internet site will remain online, but will no longer be updated. This project will have taken up at least a thousand hours of my time, but the result, which far exceeded my expectations, proves that the effort was well worthwhile.

My goal has been achieved: during the International Year of Chemistry, the general public had the chance to see and experience chemistry, to discover this science from a different viewpoint; the media also talked about it, and for once for reasons other than to denounce one of its harmful effects. There's no doubt that another initiative along these lines would be well received by the population. Any takers?

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