

Way Up in the Arctic by Jennifer Ward

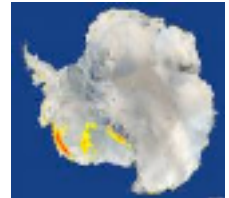


Arctic
north pole

Arizona
32° latitude



Arctic 5,800,000 square miles
Arizona 114,000 square miles



Arctic Hare



Arctic Fox



Arctic Tern



Arctic Wolf



Arctic Seal



Beluga



Caribou



Lemming



Snowy Owl



Polar Bear



Walrus

Compare Arizona to the Arctic

How are they the same and different?

ARTIC CLIMATE/WEATHER:

Cold, desert-like conditions

Average winter temperature is -30° F

Average summer temperature is 40° F

Yearly precipitation/rainfall, including melting snow, is 6 to 10 inches

frozen subsoil called *permafrost* exists, consisting mostly of gravel and finer material

Arizona weather/climate:

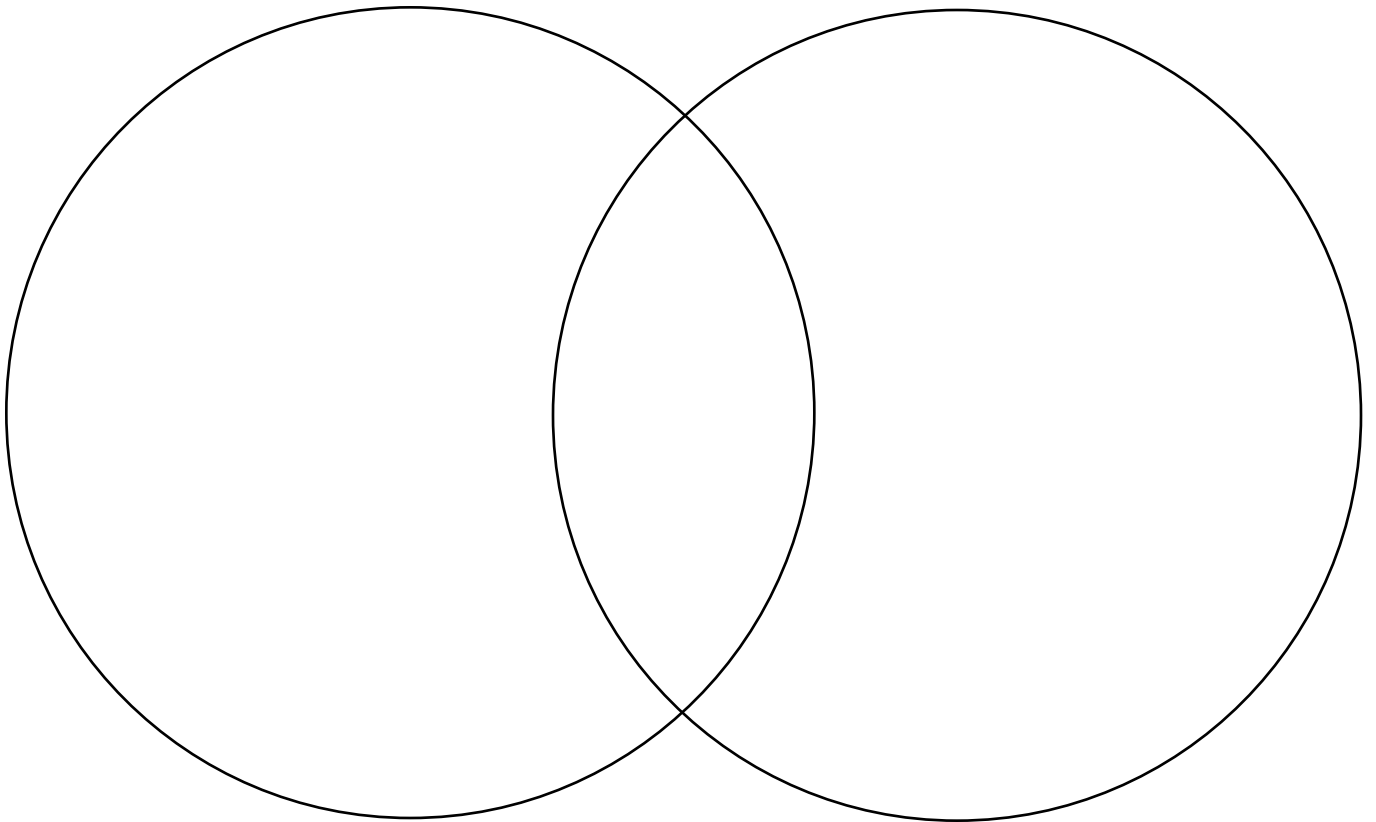
hot, desert conditions

Average winter temperature is 70° F

Average summer temperature is 90° F

Yearly precipitation/rainfall, including melting snow, is 10-12 inches

desert soil consists mostly of rocks and finer material



Compare Arizona to the Arctic

How are they the same and different?

