

Polar Opposites?

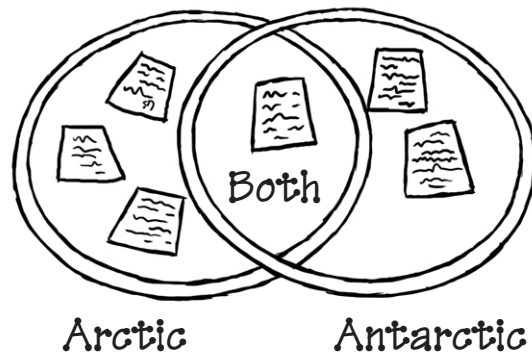
Preview

The “ends” of Earth are its **polar** regions. The region around the North Pole is called the **Arctic**. Its name comes from the fact that the stars above it form a constellation once known as **Arctos**.

The region surrounding the South Pole is directly opposite from the Arctic, so it is called the anti-Arctic, or **Antarctic**. Though their names are opposites of each other, the two regions have similarities as well as differences.

Take a look at both polar regions on a globe. Everything inside the Arctic Circle is part of the Arctic region; everything inside the Antarctic Circle is in the Antarctic region.

You may have learned about something called a **Venn diagram** in school. If so, you know that it’s a graphical way of showing how two things are different and how they are the same. A Venn diagram is usually drawn as a pair of overlapping circles. The area where the circles overlap represents what the two things have in common. Things in the separate parts of the circles only apply to one of the groups.



In this activity, you’ll get a stack of pictures and descriptions of polar features. You’ll sort them into a Venn diagram to show if they represent the Arctic, Antarctic, or Both polar regions.

Time

⌚ 30 minutes

Tools & Materials

- 📖 Polar Picture Cards (pages 11-28)
- 🌐 Globe
- ✂ Scissors (or paper cutter)
- + Two overlapping circles, each about 1 meter in diameter (hula hoops, chalk, white board, tape, etc.)
- + Optional: Double-stick tape, velcro, or stick-on magnetic strips.

- 📖 Items found in this book
- 🌐 Items included in the Flexhibit Kit, available from <http://www.andrill.org/flexhibit>.
- + Additional items

Prepare

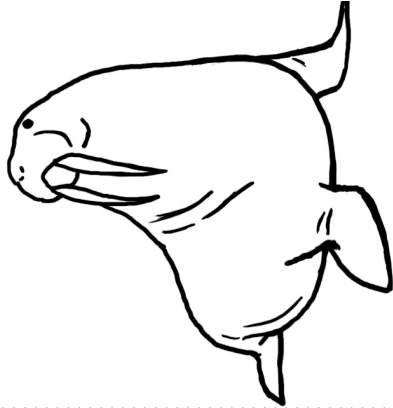

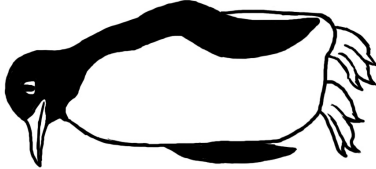
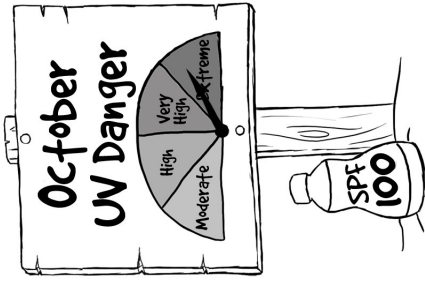
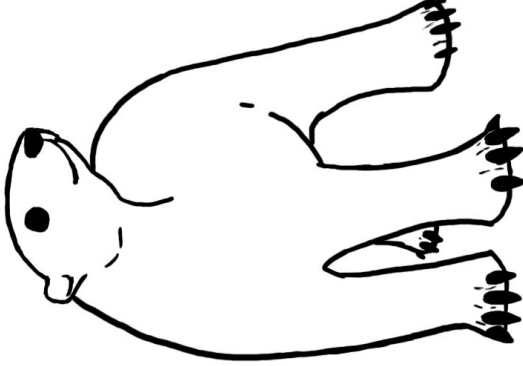

