# Calendar Connections

# January ~ The Arctic & Antarctica

Target Level: grades 3-6

The facts are created at a more advanced level but can easily be used for the entire homeschool family! Young children will soak up the information their older siblings are taught while all together.

Although the cards were created for January, they can be used for any month of the year!

Be sure to <u>visit our blog post</u> to see books we recommend for this unit...



# Calendar Connections

# Helpful Items

~these are the exact products we use~







laminator



Oriental Trading carries the exact calendar I used to create these cards, it is item # IN-62/2017. Many times it is out of stock, so just check to see if they are carrying it by searching for the item #. Use my link to get free shipping with a \$49 purchase!







#### <sup>1</sup> Earth

What shape is the earth? If you answered sphere, you would be correct! In the middle of the earth is an imaginary line called the equator. The equator divides the earth into two hemispheres: the northern hemisphere and the southern hemisphere. Within each hemisphere there are frozen land masses known as the Arctic and Antarctica.

#### 2 The top of the world

The Arctic is located in the northern hemisphere and contains what is known as the North Pole. There is no land at the North Pole, but the sea there is so cold that the surface freezes and turns into a thick ice. Arctic winters are dark - there is no daylight! The sun's rays can't reach the North Pole due to the tilt of the earths axis. It is always night, or twilight (very little sunlight), for the length of about 179 days.

#### 3 **Down under**

Antarctica is located at the bottom of the earth where the South Pole is located. Antarctic oceans are covered with ice for most of the year. It has the driest, windiest, and coldest climate on Earth. When Arctic winters are occurring, Antarctic summers are taking place – meaning that daylight lasts for 24 hours! These seasons switch in late June.

#### 4 So Cold!

The coldest places on earth are the Arctic and Antarctica. Any sunlight they do receive is reflected back into space by the polar ice caps as they act like giant mirrors. The average winter temperature in the Arctic is -40\*F. The average winter temperature in Antarctica is -76\*F. When it is this cold a cup of boiling water tossed into the air turns into ice crystals before it hits the ground!

#### 5 Ice, ice, & more ice!

Ninety percent of Antarctica is covered with permanent ice, some of it more than 13,000 feet thick! Due to this thickness it is the highest continent in the world! In the Arctic area, Greenland is covered with a single solid ice cap. Since the landscape, or also known as icescape, is made mostly of ice, it tends to change from year to year due to the melting and refreezing.

#### 6 Glaciers

Glaciers are large bodies of ice formed from freshwater. They are formed on land when snow continues to pile up faster than it can melt. As the snow continues to build it puts pressure on the snow underneath causing ice to form. Glaciers actually move, albeit very slowly due to their weight.



#### 7 Icebergs

Icebergs are large chunks of ice that break off ice caps or glaciers and crash into the sea. Each chunk bobble around in the ocean until it finds its balanced position and then floats with the seas current. The largest part of the iceberg is hidden underwater – so when you hear the saying "it's only the tip of the iceberg" it means that there is a lot more you don't see!

#### 8 Polar Lights

There is an amazing light show that happens in the sky at both poles. In the Arctic, it is called aurora borealis, or northern lights. In the Antarctic it is called aurora australis, or southern lights. Auroras are formed when gases in the air mix with energy particles from the sun. Different colors are produced by different gases.

#### <sup>q</sup> Polar Bears

When you think of the Arctic, you think polar bears. Polar bears are the largest bears in the world with a male weighing on average 770 – 1500 pounds. Though they look cute and cuddly, they will kill anything that gets too close, animal or human! Polar bears have a thick layer of fat called blubber that help keep them warm in the frigid climate. While polar bears are covered with a creamy-white fur, their skin underneath is black.

## 10 Penguins!

Did you know penguins aren't afraid of polar bears? Why? Because penguins live at the opposite pole! There are only two species of penguins that live in Antarctica, Emperor and Adélie. Other varieties such as Gentoo, Macaroni, King, and Chinstrap live in nearby seas. Penguins drink both saltwater and freshwater and eat fish and other seafood. The closest a penguin comes to flying is when it jumps out of the water onto land!

#### 11 Birds

There are other birds that live either in the Arctic or the Antarctic, but there is one bird that flies from one pole to the other every year. The Arctic Tern breeds in the Arctic during its summer and then flies 22,150 miles south to Antarctica to spend summer there, seeing two summers every year! These birds live on average 20 years, racking up almost 400,000 miles in their lifetime.