ARTIC PLANTS:

No deep root systems in the vegetation of the arctic tundra
plants survive with limited rain/snow, cold climate and wind
Growing season ranges from 50 to 60 days.

Kinds of plants:

low shrubs

moss

lichen

grasses

400 varieties of flowers

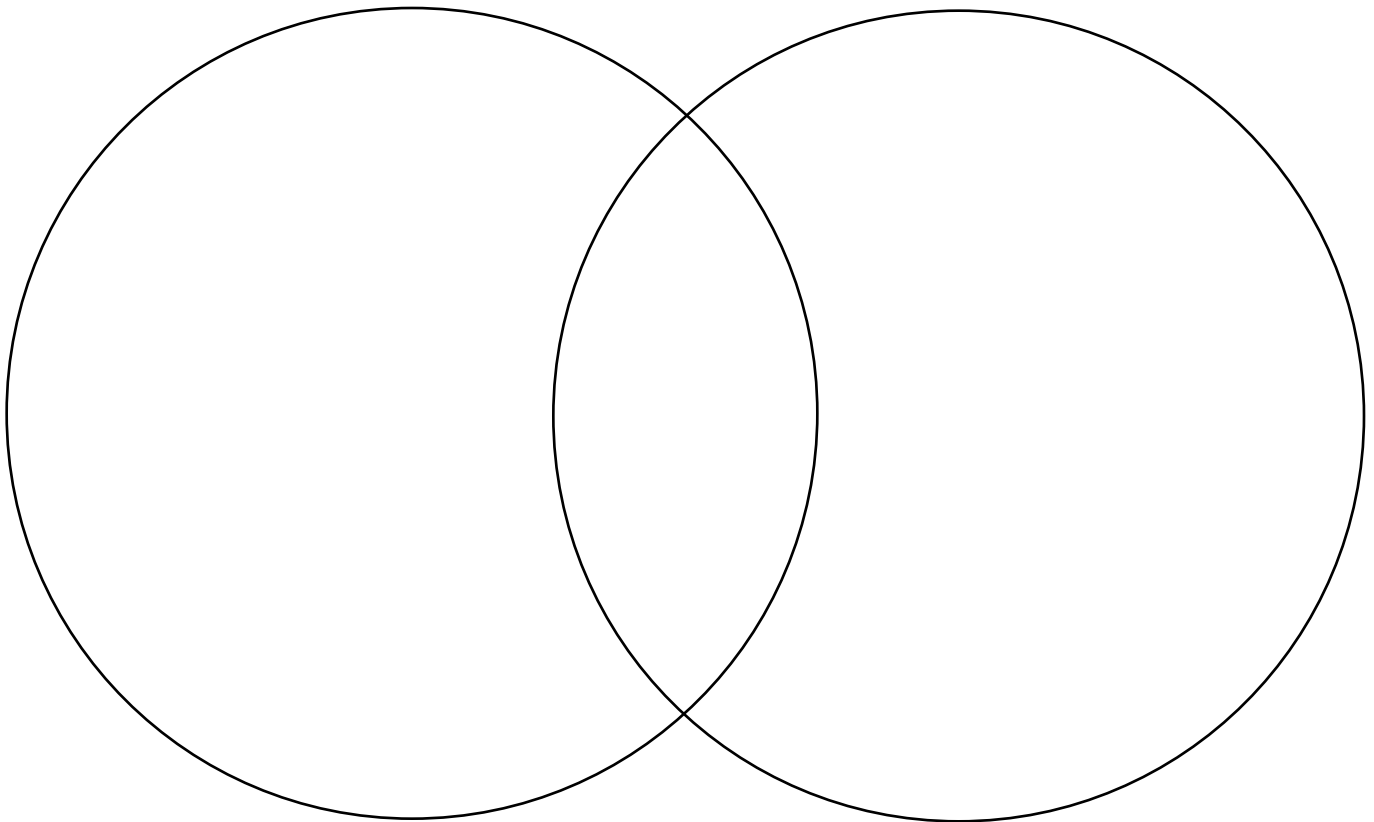
Arizona Plants:

a few deep root systems, most are shallow

plants survive with limited rain, hot summers, warm winters

plants grow all year

Kinds of plants: Can you name some Arizona plants?



Compare Arizona to the Arctic

How are they the same and different?

ARTIC ANIMALS:

Animals are adapted to handle long, cold winters
breed and raise young quickly in the summer.

mammals and birds also have additional insulation from fat

Many animals hibernate during the winter because food is not abundant

Many animals migrate south in the winter, like birds do.