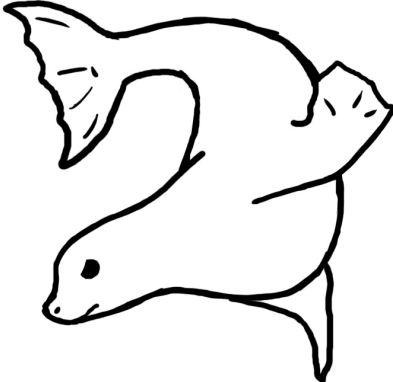

1. Cut out the Polar Picture Cards along the dotted lines.
2. Decide on a place to make your Venn Diagram. You'll want circles that are about 1 meter (1 yard) in diameter. You might draw them on a chalk board or a white board, or outline them with chalk or string on a table or the floor. Set up your two circles so that about one-third of their areas overlap.
3. One circle will contain things found in the **Arctic** and the other will contain things found in the **Antarctic**. The area of overlap represents things that are found in **Both** polar regions. Make these three labels and place them in appropriate areas of the diagram.
4. Distribute the Polar Picture Cards among your group members. Participants should consider where their pictures belong in the Venn diagram, then check themselves by reading the information on the back.
5. One at a time, show/describe your card to your group and ask them for ideas about where it belongs in the diagram. After a brief discussion, share the information from the back of the card and place it in the appropriate area on the diagram. Use a rolled piece of masking tape on the back of the card if you need to stick it to a board.

White Board Trick

Most white boards have a metal backing that magnets will stick to. If you use a white board for your circles, you can stick a small adhesive magnet (available separately or in rolls, from most hardware and craft stores) to the back of each card, to hold the cards to the white board.

Cut out cards along the dotted line...



	Walrus		Volcanoes
	Penguins		Regularly experiences an ozone hole
	Polar bears		Icebergs
	Seals		Whales

Arctic

Walruses, with their long white tusks, live only in northern waters

Antarctic

Penguins live around the coasts of Antarctica and other southern continents and islands

Arctic

Polar Bears live only in the Arctic

Both

Seals live in both the Arctic and the Antarctic

Antarctic

Antarctic

Both

Both

Mt. Erebus in Antarctica is the world's southernmost active volcano

Every October since 1985, instruments have detected a reduction in the ozone concentration over Antarctica

Icebergs form in both polar regions—they are chunks of ice that originally formed from fresh water snow on land

Whales live in waters of both the Arctic and Antarctic


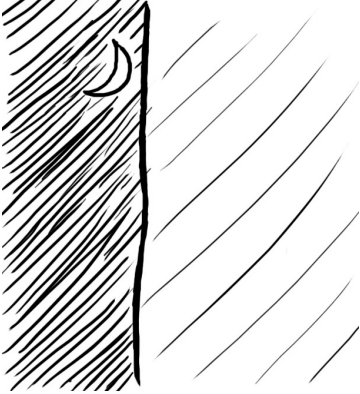
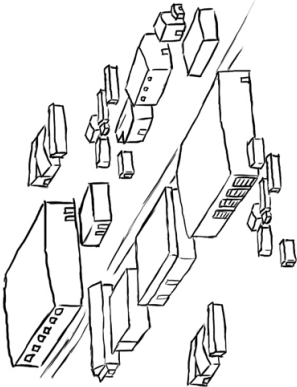
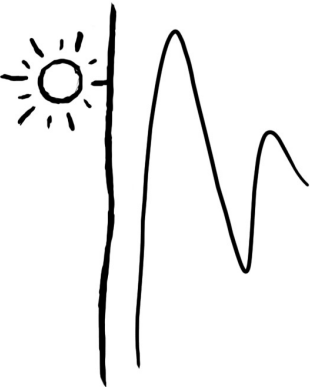
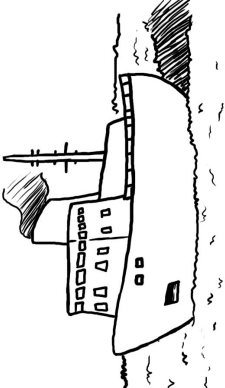
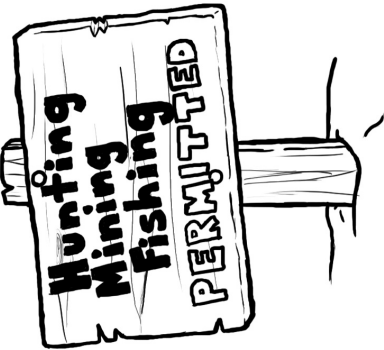

