

Communicating Permafrost Research and Arctic Climate Change: a Modular Concept for Student Workshops

About

We present a modular concept of a student workshop that we have offered three times to classes with students aged 11 to 16. The workshop is easily adaptable to students of different grades. The two to three hour workshop is set up of five modules: a scientific presentation, three different workstations, and a final discussion. Firstly, students attend the scientific presentation to learn about Arctic climate change and permafrost. Students are then divided into small groups to participate in each of the three workstations consisting of games, hands-on experiments and background information. The workshop wraps up with a final discussion about the global impact of Arctic climate change.



INPUT PRESENTATION

- In a 15 min presentation the students learn about climate change and the role of the Arctic.
- We introduce them to the landscape of the Arctic, its vegetation and animals.
- The students learn that humans live in the Arctic and how they are affected by climate change.

WORKSTATION 1 Logistics, planning and life on expedition

- The students learn to plan and be on an expedition in the Arctic.
- We discuss the remoteness, mobility, safety issues, and suitable equipment.
- The students plan the route and duration of a sampling day by using and interpreting a map.



WORKSTATION 2 Water filtration

- The students learn about water sampling in the field.
- We discuss the different ways of processing a sample depending on the analysis.
- The students filter two water samples of different origins. We then compare and discuss the results.



ARCTIC GAMES

- Cooperative group games with Arctic context demonstrate the team work necessary on Arctic expedition.
- This station can optionally be added to the workshop depending on how much time is available.

WRAP-UP DISCUSSION

- We examine the connections between the workstations.
- We review why and how human behavior has an impact on distant places and, in turn, how this may affect our life.
- We discuss the role of our everyday life and which changes could counteract or mitigate climate change.

WORKSTATION 3 Temperature Measurements

- The students learn about temperature measurements in the field.
- The students measure temperature and soil moisture in different media (sand, soil) and discuss the differences.
- We demonstrate the use of a thermal camera and discuss its purpose for permafrost monitoring.

