

Living on 'The Ice'

1. Give three reasons for Antarctica remaining uninhabited for so long.

2. Give one example of a way in which the Arctic and Antarctica are different.

3. Give two general facts about the weather in Antarctica.

4. Who is Emilio Marcos Palma and why is he famous?

5. What is the Antarctic Treaty?

6. How have some of the research stations been adapted for use in this most unforgiving environment?

7. Which survival skills are taught at the 'Happy Camper School'?

8. Give two examples of the type of work you might do in Antarctica.

9. Name two ways in which the natural conditions of the continent might affect human beings.

10. What makes Antarctica so important to researchers?

Extension

Emilio Marcos Palma was the first child born within the Antarctic region. What reasons might countries have for wanting children to be 'native Antarcticans'?

The scientists on Antarctica were some of the first to draw attention to global warming and climate change. Find out more about the 'ozone hole' over the Antarctic. What did scientists believe caused it?

Imagine you wanted to apply to work in Antarctica. What type of job would you like to do there? What level of education and experience do you think you would have to have? Research some of the biographies of Antarctic scientists to find out.

Living on 'The Ice' Answers

1. Give three reasons for Antarctica remaining uninhabited for so long.

Students' responses may differ but should consider the inaccessibility of the continent, the tough terrain, the weather conditions etc.

2. Give one example of a way in which the Arctic and Antarctica are different.

The Arctic is an ice mass while the Antarctic is a land mass. The Antarctic ice is made up of fresh water. The Arctic is generally much warmer. People have lived in the Arctic for thousands of years. The creatures living around Antarctica are different from those living in the Arctic.

3. Give two general facts about the weather in Antarctica.

Students might mention the temperatures (-60°F), the katabatic winds, the summer and winter solstices, the sea ice causing the continent to double in size in winter.

4. Who is Emilio Marcos Palma and why is he famous?

An Argentinian national, Palma was the first child born within the borders of Antarctica (1978).

5. What is the Antarctic Treaty?

The treaty signed in 1959 by 12 countries agreeing to use the Antarctic collaboratively for scientific research purposes only.

6. How have some of the research stations been adapted for use in this most unforgiving environment?

This question relates to the information about the South Pole Station which mentions the use of hydraulic stilt legs for the station so that it can be raised above the blowing snow. The stations are equipped with their own generators which use a fuel mixed with anti-freeze. This is stored in special containers to prevent freezing. Stations also make use of solar power and have their own greenhouses.

7. Which survival skills are taught at the 'Happy Camper School'?

Students are taught how to survive in the extreme weather conditions. They learn how to keep hydrated, build emergency shelters, and avoid the natural dangers of the continent such as crevasses.

8. Give two examples of the type of work you might do in Antarctica.

Occupations and research opportunities mentioned include studying the ocean animals, the solar system and climate change. Students might also mention work as engineers, maintenance personnel and medical staff.

9. Name two ways in which the natural conditions of the continent might affect human beings.

The article mentions altitude sickness, sunburn and snowblindness, hypothermia and frostbite. There is also mention of depression (or SAD) from the dark days.

10. What makes Antarctica so important to researchers?

The dark, unlight-polluted skies are great for surveying the stars and planets, climate change research is done in the Antarctic as the conditions are unlike anywhere else on earth. Students might also mention the testing of hazardous terrain equipment here, including materials used in space exploration.

Extension

Emilio Marcos Palma was the first child born within the Antarctic region. What reasons might countries have for wanting children to be 'native Antarcticans'?

Debate here might take in the feelings of other nations, that the Argentinians are trying to colonise and 'take over' the Antarctic by having children born there. Students might also consider – what nation do these children truly belong to? They are registered under the country that owns the research station in which they were born. Students might look at the territorial divisions of the Antarctic and the use of law on the continent which are all interesting issues to debate and learn about in a cross-curricular (Geography, Law) context.

The scientists on Antarctica were some of the first to draw attention to global warming and climate change. Find out more about the 'ozone hole' over the Antarctic. What did scientists believe caused it?

The 'ozone hole' develops each year over the Antarctic and is the area where the layer of ozone (O₃) has become the weakest. Ozone protects us from the more harmful aspects of the outer atmosphere and the sun and scientists became concerned about the impact of this 'hole'. They found that CFCs or chlorofluorocarbons were responsible and, since the 1970s, the use of these has been phased out completely.

Imagine you wanted to apply to work in Antarctica. What type of job would you like to do there? What level of education and experience do you think you would have to have? Research some of the biographies of Antarctic scientists to find out.

Some of the links for sites and YouTube videos which show students the life and stories of real life scientists on Antarctica are found on the teaching ideas page.