

Teachers' Guidelines

Title of the package: Greenland in a nutshell

Information about the package:

Brief Description:

The package is dedicated to the regional geography of Greenland. In an inspiring way, it guides the student through the natural environment, economy and culture of this largest island in the world. The package includes texts, videos and presentations, as well as interactive activities to help engage the student in the process of exploring Greenland.

How does the package relate to STEAM education: The thematic scope of the package is focused on science, culture (art) and mathematics.

In the field of science, the package covers issues related to Greenland's natural environment - climate, hydrosphere, geology and landscape, plants and animals. Economic issues were also discussed. Issues related to human activity also include the scope of culture (art) - food, language, music and art. The package also allows to improve skills in the field of mathematics. This is for example exercises in converting temperature according to various scales.

Keywords: Greenland, climate, hydrosphere, geology, landscape, economy, Dorset culture.

Age range: 14-16

Didactical hours: 3 godziny + 7-dniowy projekt indywidualny ucznia polegający śledzeniu zmian temperatury powietrza w Nuuk, stolicy Grenlandii na podstawie wybranej witryny z prognozami pogody, np. weather.com

Learning objectives:

Student:

- describes the climate of Greenland;
- uses different temperature scales;
- uses different sources of information on the weather in Greenland;
- describes the changes in the Greenland ice sheet from illustrations and satellite imagery;
- describes the geological history of Greenland;
- uses a guide to label plants;
- gives examples of terrestrial and marine animals living in the Arctic;
- describes the main sources of income for residents;
- describes the culture and language of the people

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EDU-ARCTIC 2: from polar research to scientific passion – innovative nature education in Poland, Norway and Iceland receives a grant of ca. 245 000 EUR received from Iceland, Liechtenstein and Norway under EEA funds. The purpose of the EDU-ARCTIC 2 project is to: enhance the knowledge about nature, geography, natural resources, political specificities concerning polar regions and increase awareness of environmental issues and climate change, increase of interest in pursuing STEM education and careers due to enhancement of knowledge about scientific research, and their place in the modern world, familiarizing young people with scientific career opportunities; introduce innovative tools by way of an e-learning portal and effective methods of teaching science in schools

Content of the package:

Link to the package:

<https://cloud.graasp.eu/en/pages/5f58e6765201b074de26fcea>

1. Introduction

- a. Activities - "name the frame" - select selected objects on the map. After completing the task, students can obtain additional information about the indicated objects.
- b. A short fun fact video - basic information about Greenland.

2. Climate and hydrosphere

- a. Climate of Greenland
- b. Temperature. Different temperature scales, tutorial - how to express the same temperature in different scales. Task - data analysis.
- c. Winds
- d. Ablation season, change of the ice sheet - NASA observations
- e. Global Warming in Greenland - Task: Mind Map

3. Geology and landscape

- a. Geological history of Greenland - presentation
- b. Movement of tectonic plates - visualization
- c. The weight of the ice sheet
- d. Glacier mass balance

4. Plants

- a. Guide to the identification of plants occurring in Greenland

5. Fauna

- a. Animals of Greenland - a short film
- b. Polar shark - movie
- c. Play bingo - animals
- d. Challenge - connecting: what kind of whale is it?

6. Economy

- a. Presentation of the economy

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- b. Basic data in graphic form
- c. Unusual Resource - Cryolite
- d. The formation of a crater
- e. Greenland Iron - presentation
- f. Economy of Greenland - Kahoot

7. Culture

- a. "We are - what we eat - Greenland" - a video from the National Geographic series
- b. Greenlandic lesson - video
- c. "Nuuk - the largest city of Greenland" - movie
- d. Music
- e. Dorset culture

Additional resources and links, references:

1. Definitions from Polarpedia - the online encyclopedia of Arctic knowledge - that were used in the package:

Greenland: <https://polarpedia.eu/en/greenland/>

Język grenlandzki: <https://polarpedia.eu/en/greenlandic-language/>

Dorset culture: <https://polarpedia.eu/en/dorset-culture/>

2. Videos materials used in package:

Quick facts about Greenland <https://youtu.be/9UBfPwplqsl>

Greenland Ice Sheet Changing <https://youtu.be/kteMXaUNvlc>

Greenland: outcomes of warming <https://cutt.ly/VhUwnZZ>

European Space Agency

https://dlmultimedia.esa.int/download/public/videos/2020/05/003/orig-2005_003_AR_EN.mp4

Visualization of Greenland's tectonic movement: <https://cutt.ly/xhUwXec>

Greenland FAUNA: https://youtu.be/5jqw_RfFn5g

The 400-Year-Old Shark <https://youtu.be/Djj3-jF19F8>

How scientists found a huge impact crater in Greenland <https://youtu.be/8IBNbqWz4H4>

We Are What We Eat. Greenland <https://youtu.be/ohskrSuq8Mo>

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Lesson of Greenlandic language <https://youtu.be/F0c07kFMPcs>

Nuuk - the largest city of Greenland <https://youtu.be/DdWpppXpSk>

East Greenland Drum Dancing <https://youtu.be/jVZFCB5iQaU>

Traditional Inuit Music https://youtu.be/_Q005EIC2Ew

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