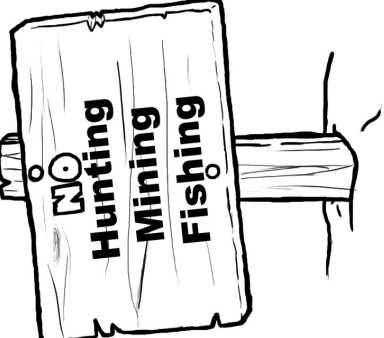
Activity 1C - Polar Opposites?

Unit 1 - Antarctica Today

Activity 1C - Polar Opposites?

Cut out cards along the dotted line...



	
	
	
	
<p>Permanent home to zero humans</p>	<p>6 months of darkness</p>
<p>Permanent home to over 3 million humans</p>	<p>6 months of daylight</p>
<p>Ice breaker</p>	<p>Not Protected</p>
<p>Cruise Ship</p>	<p>Protected</p>

Unit 1 - Antarctica Today

Antarctica

Arctic

Both

Both

There are no permanent residents in Antarctica, only temporary visitors

Cities inside the Arctic Circle have a total population over 3 million

Icebreakers are used in both polar regions to carve through sea ice.

Cruise ships regularly take passengers to see the beauty of both polar regions.

Both

Both

Arctic

Antarctic

The Arctic and the Antarctic both experience approximately 6 months of darkness in the winter

Both the Arctic and the Antarctic experience approximately 6 months of daylight in the summer

Except in specially set-aside areas, hunting, fishing, and mining are permitted in the Arctic

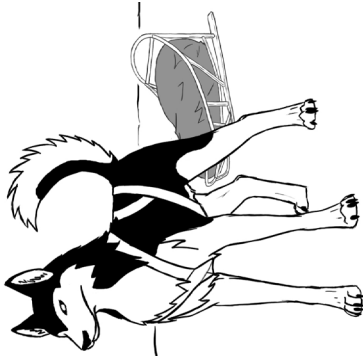
Hunting, fishing, and mining are prohibited in the Antarctic

Activity 1C - Polar Opposites?

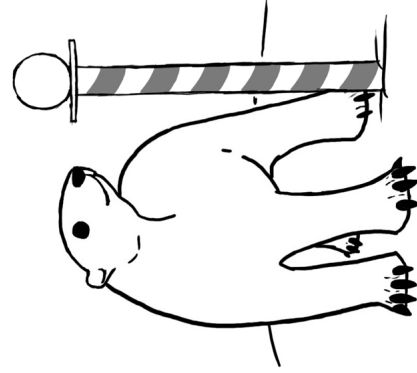
Unit 1 - Antarctica Today

Activity 1C - Polar Opposites?

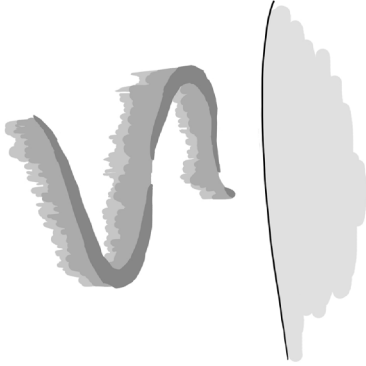
Cut out cards along the dotted line...



