

LESSON 5: THE ISSUE OF ARCTIC ICE

Summary

- Familiarise yourself with relevant multimedia content at encounteredu.com/teachers/lessons/frozen-oceans-geography-14-16-lesson-5
- enough copies of:
 - Student Sheet 5a – Arctic ice impacts
- Further resources and information can be accessed from:
 - http://wwf.panda.org/what_we_do/where_we_work/arctic/
 - <http://www.guardian.co.uk/environment/interactive/2011/jul/05/arctic-oil-exploitation-map-interactive>
- Download and install Google Earth from <http://earth.google.com> if not already installed
- Download relevant Google Earth files from http://nsidc.org/data/google_earth/

Notes

Section 2: Sea Ice

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All lesson resources can be found at: encounteredu.com/teachers/lessons/frozen-oceans-geography-14-16-lesson-5

Aims / Objectives	Activities	Resources	Outcomes
<p>STARTER:</p> <p>WHAT IS HAPPENING TO ARCTIC SEA ICE?</p>	<p>Show pupils images relating to the decline in summer sea ice coverage</p> <p>If using Google Earth, downloads from the NSIDC show the trends well</p> <p>Current models have failed to predict the rate of summer sea ice loss in recent years</p>	<p>Multimedia:</p> <p>Maps and diagrams from encounteredu.com/teachers/lessons/frozen-oceans-geography-14-16-lesson-5</p> <p>Download relevant files from: http://nsidc.org/data/google_earth/</p>	<p>Understand that summer sea ice coverage is decreasing in the Arctic</p>
<p>POTENTIAL IMPACT OF SEA ICE LOSS IN THE ARCTIC - CLIMATE</p>	<p>Hand out Student Sheet 5a for pupils to make notes on the various potential impacts of sea ice loss in the Arctic</p> <p>Sea ice loss could have an impact on the global ocean circulation system. Show the video on Ocean currents to the class</p>	<p>Student Sheet 5a - Arctic ice impacts</p> <p>Multimedia:</p> <p>'Ocean circulation' video</p>	<p>Understand the climate-related impacts of Arctic sea ice loss</p>
<p>POTENTIAL IMPACT OF SEA ICE LOSS IN THE ARCTIC - HABITAT AND BIODIVERSITY</p>	<p>Continuing with Student Sheet 5a use materials from WWF on threats to habitat and biodiversity in the Arctic</p>	<p>http://wwf.panda.org/what_we_do/where_we_work/arctic/</p>	<p>Understand the habitat-related impacts of Arctic sea ice loss</p>
<p>POTENTIAL IMPACT OF SEA ICE LOSS IN THE ARCTIC - POLITICAL AND ECONOMIC</p>	<p>Continuing with Student Sheet 5a use materials to show how the sea ice loss could open up the Arctic to further commercial exploitation</p> <p>What would the total loss of Arctic sea ice in the summer mean for shipping and commerce in the region?</p>	<p>'Political map of the Arctic' showing the number of different countries in the Arctic</p> <p>http://www.guardian.co.uk/environment/interactive/2011/jul/05/arctic-oil-exploitation-map-interactive</p>	<p>Understand the political and economic impacts of Arctic sea ice loss</p>
<p>EXTENDED WRITING</p>	<p>Pupils answer the question as an extended writing exercise</p>	<p>Completed Student Sheet 5a to form the basis of the extended writing exercise</p>	<p>Demonstrate understanding of interrelated impacts of environmental change</p>