

Live investigation: Keeping warm



Age 7-14



45 minutes

Prep resources



Lesson

Arctic live preparation lesson

Unit

Frozen Oceans Science /
Geography



PD Collection

Live lesson support

Encounter Live support

If you have never joined a live lesson before use the guidance at <https://encounteredu.com/cpd/collections/live-lessons>, where you will find technical and educational support.

Live resources



Encounter Live
Live homepage



Student Sheet
Keeping warm investigation

Safety and Guidance



Do not use boiling water. The government recommended safe limit is 43°C.

Students should work in the centre of the table.

Breaks should be reported to an adult immediately, and students should not attempt to clear these themselves.

Live lesson overview

This activity is a fun way of learning about how explorers survive the extreme conditions in the Arctic. Students will investigate different materials and compare how they perform as insulators. Students should complete the experiment in real-time along with the presenter. While waiting to measure and record the results, students will be encouraged to think about how Arctic animals have evolved to keep warm.

Preparation

Live lessons work best when students have some prior knowledge and have prepared questions. Either teach a lesson from one of the Frozen Oceans units at <https://encounteredu.com/teacher-resources/topics/polar> or choose a one-off Arctic Live Preparation lesson, available to download on each live lesson web-page.

Questions generated by your class can be submitted via the Live Lesson tab in your Encounter Edu profile.

Check that you can view live chats by testing any YouTube Live video. Ensure you have the correct materials for the Live Lesson.

Learning objectives

- Describe the climate in the Arctic
- Conduct a fair test to identify good insulators
- Apply prior knowledge to making predictions

Session steps

1. Introduction (5 mins)

The presenter open the session with a welcome and brief introduction to the expedition and any shout-outs to registered classes. The presenter will then proceed to speak about the climate in the Arctic and staying warm. In this activity students will investigate clothing materials and consider how other organisms survive without clothing in the extreme Arctic environment.

2. Subject knowledge (5 mins)

The presenter will introduce some of the organism that live in the extreme Arctic environment and how they have adapted to be able to survive in this extreme cold weather. During this time students to get into their allocated groups and set up their experiments.

3. Activity (20 mins)

The presenter will go through the three materials he has chosen to compare and will proceed to set-up his experiment.

4. Q&A (15 mins)

After completing the activity, the presenter will be able to answer pre-submitted questions and take part in the live chat.