

Antarctica

Discussion Questions:

- 1) What are Antarctic climatic conditions like?
- 2) How do humans stay warm in extreme conditions?
- 3) What types of clothing would people in Antarctica wear?
- 4) What materials would they be made of?
- 5) How does insulation help to keep in warmth?

Climate

Although there appears to be an abundance of ice everywhere the Antarctic continent is actually extremely dry. An average of 166 mm of precipitation falls in a year which classifies it as a polar desert.

Strong winds can build up quickly in Antarctica, resulting in blizzards that can last for days. Extreme weather conditions are not uncommon, especially during the winter months.

Antarctica is the coldest continent on Earth. Temperatures range throughout the year, reaching as high as 2°C in the warmest areas and as low as -65°C in the coldest places.

Locations that are closest to the South Pole are colder than places that are further away. This is why the Antarctic islands have a milder climate than the Antarctic Continent.

The five locations marked on the map are some of the many permanent research stations in Antarctica. Average temperatures in these locations vary greatly. (See the table on the next slide.)



Average Monthly Temperatures

These are the average monthly temperatures for five research stations in the Antarctic region.

Temperature °C	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Vostok (Russia)	-32.1	-44.3	-57.9	-64.7	-65.6	-65.2	-66.9	-67.6	-66.0	-57.1	-43.3	-32.1
Byrd (USA)	-14.7	-19.8	-27.7	-29.7	-33.0	-34.1	-35.6	-36.7	-36.6	-30.2	-21.4	-14.4
McMurdo (USA)	-2.9	-9.5	-18.2	-20.7	-21.7	-23.0	-25.7	-26.1	-24.6	-18.9	-9.7	-3.4
Mawson (Australia)	-0.7	-5.4	-11.2	-15.0	-16.8	-16.7	-18.0	-18.8	-18.2	-13.9	-6.2	0.2
South Georgia (UK)	4.7	5.4	4.6	2.5	0.2	-1.5	-1.5	-1.5	0.1	1.7	3.0	3.8

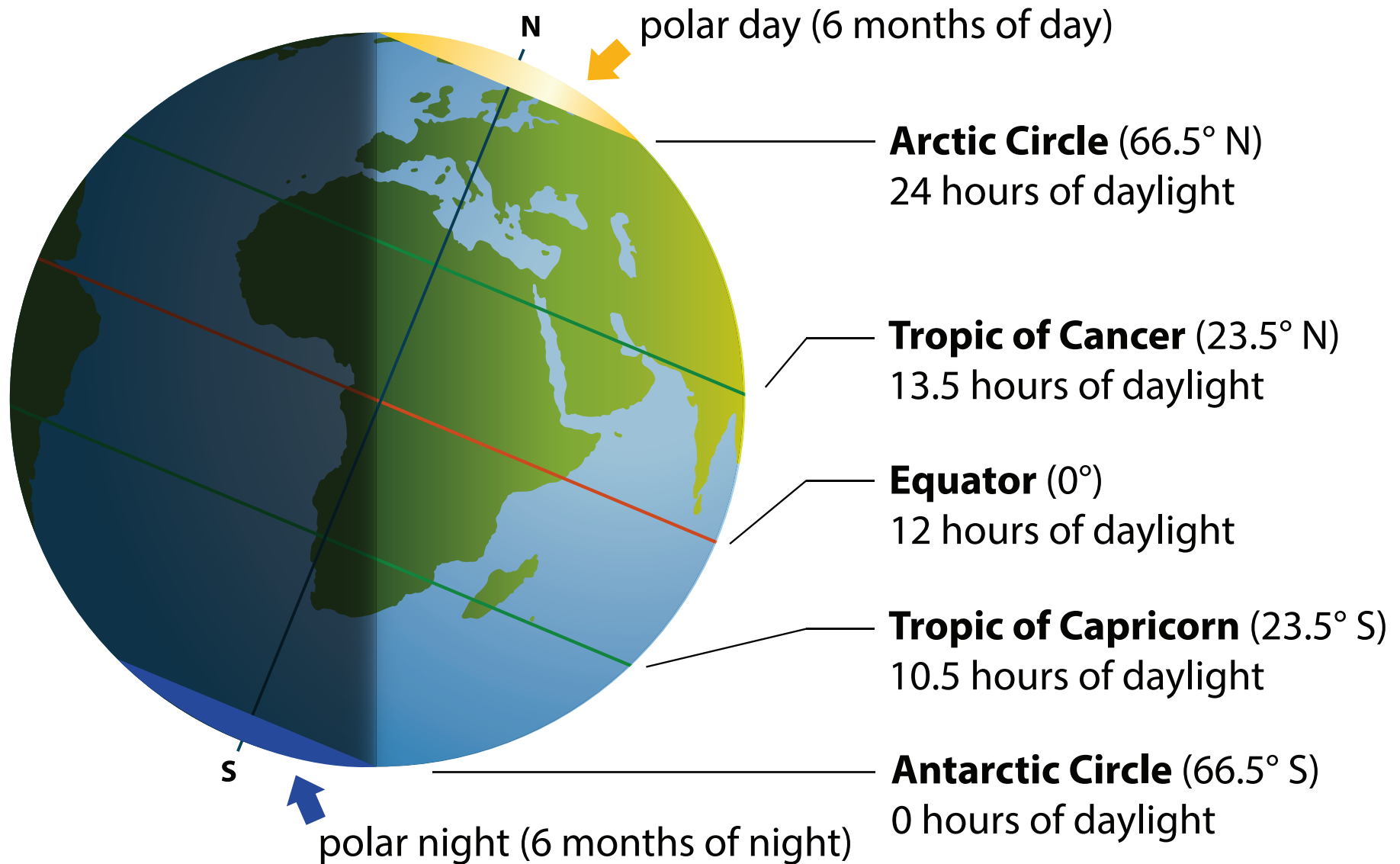


Use the information on this chart to create a line graph.



Why are the days dark during winter in Antarctica?

The polar region experiences continuous daylight conditions during the summer and continuous darkness during winter. (This is because the earth is tilted on its axis. The pole continuously faces the sun during summer and points away from the sun in winter.) The diagram below shows how much daylight is experienced on June 23rd (the Summer Solstice in the Northern Hemisphere).



What types of clothing do you think people might need to wear in Antarctica?



What type of materials would they be made of?





How do people make their environment warm enough to live in Antarctica?



What facilities do you think you would find at an Antarctic research station?





Working in Antarctica

Many different types of scientific research take place in Antarctica. Scientists studying the weather work there. You may be surprised that astronomers and astrophysicists study the stars there! Environmental scientists studying the effects of climate change work there. Marine biologists studying plants and animals work there. Earth scientists and geologists work there. Even paleontologists studying ancient prehistoric plants and animals work there!

There are many settlements on Antarctica where people live and work. Scientists may stay overnight in tents when they are working in the field. The tents are very sturdy, made with materials that keep out the Antarctic wind.

Have you noticed that many of the buildings in Antarctica are red? The scientists in this picture (below left) are working in the field wearing red suits. Why do you think red is so popular?



McMurdo (USA research station)



A weather station in Antarctica collects valuable information about weather patterns. This data is used to track the effects of climate change.



Supplies and equipment regularly arrive by ship in Antarctica. People also travel by ship.



Planes landing at Siple Station have special skis fitted to help them land in the icy conditions.