#### 12 Snow White

Another bird that lives in the Arctic is the Snowy Owl. The male Snowy Owl is one of the largest of its species with a wingspan of 49-59 inches and weighs 3½ - 6½ pounds. The male has pure white feathers to help camouflage itself while hunting. Its favorite snack to eat is a small lemming.



#### 13 Albatrosses

Four species of Albatross breed in Antarctica. These birds are the largest sea bird in the world. The Wandering Albatross has a wing span (tip of wing to tip of wing) of 11½ feet! Albatross are also some of the longest living birds with an average lifespan of 30 years.

Albatrosses take a long time to find a partner, but will stay with that

partner for the rest of their lives.

### 14 Large Mammals

Reindeer really do live at the North Pole! A few large mammals including reindeer, caribou and horned, hairy musk oxen are comfortable living in the Arctic due to the fact that their hooves are made for walking on snow and ice. Their hooves have three toes that spread out and act as a snow shoe while they are walking. The natives that live in the area make great use of these animals to survive the frigid climate.

#### 15 Small Mammals

It's really no surprise that polar bears and reindeer live in the Arctic, but did you know several small mammals live there as well? Siberian lemmings and ermines (a kind of small weasel) survive harsh winter conditions by burrowing in the snow and nibbling on plant roots. Ermines are brown in the summer, but pure white in the winter. Their fur is often used to decorate royal crowns.

#### 16 Wolverines!

This creature, resembling a small bear is really part of the weasel family. It has a reputation for being fierce and strong in proportion to its size and often hunts reindeer and caribou – animals many times its size! Wolverines not only live in the Arctic, but also in North America and Siberia.

#### 17 Walruses

Walruses live in the Arctic – there are none in Antarctica. Their skin is 1½ inches thick followed by 4 inches of blubber – making them well tailored to living in the frigid climate. Walruses prefer to live in seas that are less than 260 feet deep and spend two-thirds of their lives in the water. Walruses are mammals as they are warm blooded, give birth to live young, nurse their young, breathe air and have hair. Each summer their hair falls out revealing a dark pink skin underneath. Adult walruses have tusks which are used mainly to scare off enemies.

#### <sup>18</sup> Seals

Seals are found in both the Arctic and Antarctica. Weddell seals live just 800 miles from the South Pole, making them the farthest southern living mammal on earth. These seals eat shrimp, octopus, and fish and can stay under water for up to 45 minutes. Harp seals live in the Arctic among the floating ice floes and give birth to beautiful pups called whitecoats due to their white fur. They, too, eat seafood. The Antarctic leopard seal is the only seal that will eat other seals.



#### 19 Whales

There are several species that enjoy living in the frigid waters of the Arctic and Antarctic. The male Arctic Narwhal has a long spiral tusk protruding from its mouth. It is really a long tooth. Beluga whales also live in the Arctic. They are small and white and blend in well with their surroundings. Both whales have teeth and eat Arctic fish and seafood. The Antarctic minkes are small compared to other whales – averaging 33 feet in length. They have baleen instead of teeth and feast on krill.

#### 20 Krill

Krill are considered an important part of the food chain as it feeds a number of different species including seals, penguins, whales, sea birds, and in Japan and eastern Europe, people. Antarctic krill make up an estimated biomass of 500,000,000 tonnes – that's a HUGE amount of krill. Over half of this is eaten each year and then replaced through growth and reproduction.

#### 21 Antarctic Oceans

The waters around Antarctica are freezing cold and partially covered with ice throughout the year. Despite this there are some amazing creatures that call this home. Icefish are one such creature. Swimming through the dark waters this fish has see-through blood that acts like antifreeze – its stays liquid even in the freezing temperatures. Beautifully colored sea stars gather under breathing holes created by seals as they feed on seal droppings. Any divers brave enough to take on the frigid conditions will not be disappointed at the incredible collection of sea life!

