

# MACVISTA

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Think through it	01
Poles Apart	02
Life in the Polar Regions	04
World at Play in the Polar Regions	05
Arctic Cultural Landscape	06
TECH News	07
World View	08
Word Search	09
Activity Sheet 1	10
Activity Sheet 2	13
Lighten Up – Riddles, Jokes and Fun Facts	15
Baira & Bela	17
Current Events Updates	18

January-March 2021 | [gk.macmillaneducation.in](http://gk.macmillaneducation.in)

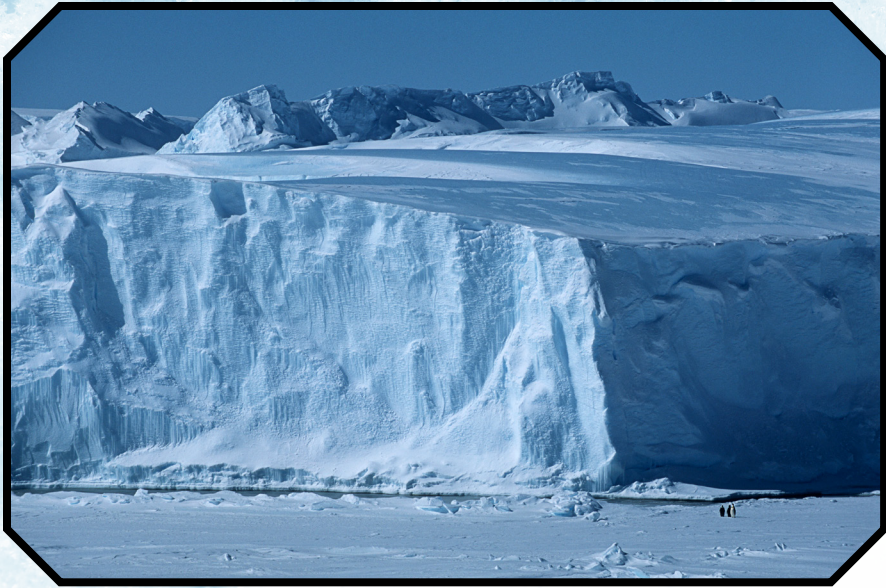
*“We need to save the Arctic not because of the polar bears, and not because it is the most beautiful place in the world, but because our very survival depends upon it.”*  
— Lewis Gordon Pugh



Lewis Gordon Pugh is best known for swimming across the North Pole in 2007 to raise alarm about the melting of Arctic sea ice; he is described as the “Sir Edmund Hillary of swimming”.

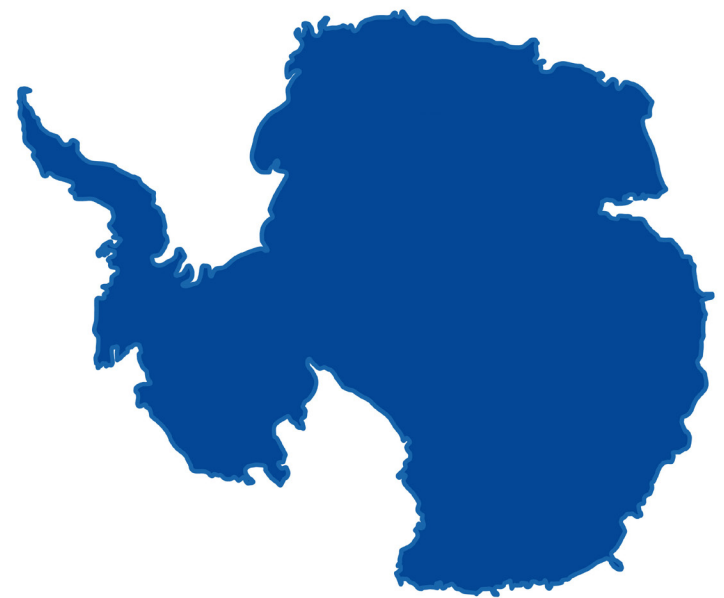


# Poles Apart



The Earth is bordered by two zones, which are covered by perpetual snow and ice aka permafrost. These are the Antarctic and the Arctic regions. Even though both appear to be similar, there are many differences.