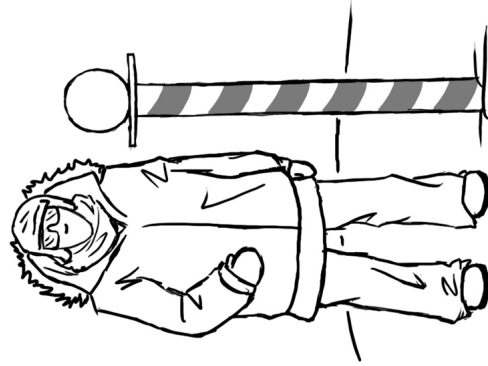
Dogs Pulling Sleds



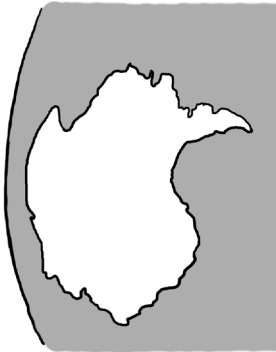
The North Pole



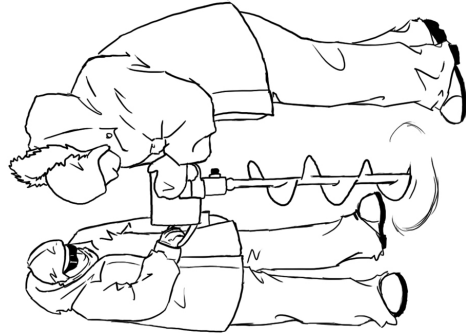
Auroras



The South Pole



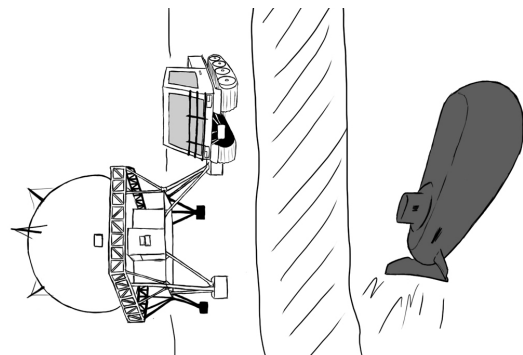
Land surrounded by Ocean



Scientists



Ocean surrounded by Land



Military Presence

Arctic

Since 1993, sled dogs have been banned in Antarctica because the canine disease distemper can spread to Antarctica's seals.

Both

Auroras - bright, shimmering sheets of light caused by interactions between particles from the sun and Earth's magnetic field - are seen in both hemispheres.

Antarctic

Antarctica is land surrounded by ocean.

Arctic

The Arctic is ocean surrounded by land.

Arctic

The North Pole is located in the Arctic. (There are no polar bears in Antarctica.)

Antarctica

The South Pole is located in Antarctica. (A permanent scientific research station is located at the South Pole.)

Both

Scientists actively study both of Earth's polar regions.

Arctic

Military bases and operations are common in the Arctic, but are prohibited in Antarctica.

Activity 1C - Polar Opposites?

Ponder

Movies, television shows, and commercials occasionally show unlikely pairings of animals from the Arctic and Antarctic together. Think of some of the pairs of animals that you would never expect to see together, and list them.

Make up a fun sentence that will help you remember that the continent of Antarctica is at the South Pole where penguins live. Include some of the other Antarctica-only details in your sentence.

Practice

Polar Animals

Find out more about the animals in the Polar Picture Cards at <http://animals.nationalgeographic.com/animals/>.

Got the big idea?

Both of Earth's polar regions are cold and icy. Each region experiences several months of darkness followed by months of sunlight each year. The Arctic includes the North Pole; it is an ocean surrounded by land. The Antarctic includes the South Pole; it is land surrounded by an ocean. Each location has a unique set of wildlife.

Get ready to present

Think of a question or comment you can use with visitors that will invite them to interact with the Polar Picture Cards and the Venn Diagram. You may want to cover the answer on the back side of each card with a sticky note.

Present

Set up or draw the two circles of your Venn Diagram and label the three areas of your diagram. Place a few of the cards into the correct locations as examples and spread the remaining cards face up on a table. If necessary, provide tape or magnets to keep the cards in place.

Encourage Flexhibit visitors to choose a card and decide where to place it. Don't tell them to look at the back until after they have given it some thought.