

FREEDOM AND DANGERS

OLDEST LEVEL

Freedom and Dangers is one out of nine podcasts produced by Katrine Nyland for The Icefjord Centre in Ilulissat.

Subjects

Cross-curricular – languages and science

Learning goals

- The students acquire fundamental knowledge about the impact that climate changes have on life at the Icefjord.
- The students acquire knowledge about the importance of the ice for life around the Icefjord.
- The students practise their skills in communication and cooperation.

Organisation

We recommend that the students work in pairs or singly. Depending on what suits each student best and the competences to be developed. Keep in mind that your best friend is not necessarily the one you collaborate best with. Working together is about *working* together and not just *being* together.

Guide to the Book Creator book

The Book Creator book *Freedom and Dangers* is a student's book associated with the podcast *Freedom and Dangers*.

The duration of the podcast is 5:44.

The activities have been designed to focus on the students' investigative, experimental and creative approach to learning.

The process consists of three steps:

- Preparation before listening to the podcast
- Listening to and working with the podcast
- Further work with topics and insights from the podcast

We recommend that you listen to the podcast before presenting it to the students.

Page by page guide

– the Book Creator student’s book “Freedom and Dangers”

Welcome to the Icefjord Centre, pages 4-7

The students meet the Icefjord Centre in two pictures, showing summer and winter respectively.

In class you can talk about:

- What the Icefjord Centre is.
- What the surroundings around the centre look like.
- The difference between summer and winter.
- How summer and winter differ where you live.

Map Ilulissat, pages 8-9

The students see a map of Greenland. There is a marker that shows where Ilulissat is situated.

In class you can discuss:

- What you see on the map.
- How many people live in Ilulissat.
- What else do you know about Greenland and Ilulissat?
- Do you know the names of other places on the map?

I live here, pages 10-11

The students see part of a world map.

The task now is to move the red marker down into the map in order to show where each student lives.

The marker is found in the white box and can be drawn into the map.

In class you can talk about:

- Where is your town or settlement situated?
- How many people live in the town or settlement where you live?
- Do you know the name of other places on the map?

Before we listen, pages 12-13

In order to activate the students’ preconception of climate changes, they are now to make a visual story where they make use of the knowledge they already have about climate changes.

They can search for pictures in Book Creator or make drawings and insert them on pages 12-13. The pictures should illustrate what the students already know about climate changes. The students should insert sound recordings where they explain what the picture shows.

When the students have made their visual story, they present it to the rest of the class. In their presentation they have to give reasons for their choice of pictures and point out how these pictures illustrate climate changes.

Insert a *picture* in Book Creator, web version, like this:

1. Click on a frame
2. Click on the plus sign inside the selected frame

3. Choose *Images*
4. Select a picture from your computer
or:
search for one on the internet, select by clicking and choose **Add**
5. The picture can be resized and moved by dragging

Insert a *picture* in Book Creator, app, like this:

1. Select a frame by tapping
2. Tap the *camera icon*
3. Shoot a photo of your drawing
4. Choose *Use Photo*, and the fresh photo is inserted in the frame
5. The picture can be resized and moved by dragging

This is how to make a sound recording in Book Creator, web version:

1. Click on **+**
2. Choose *Record*
3. Click on **Start recording**
4. Start talking
5. Click on **● – Stop recording**
6. Choose USE RECORDING

And in the Book Creator app:

1. Tap **+**
2. Tap *Media* (if necessary)
3. Tap *Add Sound*
4. Tap **● – Start recording**
5. Start talking
6. Tap **■ – Stop recording**
7. Choose **Yes**

Listen and talk, pages 14-15

Now it is time for the students to listen to the podcast *Freedom and Dangers*.

They start the podcast by clicking on the icon in the middle of page 14.

It is recommended that the students listen in pairs or small groups.

Before listening to the podcast, you could give a short introduction to the contents of the podcast.

1. Ane Sofie tells about
 - a. the special feeling of freedom in the middle of nature.
 - b. the season for dog sledding becoming shorter and shorter.
2. Flemming tells about
 - a. perils on the ice – "listen to your dogs"
 - b. the normal route out to the hunting cabin and the fishing grounds of 10 -15 km.
 - c. unpredictable ice/a new 40 km route over the mountains.
3. Klaus tells about

- a. the episode where his dog team is so eager to get out on the ice that they run before he gets them fastened to the sledge. He tells how they get picked up by Villy Siegstad (former Greenlandic champion in dog sledding/let the students find information about this).
- b. the dogs that are full of pranks and mischief on short trips, but on the long trips, e.g. 1400-1500 km over the ice sheet, find a rhythm as if they are dependent on each other.
- c. About how the dogs, after a long trip over the ice sheet (1½ months), right away sought directly towards the dog lot at the Icefjord Centre.

After having heard the podcast, let the students spend a few minutes discussing what they have heard in the podcast with the student sitting next to them.

On page 15 the students are to make small sound recordings where they tell about the podcast. The pictures on the page will help them remember what they have heard.