Antarctica, on the South Pole, is known as the Frozen Continent. This is because a continent signifies landmass and Antarctica is a landmass surrounded by an ocean. On the other hand, the Arctic Circle on the North Pole is actually a sea surrounded by separate pieces of land, and so does not qualify to be a continent!



Even the snow covering both the areas is dissimilar. The snow in the Arctic region forms on the waves of the Arctic ocean and is less mobile than the ones formed in the Antarctic. The ice and snow of the Arctic region remains in the Arctic bay, with the ice floes piling up to an impressively thick cover. The Antarctic boasts of 98% ice, which are stacked on each other all over the land.

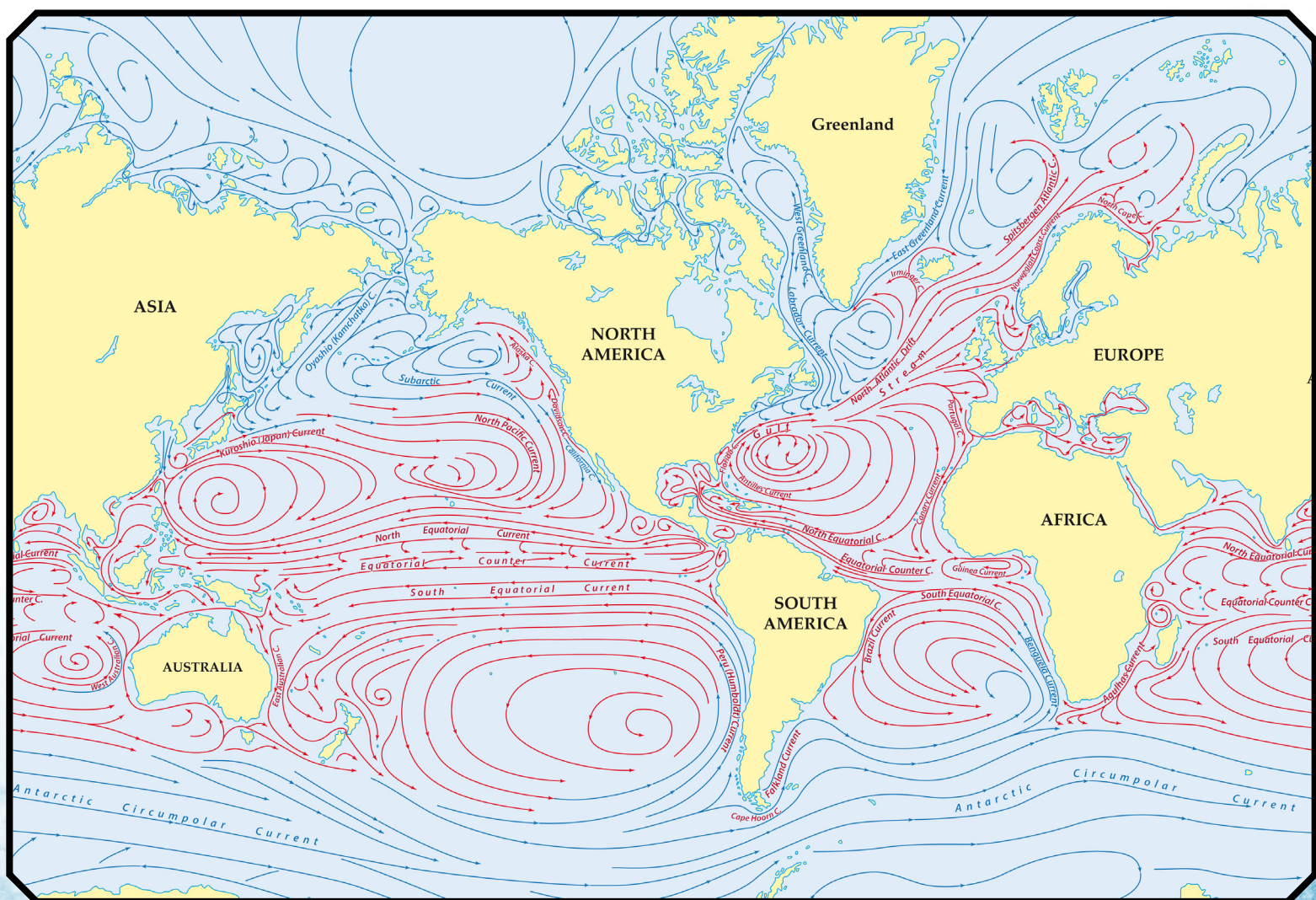






Did you know that though both the regions are ice bound for most of the year, the Arctic Circle is relatively less cold than its southern partner? This is because of the water. Yes, that's right! The lowest temperature that water will fall to is -2 degrees Celsius but on Antarctica, the temperatures can plummet further due to the elevated