STEM Education for Sustainable Development

SCIENCE ON STAGE TURKU 2024

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Climate physics with ice-cold experiments

Hearing climate change, the first thing that comes to mind is the greenhouse effect. But is that enough? Glaciers and sea ice in particular are not only the first victims but also important players in the climate system. In 7 experiments, learners experience how the disappearance of the Arctic sea ice is related to the salt content in the North Atlantic and that tipping points do not only occur when tipping with a chair.

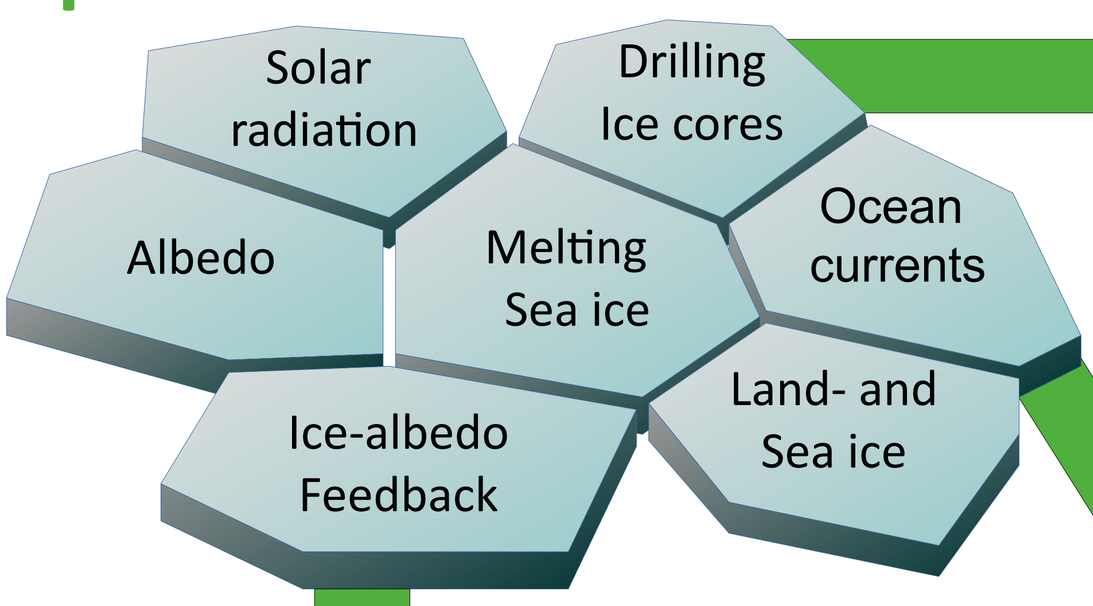
Along the way, they learn why the North Pole is actually so cold, why snow ensures that it stays that way and why melting ice floes do not cause sea levels to rise. In short: why apparently minor changes can have dramatic effects in a complex system.

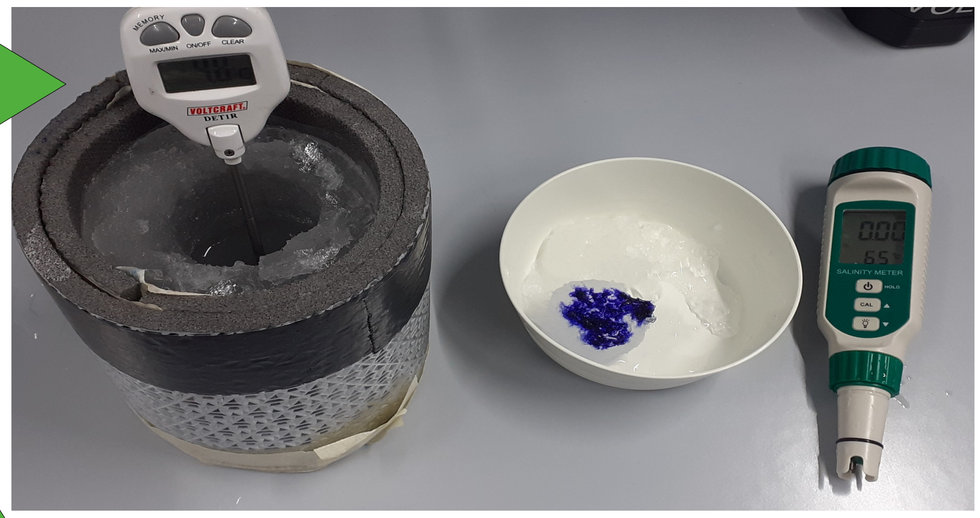
4 QUALITY EDUCATION

13 CLIMATE ACTION

14 LIFE BELOW WATER

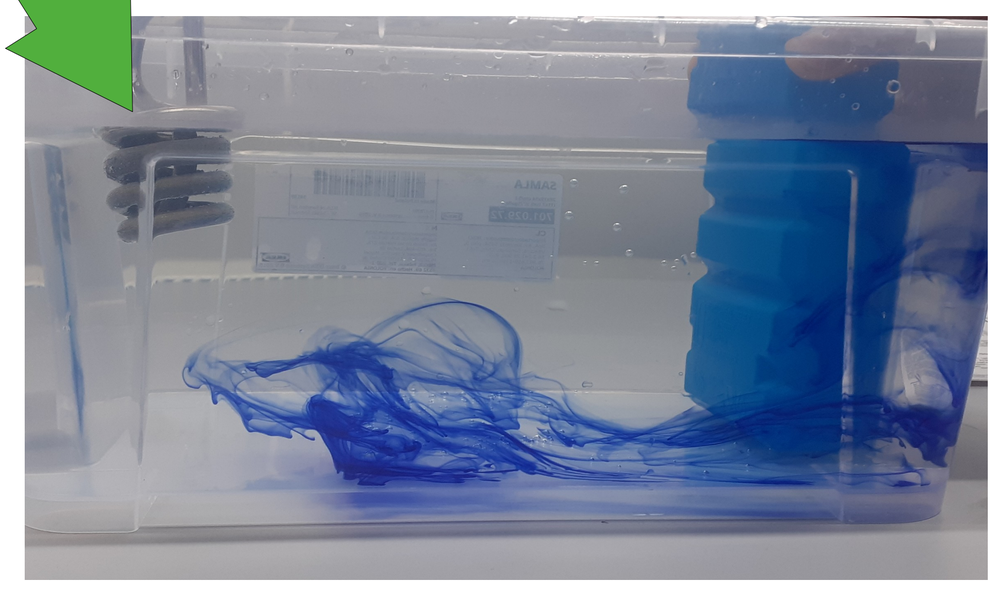
Experiments:





Drilling and analysing ice cores

Statistical simulation of tipping points



Gulf stream in a box

Bottom line: Climate change is a complex system. However, its triggers can be experienced with simple means at school. This is the basis for actively participating in the climate debate.