This is how to make a sound recording in Book Creator, web version:

1. Click on 
2. Choose *Record*
3. Click on *Start recording*
4. Start talking
5. Click on  – *Stop recording*
6. Choose USE RECORDING

And in the Book Creator app:

1. Tap 
2. Tap *Media* (if necessary)
3. Tap *Add Sound*
4. Tap  – *Start recording*
5. Start talking
6. Tap  – *Stop recording*
7. Choose **Yes**

The recording will now be represented by a small sound icon. This icon can be placed wherever you wish on the page. You can listen to the recording over and over again.

Review in class

We recommend that you have a joint discussion in class when the work with pages 14-15 is finished.

We recommend that you support the discussion by writing and maybe illustrating concepts and keywords on the board.

In class you could talk about:

- What surprised the students when listening to the podcast.
- Concepts and keywords that the students encountered in the podcast.

Below you can find inspiration for the class discussion.

In the Book Creator book there are some pages with tasks connected to some of the concepts.

You can add more pages yourself for other topics, concepts and keywords.

- Sledge driver and sled dogs – the dog handler drives the dog sledge that is pulled by the sled dogs.
Ane Sofie and Flemming are sledge drivers. The sled dogs are persevering and can sense when the ice is thin.

How are you a good sledge driver?

How do you think the dogs can sense when the ice is thin?

- Dog teams and traces – the sled dogs are joined in a team. They are fastened to the sled by harnesses and traces.
When you put together a dog team, you have to think about the relationship the dogs have to each other. There have to be both strong dogs and good lead dogs.
When you have found the dogs that you want in your dog team, the dogs have to be fastened to the dog sledge. This you do with harnesses and traces. The harness is on the sled dog, the traces connect the harnesses to the dog sledge. The traces are often arranged in the form of a fan.
Sometimes it happens that the dogs run away from you, so you are left with a sledge and no dogs.

Why is it important to assemble all the sled dogs in a dog team?

Why is it important to be aware of the relationship between the dogs when you assemble a dog team?

- Global – the global climate is becoming warmer and warmer.
The word “global” comprises the whole planet Earth. This means that it is getting warmer and warmer everywhere on Earth.

What is the difference between “global” and “local”?

- Climate changes - the weather becomes warmer and the ice melts.
When we talk about climate changes, we often also mention global warming and the greenhouse effect.
The greenhouse effect is a result of humans emitting greenhouse gases, which makes the Earth warmer and warmer. The most well-known example of a greenhouse gas is CO₂. But there are many other greenhouse gases.
In Greenland, the consequences of the climate changes are that the ice melts faster and earlier than it used to.

How do climate changes affect Ane Sofie and Flemming?

What do we know about climate changes?

Is it possible to reduce our emission of greenhouse gases?

- The inland ice – an ice sheet that covers an area with ice.

The ice sheet in Greenland is the next largest in the world, the ice sheet on Antarctica is the largest. An ice sheet is a glacier that is over 50.000 km².

What would the rest of the Earth look like if all of the inland ice melted?

What happens to the water level when the inland ice melts?

- Glacier – a massive body of slowly moving ice.
When new snow falls upon a body of ice, the layers will be pressed so heavily together that they eventually start moving. It happens because the weight of the upper layers press and twist the layers underneath, that then will start moving. A glacier can “calve”. This happens when large chunks of the glacier break off and float into the water.

Which materials can a glacier transport?

- Meltwater – the water that melts in connection with big masses of ice.
Under the glacier runs a stream of meltwater that enables the glacier to move. The meltwater can press itself deep into the landscape and even mould the landscape.

Do you know of any places where meltwater and glaciers have moulded the landscape during an ice age?

Is it only under the glacier that the water can melt?

My reference book, pages 16-17

On pages 16 and 17 the students can write sentences or small stories using the keywords that you have talked about. They can write them, record them as an audio file or make a drawing and insert the picture. Their products will be part of the further work with the podcast.

This is how to insert a text in Book Creator, web version:

1. Click on **+**
2. Choose *Text*
3. Choose *Text* again
4. *Write* your text
or:
click on the microphone and *dictate* your text
(Important: choose the right language before dictating!)
5. Finish by choosing *DONE*
6. Move the text box to where you want it

And in the Book Creator app:

1. Tap **+**
2. Tap *Add Text*
3. Tap *Text*
4. *Write* your text
or:
click on the microphone in the keyboard and *dictate* your text
(Important: choose the right language before dictating!)

Insert a *picture* in Book Creator, web version, like this:

1. Click on **+**
2. Choose *Images*
3. Select a picture from your computer
or:
search for one on the internet, select by clicking and choose **Add**
4. Resize by dragging a corner

Insert a *picture* in Book Creator, app, like this:

1. Tap **+**
2. Tap *Media* (if necessary)
3. Tap *Photos*
4. Tap the one you want
5. Resize by dragging a corner

This is how to make a sound recording in Book Creator, web version:

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2. Choose *Record*
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4. Start talking
5. Click on **● – Stop recording**
6. Choose USE RECORDING

And in the Book Creator app:

1. Tap **+**
2. Tap *Media* (if necessary)
3. Tap *Add Sound*
4. Tap **● – Start recording**
5. Start talking
6. Tap **■ – Stop recording**
7. Choose **Yes**

Glaciers, pages 18-21

The students are now going to work with glaciers.