landmass. Antarctica stands tallest of all the continents — 2300m higher than Asia and this height leads to lower temperatures! Another reason for Antarctica being colder than Arctic is due to the winds and sea currents that blow around the continent.

Every little thing around the Arctic and Antarctic zones is same but different.





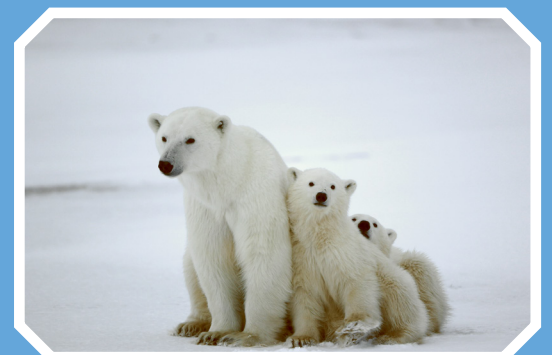
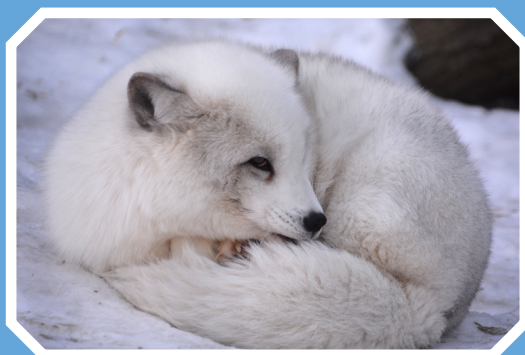
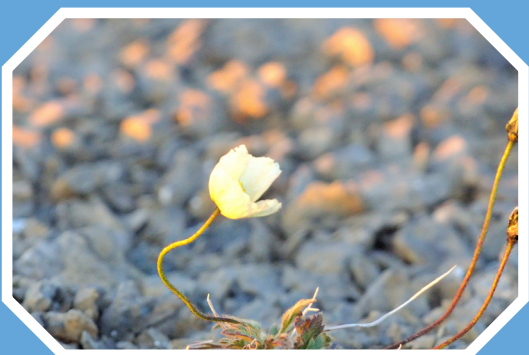
## Life in the Polar Regions

The frozen regions of the Arctic and Antarctica only appear to be barren but in truth are home to 200 species of moss, lichens, 700 species of algae, which are some of the ancient plants of the Earth. The waters around Antarctica are rife with various species of zooplankton like the Antarctic krill, a shrimp-like creature, which is food for large mammals like Blue whales, Humpback whales, Sperm whales, Ross seals, Elephant seals etc. The Albatross, Arctic tern, Wattled Sheathbill are common in this area. Various types of Penguins including the emperor, king and chinstrap also inhabit the icy continent.



