



Next Week: Plan a green Christmas

A Year on Ice



photo Alfred-Wegener-Institut / Sebastian Grote

Mini Fact:

The ice around Polarstern will drift about 4.5 miles each day.

On Sept. 20, an icebreaker ship named Polarstern left the harbor at Tromsø, Norway, and headed toward the Arctic Circle. Its mission, which will last into October 2020, is to become “trapped” in the sea ice near the North Pole and then drift with the ice.

More than 600 scientists working on this project, called MOSAiC (for Multidisciplinary Drifting Observatory for the Study of Arctic Climate), will collect an entire year’s worth of information that will help scientists make better predictions about climate and weather forecasts.

The Mini Page spoke with scientist and MOSAiC coordinator Sara Morris to find out more about the expedition.

How the science will work

As Polarstern left Norway, it was accompanied by another icebreaker, Akademik Fedorov, which carried materials for a **distributed network** of stations where experiments will take place. Polarstern will be the main station in the Ice Camp, where scientists will live and work, but smaller stations will be scattered over the sea ice.

These stations will measure air and ice temperature, wind, sunlight, snow cover, water temperature at different depths and much more. By recording these changes over a year, scientists can discover how they affect weather and long-term climate change.

Scientists will visit the stations at least once a month to refuel the power and check on equipment.

Moving around

Other icebreaker ships will bring in supplies and take people to and from the Polarstern. Scientists will use helicopters and snowmobiles to visit the mini stations.



photo Alfred-Wegener-Institut / Esther Horvath

These two polar bears came close to Polarstern on the evening of Oct. 9. None of the researchers were out on the ice when they visited.

During their time on the ice, researchers will be protected from polar bear attacks by an infrared scanner, which monitors the horizon. In addition, tripwires will be set all around the half-mile radius of the Ice Camp. If a polar bear steps on one, it will set off a loud noise that may scare the bear away.

Three specially trained armed guards will also continually patrol the perimeter of the camp while researchers are working on the ice. However, it’s their goal not to have to shoot a polar bear.



photo Alfred-Wegener-Institut / Markus Rex

On Sept. 29, scientists explore an ice floe before the Polarstern anchors.

A challenging mission

Undertaking a mission like this is difficult for the researchers and support staff.

Personal challenges

- Six hundred people from 19 different nations will be at the Ice Camp over the course of the year. Most will spend two to three months at the station. Morris said one of the difficulties will be having people from different countries and cultures living in tight quarters and speaking many different languages.

- People will have to adjust to total darkness (from about October to February or March) and total sun (summer months) at the high latitude. Morris said during the Polar Night, when it never gets brighter than twilight, “you don’t want to get up.”

Scientific challenges

- Although most of the scientific instruments used for MOSAiC have been used in Arctic environments before, researchers will have to deal with setbacks, such as systems tipping over in the wind or floating away as ice melts.

Resources



On the Web:

- www.mosaic-expedition.org/education

At the library:

- “Locked in Ice: Nansen’s Daring Quest for the North Pole” by Peter Lourie

Try ‘n’ Find

Words that remind us of MOSAiC are hidden in this puzzle. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find:



ARCTIC, BEARS, CAMP, CHALLENGE, CIRCLE, CLIMATE, CULTURE, DARKNESS, DRIFT, EXPEDITION, EXPERIMENT, ICEBREAKER, LANGUAGE, MOSAIC, NETWORK, NORWAY, POLAR, SEA, SHIP, STATION.

P	C	J	I	E	G	N	E	L	L	A	H	C	M	W
S	B	U	E	L	C	R	I	C	C	I	T	C	R	A
S	E	J	L	P	H	E	G	A	U	G	N	A	L	M
E	A	S	I	T	E	X	P	E	D	I	T	I	O	N
N	R	H	A	R	U	C	L	I	M	A	T	E	T	C
K	S	P	O	L	A	R	N	O	R	W	A	Y	F	I
R	E	K	A	E	R	B	E	C	I	C	E	S	I	A
A	S	T	Y	N	O	I	T	A	T	S	A	X	R	S
D	E	O	C	C	N	E	T	W	O	R	K	M	D	O
E	A	L	T	N	E	M	I	R	E	P	X	E	P	M

Cook’s Corner

Whipped Sweet Potatoes

You’ll need:

- 2 large sweet potatoes, peeled and cut into 2-inch pieces
- 1/2 cup low-fat plain Greek yogurt
- 2 tablespoons light brown sugar

- 1/2 teaspoon ground cinnamon
- Salt and ground black pepper



What to do:

1. Place sweet potatoes in large saucepan and add enough water to cover by about 2 inches. Set pan over high heat and bring to a boil. Boil for 10 minutes or until potatoes are fork-tender.
2. Drain and return potatoes to pan. Add yogurt, brown sugar and cinnamon and mash with a potato masher until blended. Season to taste with salt and pepper. Serves 4.

Adapted from “The Robin Takes 5 Cookbook for Busy Families” with permission from Andrews McMeel Publishing (andrewsmcmeel.com). * You’ll need an adult’s help with this recipe.

7 Little Words for Kids

Use the letters in the boxes to make a word with the same meaning as the clue. The numbers in parentheses represent the number of letters in the solution. Each letter combination can be used only once, but all letter combinations will be necessary to complete the puzzle.

1. little town (7) _____
2. part of a tree with leaves (6) _____
3. easy (6) _____
4. Olympic star Laurie (9) _____
5. center (6) _____
6. frozen water on roof’s edge (6) _____
7. buddy (6) _____

PLE	DEZ	DLE	CH
ICI	VILL	END	FRI
AN	NAN	CLE	AGE
SIM	MID	BR	HER



Answers: village, branch, simple, Hernandez, middle, icicle, friend.

Mini Jokes



Malcolm: What do polar bears like to eat?

Maya: Brrrrrr-itos!

Eco Note



Increasingly harsh Arctic weather due to climate change could threaten the survival of plants and animals in Greenland, according to researchers from Denmark’s Aarhus University. They say 2018 snowfall was so heavy that it prevented almost all plants and animals in northeastern Greenland from reproducing. The Arctic growing and breeding season lasts for only a few weeks during July and August, so any bad weather has a big impact.

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Thank You



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