#### 22 Plants?

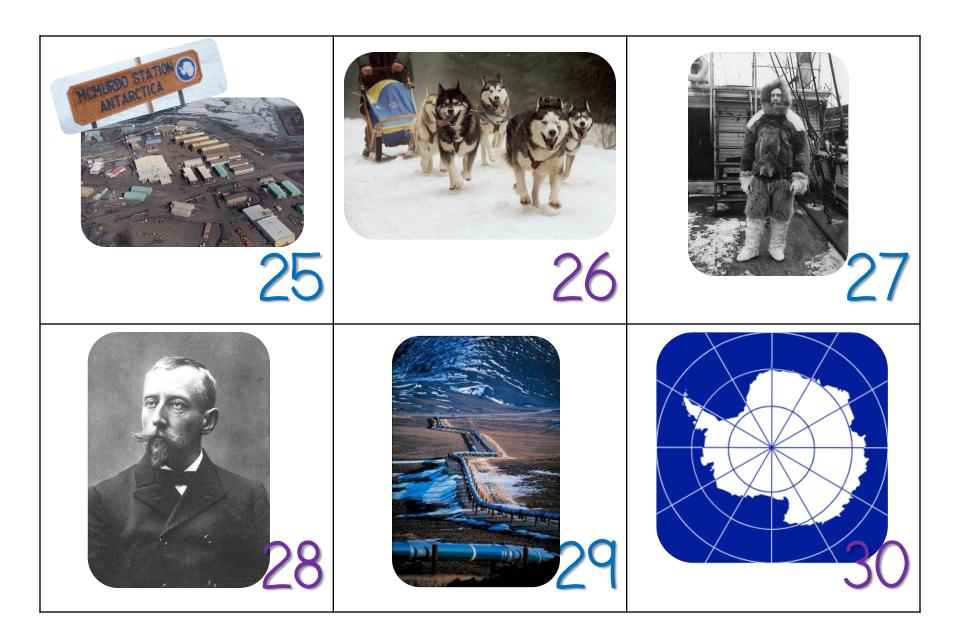
Believe it or not, there are actually some plants that call the Arctic their home and put on quite a colorful show during the warmer summer months. The purple saxifrage is one of the earliest blooms to appear with its beautiful cup-shaped blossoms. Arctic poppies turn its little yellow face towards the sun to catch as many rays as possible. Hardly any plants live in Antarctica due to the much colder temperatures.

#### 23 Arctic Living

Many natives have adapted to the living conditions of the frozen Arctic. In fact, about four million people call the far northern regions of Canada, Europe, and Russia home. Native people such as the Inuit, Sami, Chukchi, Dolgan, and Nenets have learned to raise reindeer to provide them with food, clothing, shelter, and transportation.

#### 24 Igloos?

When you think of people living in the frozen tundra you often think of igloos as their homes. Only hunters traveling long distances build these traditional shelters. People of today, however, live in ordinary houses in modern towns. Many towns use brilliant colors to paint their buildings to provide a contrast to the bleak landscape.



#### 25 Is anyone there?

With an average winter temperature of -76\*F and an average summer temperature of -22\*F, there are no towns in Antarctica. There are, however, a few important scientific research centers. The McMurdo station is the largest community capable of supporting 1,258 people. It is here at this station that information about climate, weather, pollution, wildlife and space is collected.

#### 26 Have dogs, will travel

With the temperatures as cold as they are, animals often provide the best transportation. Dogs such as Malamutes, Husky's and Samoyeds have been raised and trained to pull loads of sleds through the icy terrain by the Inuit people for over a thousand years. Though malamutes are strong and large, they are useless as guard dogs – they like people too much! The Dolgan and Sami people, reindeer herders, have learned to train reindeer to pull sleds.

#### 27 Exploring the Arctic

Many people have attempted to explore the poles. Some have made it – others died trying. The Arctic was first discovered by Robert Peary and Matthew Henson in 1909. They set off from Cape Columbia and reached the North Pole in an amazing 37 days thanks to the Inuit people and sled dogs! Many people doubted this time, but in 2005 Tom Avery, a British explorer, replicated Peary's journey and matched his time.

#### 28 Exploring Antarctica

British explorer Robert Scott had originally set out to discover the North Pole, but when he heard about Peary's discovery he decided to head south.

He set out in 1911 along with a competitive team from Norway lead by Roald Amundsen. The Norwegians reached the pole five weeks before Scott and left a tent and flag there for him to find! Fifteen years later, Amundsen arrived by balloon to the North Pole, making him the first person in history to travel to both poles.

# <sup>29</sup> Natural Resources

Beneath all that snow and ice lies rich natural resources such as oil, coal, gas, and minerals. The terms of the Antarctic Treaty will not allow anyone to touch what is there. In the Arctic, however, these resources bring money and jobs to the countries that own them. The United States has built the Alaska Pipeline. It took 21,000 workers to build this huge oil pipeline over 795 miles.

### 30 Ownership

Eight countries have land inside the Arctic Circle: Russia, Finland, Sweden, Norway, Iceland, Greenland, Canada, and the United States of America. No one country has ownership of Antarctica. Instead 48 countries have signed the Antarctic Treaty that protects the land from any mining or military action and sets it aside as a scientific preserve. The image on the card is the official Antarctica Treaty flag.



31

For this is what the Lord has commanded us:
"I have made you a light for the Gentiles, that you may bring salvation to the ends of the earth."

Acts 13:47