



Helen Thayers *Polar Dream* classroom guide

The suggested study material is suitable for grades 3 through 12 with the option of selecting appropriate sections to suit various age groups. The program can be used for classroom study of history, geography, science, art, writing and humanities of the Arctic regions.

The book ***POLAR DREAM*** authored by Helen Thayer, is a national best seller. Although an adult book, it has become popular in schools as a classroom study and as a reading assignment.

POLAR DREAM can be purchased through Helen Thayer's web site: www.helenthayer.com



Classroom Project -- planning for an adventure such as a solo journey to the Pole.

- How would you plan to ensure success?
- Remember a goal is useless without a well thought-out plan.
- What would you eat? What special clothes would you take?
- How would you find your way?
- Is being there yourself better than watching someone else on TV, or in the movies, who is doing this kind of adventure?

Classroom discussion: Goals-- the goals Helen Thayer set herself as she set out on this challenging journey.

- Why are goals so important in our lives?
- What is your next goal?
- How would you face problems as you set out on the journey toward your goal?
- Would you be determined to solve problems or would you quit at the first problem?

Be the very best you can be. Set goals, plan for success and persevere.

- Is this the way you want to run your life?
- Are you determined to persevere and do your very best to reach your goals?

Choices. There are times throughout our lives when we must make choices.

- Our choices always have to be responsible and respectful of others.
- What good choices have you made this week?

Weather in the area of the Magnetic North Pole

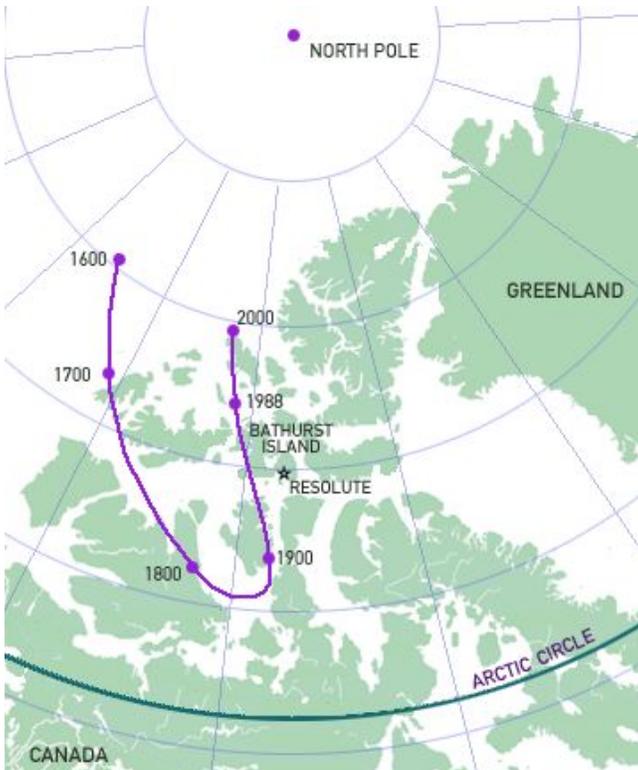
The area of the Magnetic North Pole is in the north of Nunavut, the northernmost and coldest territory of Canada. As would be expected, the lowest winter temperatures occur in the northernmost part of the territory where temperatures average -40°F much of the winter. July mean temperatures are usually less than 35°F . There is continuous permafrost throughout the territory; only a rather shallow surface layer (6 to 60 inches) thaws every summer and re-freezes during the following winter.



Precipitation levels are generally low throughout Nunavut; only a small part of the entire territory receives more than 12 inches per year. Annual precipitation is less than 4 inches for the area around Eureka on Ellesmere Island, the driest part of Nunavut. Despite the fact that the northwestern part of the archipelago is close to the Arctic Ocean, the continuous ice cover reduces evaporation and limits the maritime influence of this water body. This part of Nunavut receives less precipitation than parts of the Sahara Desert, and can rightly be described as a polar desert.

You can see the latest weather conditions for Nunavut territory here:

www.weatheroffice.ec.gc.ca/forecast/maps/nu_e.html



Where is the Magnetic North Pole

Many people are surprised to learn that a magnetic compass does not normally point to true north. In fact, over most of the Earth it points at some angle east or west of true (geographic) north. The direction in which the compass needle points is referred to as magnetic north, and the angle between magnetic north and the true north direction is called magnetic declination or compass variation.

The pole also changes location on a yearly basis due to drift in Earth's magnetic field.

The horizontal force of the magnetic field, responsible for the direction in which a compass needle is oriented, decreases in strength as one approaches the North Magnetic Pole, where it is zero. Close to the pole, an area is reached where the frictional forces in the pivot are comparable to the horizontal forces of the magnetic field. The compass starts to behave erratically, and eventually, as the horizontal force decreases even more, the compass becomes unusable.

