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Project IKARUS

DIE DENKSCHULE
www.die-denkschule.ch

From the classroom to the edge of space

We choose to go to space! Not because it is easy, but because it is hard! The crowning conclusion of this project are several weather balloon missions to the edge of space.

The balloon probes have reached an altitude of **34'000 meters** above ground level and captured spectacular aerial photographs of Switzerland with a built-in camera.



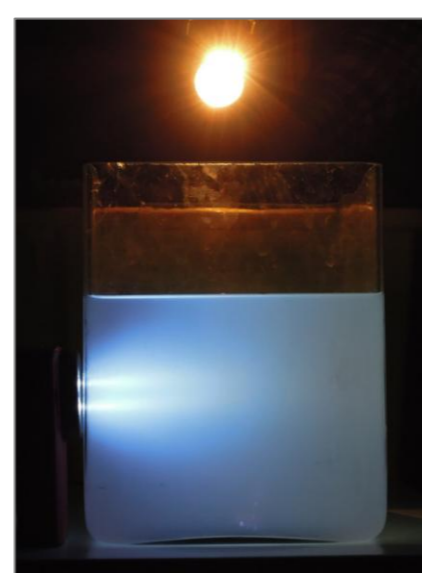
A weather balloon before launch

Interdisciplinary Teaching

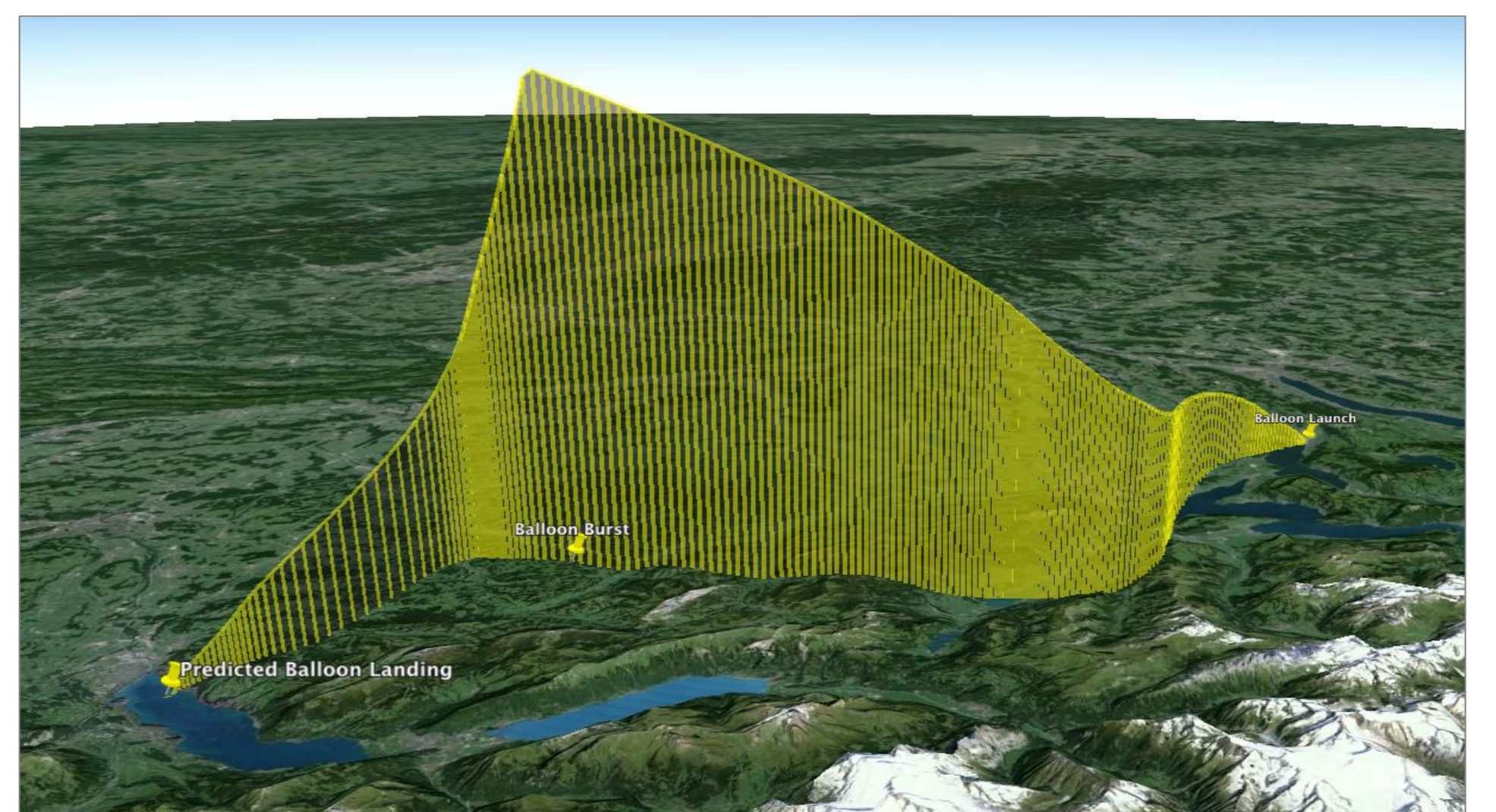
The main teaching objectives are **natural sciences, physics, meteorology, Swiss geography** and rocket science. The students use their skills in **mathematics** to predict the landing zone or determine the range of sight and documented the development of the project. They present the results in a lecture to the public.