Reptiles and amphibians are few or absent because of the extreme cold

Kinds of animals:

Herbivorous mammals: lemmings, voles, caribou, arctic hares and squirrels

Carnivorous mammals: arctic foxes, wolves, and polar bears

Migratory birds: ravens, snow buntings, falcons, loons, ravens, sandpipers, terns

Insects: mosquitoes, flies, moths, grasshoppers, blackflies and arctic bumble bees

Fish: cod, flatfish, salmon, and trout

Arizona Animals

Animals are adapted to very hot summers and cool winters

breed and raise young most of the year

Many animals hibernate during the winter because food is not abundant

Many animals migrate south in the winter, like birds do.

Reptiles and amphibians hibernate in the winter cool weather

Kinds of Desert Animals: can you name our Arizona plants

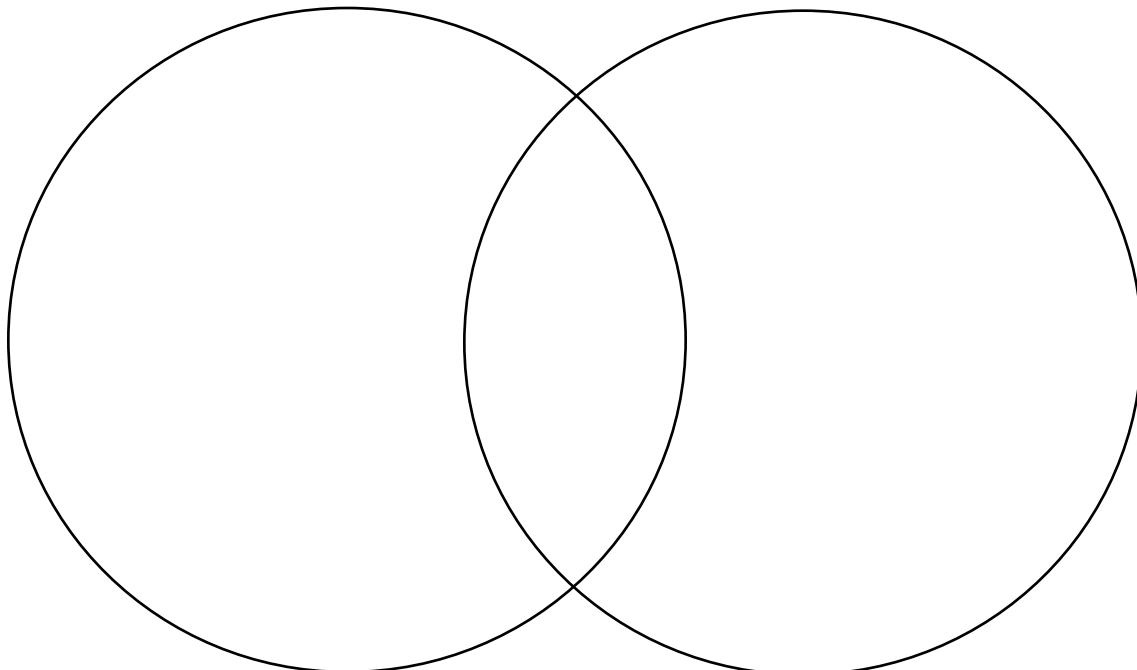
herbivorous mammals:

carnivorous mammals:

reptiles/amphibians:

birds:

insects:



Wikipedia tells us about the Arctic

The **Arctic** is the region around the Earth's North Pole, opposite the Antarctic region around the South Pole. In the northern hemisphere, the Arctic includes the Arctic Ocean (which overlies the North Pole) and parts of Canada, Greenland (a territory of Denmark), Russia, the United States (Alaska), Iceland, Norway, Sweden and Finland. The word Arctic comes from the Greek word arktos (??????), which means bear. This is due to the location of the constellation Ursa Major, the "Great Bear", above the Arctic region.

There are numerous definitions of the Arctic region. The boundary is generally considered to be north of the Arctic Circle (66° 33'N), which is the approximate limit of the midnight sun and the polar night. Other definitions are based on climate and ecology, such as the 10°C (50°F) July isotherm, which roughly corresponds to the tree line in most of the Arctic. Socially and politically, the Arctic region includes the northern territories of the eight Arctic states, including Lapland, although by natural science definitions much of this territory is considered subarctic.

The Arctic region consists of a vast ice-covered ocean (which is sometimes considered to be a northern arm of the Atlantic Ocean) surrounded by treeless, frozen ground. Life in the Arctic includes organisms living in the ice, fish and marine mammals, birds, land animals, and human societies.