On pages 18-19 there is a picture of a glacier foot at Ilulissat, showing the development from the middle of the 19th century to 2018.

On pages 20-21 there is a short text, a picture of a glacier calving, a link to a homepage with information about glaciers and two questions in black speech balloons.

The students are to discuss both pictures, read the short text and answer the questions in the black speech balloons. They can search for information on the [homepage](#) linked to on page 21.

They insert their answers in the speech balloons, in the form of a sound recording corresponds to the speech balloon.

This is how to make a sound recording in Book Creator, web version:

1. Click on **+**
2. Choose *Record*
3. Click on *Start recording*
4. Start talking
5. Click on **●** – *Stop recording*
6. Choose USE RECORDING

And in the Book Creator app:

1. Tap **+**
2. Tap *Media* (if necessary)
3. Tap *Add Sound*
4. Tap **●** – *Start recording*
5. Start talking
6. Tap **■** – *Stop recording*
7. Choose **Yes**

You can find more information about glaciers and ice age landscapes [here](#).

Here are some proposals to additional questions:

- What is meltwater?
- What happens to the water level when an ice sheet begins to melt?

Climate changes, pages 22-25

Here the students are to work with climate changes and the greenhouse effect.

On pages 22-23 there is a text about the climate changes, the greenhouse effect and greenhouse gases. This text the students must read. After that they watch the video on page 23. There is also a link to [this](#) homepage where the students can search for more knowledge about the questions, they have to answer on pages 24-25.

On pages 24-25 there is a model of the greenhouse effect by the greenhouse gases CO₂, H₂O and CH₄. The students may use the model and the information on pages 22-23 to answer the questions in the four speech balloons. They insert their answers as a sound recording that corresponds to each speech balloon.

Here are some suggestions for additional questions:

- What is the difference between fossil and renewable energy sources?
- Is it possible to diminish our emission of greenhouse gases?

You can acquire more knowledge about climate changes [here](#)

This is how to make a sound recording in Book Creator, web version:

1. Click on **+**
2. Choose *Record*
3. Click on *Start recording*
4. Start talking

5. Click on ● – *Stop recording*
6. Choose USE RECORDING

And in the Book Creator app:

1. Tap +
2. Tap *Media* (if necessary)
3. Tap *Add Sound*
4. Tap ● – *Start recording*
5. Start talking
6. Tap ■ – *Stop recording*
7. Choose **Yes**

Experiment, pages 26-27

In groups the students are now to investigate climate changes and the effects of these in two scientific experiments. If there is not enough time for both, you can choose to do just one of the experiments.

On pages 26-27 there is an introductory text to the two experiments.

The students are reminded that they have to take pictures of their experiments. These pictures they will need to fill out the experiment reports on pages 28-39.

The pages 28-39 can be altered and adjusted according to what you require in an experiment report. There are additional ideas as to what you could include on these homepages [here](#) and [there](#).

Experiment 1, pages 28-33

Experiment 1 is called *CO₂ is a greenhouse gas*. Here the students are to try to create their own greenhouse effect. Here is the link to the [experiment](#).

They need the following materials:

- 2 containers of about 1 litre – preferably of glass (beakers or conical flasks)
- 1 lamp with a strong lightbulb – preferably incandescent light bulb
- 2 thermometers
- vinegar
- baking powder

When the students click on the link there is a short introductory text and a description of how to perform the experiment.

On pages 28-31 suggestions for an experiment report are inserted. The students can fill out the report directly in Book Creator. Also inserted are frames for pictures of the experiments. The pages can be adjusted as you wish.

On pages 32-33 three speech balloons are placed with questions that connect the work with the podcast and the experiment. You can choose whether the students should record their answers and insert them in the speech balloons or whether you discuss the results of the experiment in class as a review of the experiment.

Experiment 2, pages 34-39

Experiment 2 is called *The ice melts – does the water level rise?* Here the students are to try to create their own greenhouse effect. Here is a link to the [experiment](#).

They need the following materials:

- 2 glasses of water
- ice cubes
- chicken net (or something else you can place the ice cubes on where they can melt through).

When the students click on the link there is a short introductory text and a description of how to do the experiment.

On pages 34-37 suggestions are placed for an experiment report. The students can fill out the report directly in Book Creator. Also inserted are frames for pictures of the experiments. The pages can be adjusted as you wish.

On pages 38-39 there are inserted three speech balloons with questions that connect the work with the podcast and the experiment. You can choose whether the students should record their answers and insert them in the speech balloons or whether you discuss the results of the experiment in class as a review of the experiment.

Colophon

The podcast *Freedom and Dangers* has been created by the Icefjord Centre in Ilulissat. The teaching material for the podcast *Freedom and Dangers* has been developed by Lotte Brinkmann and Daniella Maria Manuel from Anholt Læringsværksted with feedback from Leg med IT.

The student's book in Book Creator has been developed as part of the project *Nutaaliorta* from Kivitsisa.

The template was designed by Rikke Falkenberg Kofoed and Daniella Maria Manuel, Leg med IT.

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