The Arctic Tundra hides plant life under its snow blanket. With the snow melting in the summer, plants like the purple saxifrage, bear berry, arctic poppy, moss campion start blooming. Several shrubs and low growing plants like the arctic willow, northern Labrador tea, and dwarf berry also vie for attention. These plants provide food to animals such as the musk ox, caribou, moose, arctic hare, which in turn feed the predators of the Arctic Tundra like the polar bear, arctic fox, and wolverine. The Arctic also hosts a variety of avian life. These include the Arctic tern, Ptarmigan, puffin and the sea goose. Like Antarctica, many types of seals live in the Arctic Ocean, such as the horned narwhal, Orcas, Beluga whales, Ribbon seal and the Walrus.

While there are many actions underway to maintain the unique ecology of the polar regions, we must increase our commitment to protect the flora, fauna and uniqueness of the Arctic and Antarctica.





# World at Play in the Polar Regions



The polar regions are tied to the rest of the world through multiple treaties and this makes them open to international politics of a different kind. Traditionally, most countries with stakes in these regions have been aligned regarding the experimentations, excavations, scientific development or commercial utilisation of resources.

However, with increasing climatic changes, globalisation and changing political and economic relations between countries, the impact has been felt in the Arctic and Antarctica as well.

Changes are everywhere to be seen. Traditional kayaks have given way to new age boats run on diesel or gasoline. As the oceans warm up, marine trade has started becoming more accessible with unfortunate results. Increased excavations to extract the natural reserves of fossil fuel to power the world economy is an imminent danger to the Arctic. Erosions, increasing snowfall but vanishing sea ices are all evidence of the changing scenario of the fragile Arctic region.

Antarctica too faces similar challenges. Differences are starting to crop up especially between USA and China. And these powerful nations can break or build the momentum to conserve these regions. The vast fresh water cache in the Antarctica ice shelves with the capacity to fulfill the demands of water-starved countries is also becoming an attraction in world politics. As new land slowly emerges from the southern seas, installations of scientific research could lead to possible militarisation of the south polar area. The threat is quite palpable. But again, the international community has a duty to put the conservation of the polar regions on top – to safeguard themselves.





## Arctic Cultural Landscape



The Arctic is home to many tribes such as the Inuits, Samis, Aleuts etc.; they are spread across Russia, Finland, Greenland and Canada. All the tribes display a strong sense of communal unity; irrespective of or because of the harsh living conditions and extremities. The brotherhood of the tribes is also forged on the basis of their mythology and their trysts with nature.

Even though climate change has forced many natives to take up the more modern practice of working in factories, many are trying their best to preserve their culture and pass on their wisdom to the younger generations. Traditional activities such as fishing, seal hunting, kayak building, sled riding, making tents and clothes from animal skins and animal fibre, are being taught in camping trips today. Group activities include wrestling and arm pulling to ensure physical dexterity, while the long winters are made lighter by indoor games using toys such as *ajagaak* and of course, storytelling.



One of the hallmarks of culture in the Arctic is that of interdependency and sharing. Community feasts, music and dance involving men, women, young and old alike have been mainstays and continue till today. Today, the Arctic indigenous tribes understand that they have to protect their culture and have found new ways of doing this.







## TECHNEWS

The study of biodiversity has been conducted through the use of models that look into different aspects but so far this has happened in silo. However, all this is changing with the Madingley Model. It is a strategically novel approach to researching ecosystems. Its uniqueness lies in including marine and terrestrial ecosystems and human pressures in both biospheres. The Madingley Model chooses to provide greater insight into conservation efforts specially in fragile ecosystems such as those of the polar regions. The model is designed to explore how ecosystems and the services that they provide will respond in the future given increasing human population density, warming climate, natural habitat conversion, fishing and sustainability efforts. The model can be used with existing climate scenarios and socio-economic projections to help understand changes to ecosystems at local or global scales. The model has been developed by UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC).



