

STEM Education for Sustainable Development



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Back to the future

This project aims to illustrate the evolution of energy production and usage from the earliest times to the present day. Starting with the artefacts used to lift water by hand, through to the first steam engine and Watt's motor, culminating in sustainable suggestions for renewable energy prototypes. The activities were carried out with students, using a STEM approach that demonstrates the importance of science for technological and social development, while maintaining a focus on energy sustainability. A historical perspective was used where a return to the initial energy sources (sun, water and wind) seems inevitable.



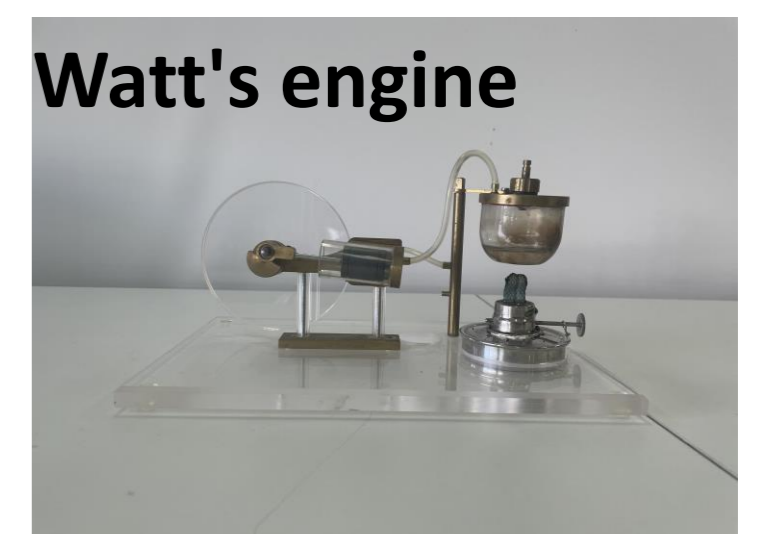
Old fashion engines: energy until the industrial revolution



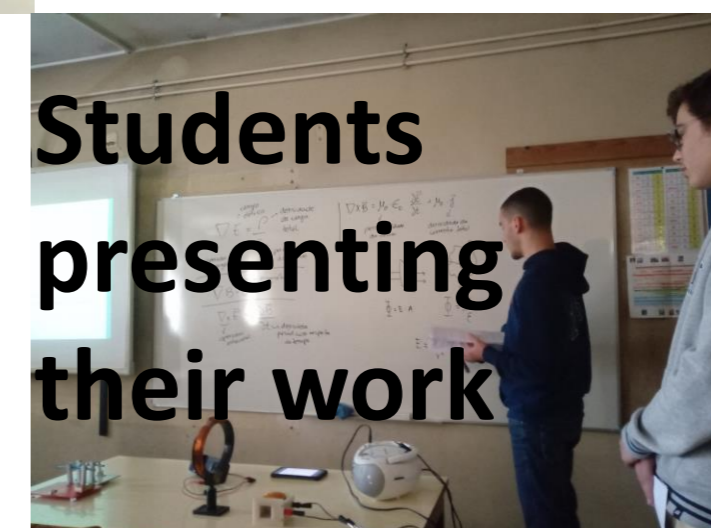
Back to the future: renewable energy



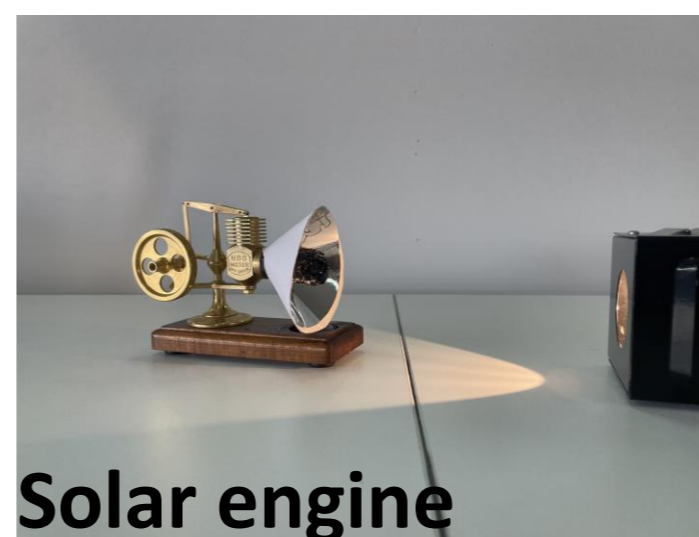
Water mill



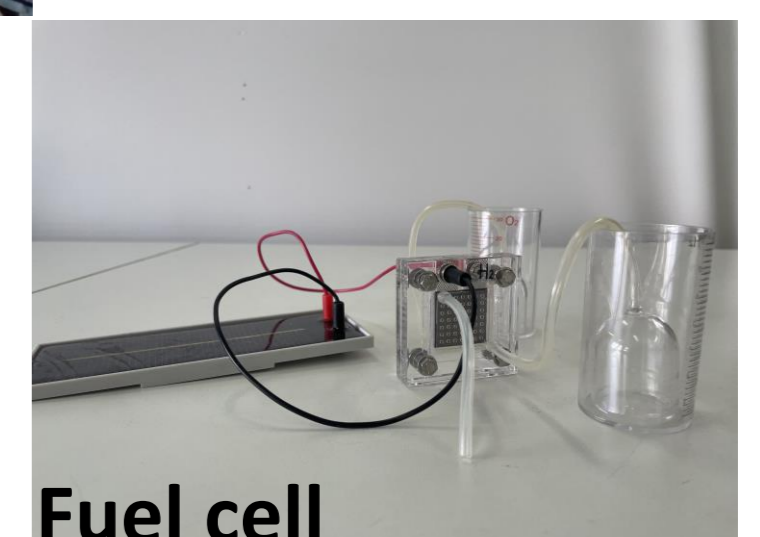
Watt's engine



Students presenting their work



Solar engine



Fuel cell

The project was developed throughout the school year and can be seen as a time machine as far as the production and use of energy by Man is concerned, with a special focus on sustainability and environmental education.