

## 'Save the Arctic' Lesson Plan



### Suggested NSW Syllabus Outcomes

**GE2-2** describes the ways people, places and environments interact

**GE3-2** explains interactions and connections between people, places and environments

**Sustainability in Schools Organising Ideas:** 3, 6, 7

### Suggested NSW Syllabus Content

- describe how living things depend on each other and the environment to survive, for example: (ACSSU073)
- develop a design solution for an identified need or opportunity, using a variety of tools and materials that considers factors such as sustainability and time (ACTDEK010)
- identification of ways people influence places and contribute to sustainability eg roads and services, building development applications, local sustainability initiatives (ACHASSK112)
- examination of how environments can be used sustainably eg sustainable agricultural, commercial and recreational practices (ACHASSK090)

### Goal

Read 'Save the Arctic' by Bethany Stahl and learn about the impacts of melting ice in the Arctic.

### Resources

- 'Save the Arctic' by Bethany Stahl
  - [Watch on YouTube](#)
  - [Buy on Amazon \(Amazon Affiliate Link\)](#)
  - [Visit Bethany Stahl's website](#)

### **Background information**

At the North and South Poles of the planet, there are huge areas covered in ice and snow. These areas are home to many unique and wonderful creatures including penguins in the south and polar bears in the north. Additionally, there are times of the year where there is 24 hours of sunlight in the polar regions which leads to an explosion of productivity which ends up as food for migratory animals such as birds and whales. The polar regions also play an important role in maintaining global temperatures as they reflect a lot of the sun's energy back into space.

Over the past 200 years, the Earth's climate has begun to change as a result of increased greenhouse gases in the atmosphere produced by burning fossil fuels. These greenhouse gases, like carbon dioxide and methane, act like a blanket and trap more of the sun's energy in our atmosphere which can lead to some parts of the Earth becoming warmer. In other parts of the planet, the climate becomes more unstable which can lead to more natural disasters like floods, fires, hurricanes and other extreme weather events. This can also affect the food and water security of people all over the planet, particularly in areas that are less developed.

The polar regions are particularly affected by the Earth becoming warmer and as a result the sea ice around the polar regions is beginning to melt. As the sea ice melts, the polar regions will be unable to support as much animal life and won't be able to reflect as much of the sun's energy back into space. Additionally, as the sea ice begins to melt, the ocean levels will rise and low, lying coastal areas and island nations may begin to flood.

### **Activities**

1. Discuss the importance of sharks in our oceans and the threats to their survival
  - Why are the polar regions important?
  - What is climate change and what causes it?
  - What are the impacts of climate change?
2. Read or watch "Save the Arctic" by Bethany Stahl
3. Brainstorm solutions to reduce our use of fossil fuels to reduce the effects of climate change (see examples of solutions below)
  - In the story, Grandma suggests that we could use less oil by carpooling and by heating our homes less. By carpooling with your friends, you can reduce the number of cars on the road and the amount of fossil fuels used while getting to hang out with your friends.
  - Anah suggests that we could switch to using renewable sources of energy like wind, solar, biomass and water energy.
  - Walking to school or work with your friends
  - Catching public transport when possible
  - Wear extra layers of clothing when it is cold rather than turning on a heater
  - Turning off and unplugging electric devices like TV's and computers when not in use.
  - Switch to energy efficient light bulbs
  - Eat more veggies and less meat

## The WildLife Movement

4. Answer the questions about “Save the Arctic” below

### *Literal Questions*

1. What did Nanu love to eat?  
Suggested answer: Nanu loves to eat seals.
2. What did Nanu find when he jumped in the water?  
Suggested answer: There were no seals and he only saw one fish.
3. What did Nanu dream about?  
Suggested answer: Nanu dreamt that there was lots of fish to eat and that everything was connected.
4. What do people use oil for?  
Suggested answer: People use oil to power things, such as cars, and to heat their homes.
5. What are the two ways that Grandma suggested we could help?  
Suggested answer: Grandma suggested that we could use less energy by carpooling and heating our homes less so we are using less fuel.
6. What are the 4 types of renewable energy that Ahnah thought of?  
Suggested answer: Ahnah suggested we could use wind, solar, biomass and water energy instead of oil.

### *Inferential Questions*

7. Why couldn't the ships drill for oil in the past?  
Suggested answer: The ships couldn't drill for oil in the past because the ice stopped their ships from going to where the oil was.
8. What does “renewable energy” mean?  
Suggested answer: Renewable energy is the energy produced from sources (or fuels) that will not run out.
9. Why did it take a couple of years for the fish and seals to come back?  
Suggested answer: It took the fish and seals a long time to come back because it took a long time for all of the people to change their habits. It also takes the environment time to heal after being damaged in the past.

### *Applied Questions*

10. Why was the ice melting?  
Suggested answer: The ice was melting because burning fossil fuels creates greenhouse gases, which can lead to global warming and climate change.

## The WildLife Movement

### **Extension Activities**

\* Note: These extension activities can help differentiate the lesson or provide students with additional activities to complete to lengthen this unit.

1. Draw a food web for the arctic ecosystem including algae, fish, seals, polar bears and whales.
2. Make a table to compare different types of renewable energy with oil. You may want to compare the cost, energy produced, pollution produced and the environmental impact of each type of energy.
3. Calculate the amount of energy that you use on a daily basis and brainstorm different ways that you can reduce the amount of energy you use.