Visit these websites to learn more about the Magnetic North Pole:

www.deeptow.who.edu/northpole.html

www.antwrp.gsfc.nasa.gov/apod/ap991019.html

Polar Bears and Their Future

Polar bears are a solitary animal hunting and living in the great white expanse of the Arctic, enduring winters where there is no sun and summers where the sun never sets. They constantly prowl the sea ice in search of their main food source, seals. We are lulled into believing the polar bear is immune to human pollution and the effects of global warming but these problems travel with the great white bears of the north wherever they go.

Polar bears are at the top of the food chain and as pollutants travel up the chain pollutants build and become more potent as they rise in the food chain until finally at the top of the chain the bears receive the full force of a polluted world.

Polar bears use the sea ice as a platform from which to hunt seals. When the Arctic ice melts early in the summer or arrives late in the fall they must delay hunting. This can cause the bears to go into the bone-chilling cold of an Arctic winter without adequate stores of fat to see them through the long, dark, cold months. The effect on females ability to breed and have cubs can be devastating.

Ian Stirling of the Canadian Wildlife Service who has been studying polar bears for more than 20 years is one of many scientists who are concerned. He believes that the gradual rise in world temperature over the past 20 years has caused the sea ice to melt earlier in the summer therefore forcing the bears ashore for longer periods of time. This leads to a shorter hunting season for ringed seals.

Pollution and global warming are the long term problems facing polar bears and will take time and dedication to solve. But there are also short term threats, the greatest of which is hunting.

Canadian laws allow native hunters to sell their right to kill a bear to non-natives such as American trophy hunters who pay as much as \$20, 000 to shoot a bear. This practice has led to a burgeoning business among trophy hunters. As the flow of US dollars increases, Canada has loosened its regulations and raised its quota limits to allow more trophy hunts by high priced clients.

An organization called "Polar Bears Alive" with a large international membership of citizens and scientists concerned with preservation of polar bears, is working to protect these true Lords of the Arctic. Among their many missions they support scientists in their work of legitimate study of polar bears, enhance the public's understanding of the polar bears role in the Arctic, establish a research library on polar bears, support a humane environment in zoos, establish eco-tourism and bear watching as an alternative to hunting.

PBA can be reached at:

www.polarbearsalive.org

Polar Bears Alive
P.O. Box 66142
Baton Rouge, LA 70896



Questions for Study

1. Helen had no help from dog teams or snowmobiles and had no resupply. But there was one dog who walked at Helens side. What was his name? What was his job?
2. In what country is the area of the magnetic North Pole?
3. Which indigenous people live in the area where Helen began her journey? What is their modern day name? What is the name they used to be called?
4. Who are some famous explorers of the Arctic?
5. What are some of the animals you would find in the Arctic?
6. Helen walked across the frozen ocean. Which mammal lives in the ocean beneath the ice.? Which animal hunts this mammal?
7. Which animal was the most dangerous on Helens journey?
8. What are some hardy plants that grow in the Arctic?
9. What do we mean when we refer to the northern tree-line?
10. What is permafrost? What is tundra?
11. What is the name of an Arctic fish?
12. What is the name of an Arctic Bird?
13. What is the weather like? What are the temperatures in the winter and summer?

Creative Writing

1. write in words to describe, or draw a picture of:
 - (a) a polar bear
 - (b) a seal
 - (c) an arctic fox
 - (d) any other Arctic animals you like
2. What does the Polar ice look like? How does it feel?
3. Imagine you are in a storm with the wind and snow blowing. You are trying to put your tent up all by yourself. What are you thinking about? How could you best erect your tent?
4. Is there any way to know when your are standing at the magnetic North Pole?
5. Do you think the Polar Bears should be protected to insure their survival? Should people who are not natives be allowed to hunt and kill Polar Bears?

Adventure Classroom -- Polar Dream

ANSWERS to Classroom Guide Questions

1. Charlie. He protected Helen from polar bears.
2. Canada. Nunavut. It means Our Land. The province was formally known as Northwest Territories.
3. Inuit. Eskimos
4. Sir John Franklin, Knud Rasmussen, Peter Freuchten
5. Polar bears, arctic foxes, muskox, arctic hare, caribou, perry caribou, lemmings.
6. Seals, polar bears
7. Polar bears
8. Willow, lichen, cotton grass, spruce, labrador tea
9. The earth has a northern line above which trees dont grow. As we travel north the forests thin out, the trees grow smaller and become stunted. These are called taiga forests. Taiga means land of little sticks in Russian. At about the line of the Arctic Circle the land becomes tundra where trees grow even more stunted and then finally disappear and are replaced by stunted low growing shrubs, low growing lichens, grasses and plants. Farther north where permafrost exists close to the surface we see only ground hugging hardy plants and lichen.
10. Permafrost is sub-ground that remains frozen for two or more years. At times it begins only a few inches below the surface and can reach down into the earth for two thousand feet. Water cannot drain away because it is blocked by the frozen permafrost. Tundra usually consists of a moist top soil with a permanently frozen sub soil. Although tundra grows only stunted low growing shrubs it is home to a multitude of insects, various rodents, and flowers. It normally occurs just below and above the Arctic Circle.
11. Arctic char
12. Snowy owl
13. Winter temperatures can plunge to -50 degree F. Summer temperatures can climb above freezing.