The Arctic region is a unique area among Earth's ecosystems. The cultures in the region and the Arctic indigenous peoples have adapted to its cold and extreme conditions. In climate change research, the Arctic region is often considered an early warning system for the planet.

Websites for classroom research

<http://library.thinkquest.org/3500/animals.htm>

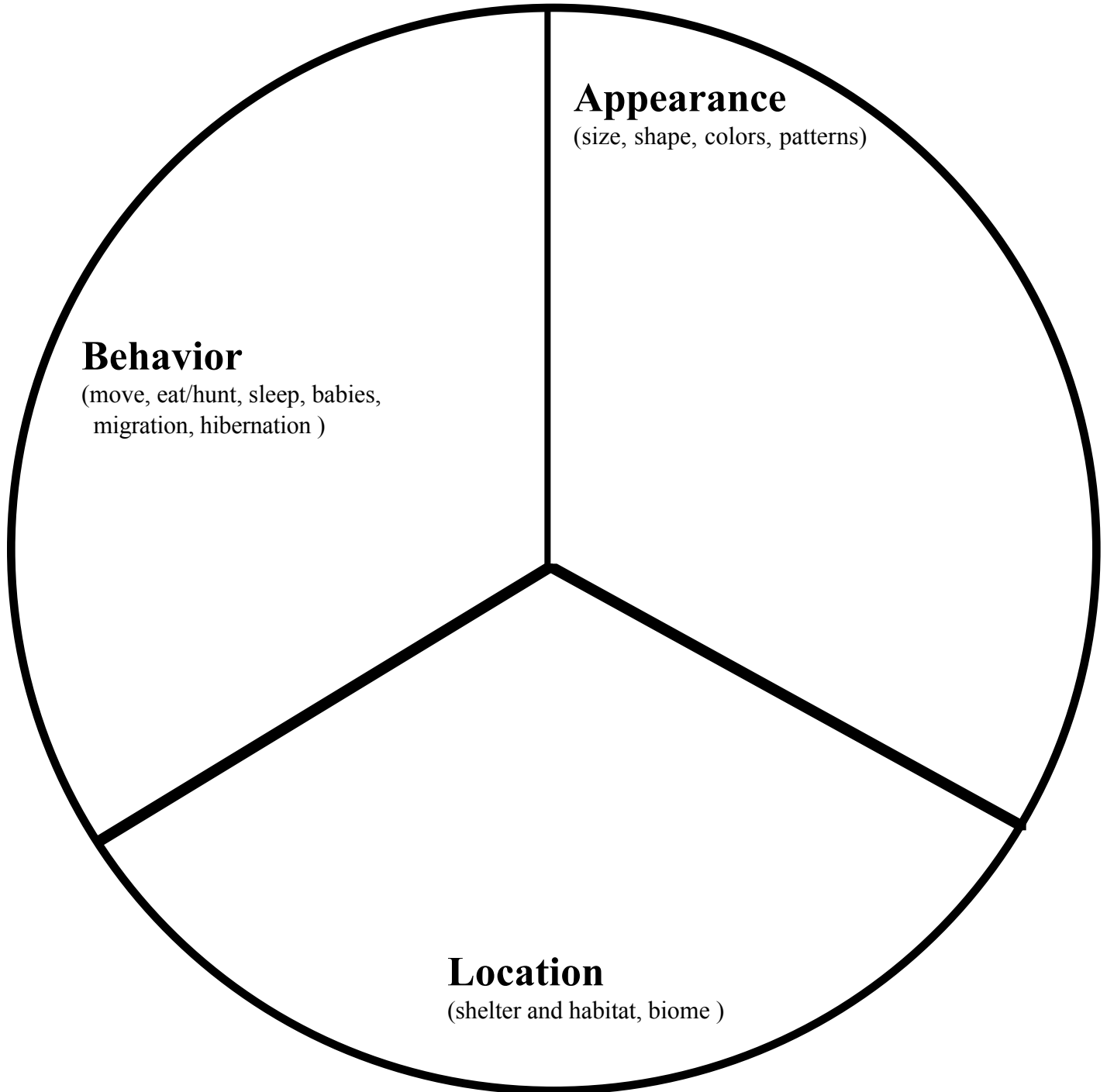
Library webpage....

World Book for Kids

BrainPop

Describing Animals in the Arctic

Select one animal to observe and read about!
scientific observations and non-fiction reading comprehension
research: notetaking, organization of ideas
writing: word choice, organization



Comparing Arctic Animals

We know from Marzano, Pickering and Pollack in **What Works in the Classroom: Strategies that Work...** there is a 27% gain when students accurately discriminate similarities and differences using attributes and values.

	Arctic Animal _____	Arctic Animal _____
attribute: appearance		
attribute: behavior		
attribute: location		
attribute: biome habitat shelter		