Experiments

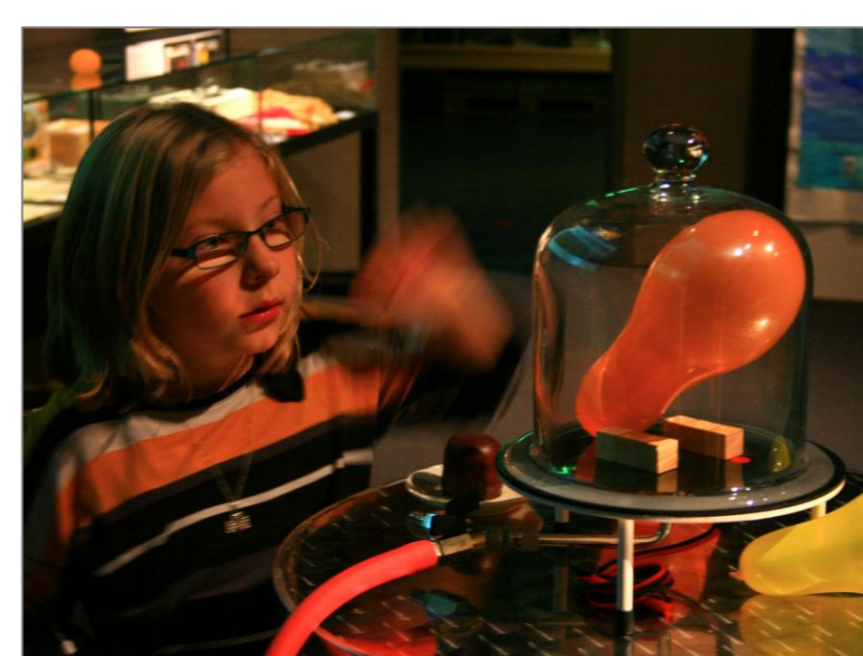
In order to achieve a deep understanding of the physics phenomena associated with the space missions, the students carry out experiments examining **aerostatics, thermodynamics, gravity, and mechanics**. To lower the cost, we use everyday materials.



Lake Lucerne and the Swiss Alps seen from 34,000 meters altitude.



Predicted flight path shown with Google Earth



Experiments: buoyancy, gravity and free fall, thermodynamics (heat insulation), optical refraction and negative acceleration on impact (law of energy conservation)



The IKARUS project inspires children to engage themselves for STEM learning. By “going to space”, science and technology become challenging, very exciting and entertaining at the same time!