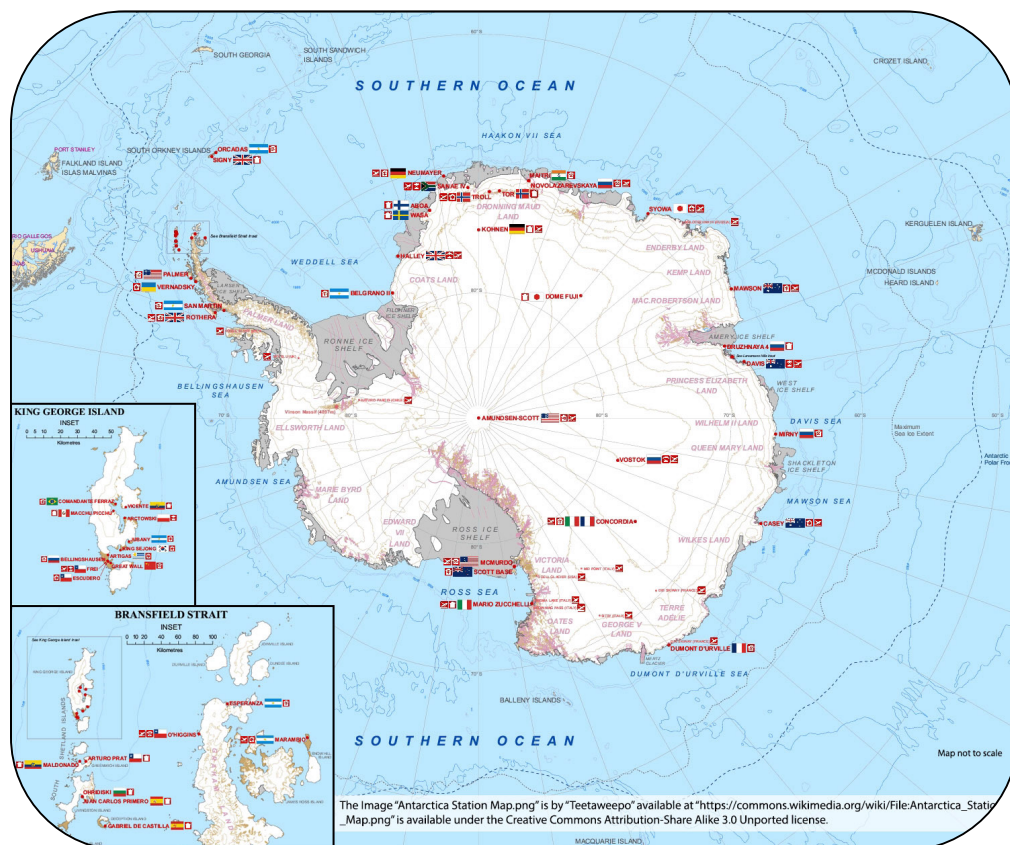




# WORLD



# VIEW



Forty-two countries have permanent research stations set up in Antarctica and all of them are signatories of the Antarctic Treaty. This treaty looks into the international relations related to Antarctica. While most of the research stations in the Arctic are of the drifting variety, in Antarctica, the research stations are built on fixed rock or ice

USA manages the largest base and research station in Antarctica, Amundsen–Scott South Pole Station.

India has three permanent research stations in Antarctica; these are *Dakshin Gangotri*, *Maitri* and *Bharati*. While *Dakshin Gangotri* now serves as a supply base, *Maitri* was set up to conduct studies in the fields of biology, glaciology and even human physiology. *Bharati* focuses on oceanographic studies and the phenomenon of continental breakup.

India has also joined other countries in setting up research stations in the Arctic. *Himadri*, set up in 2008, is India's first permanent Arctic research station located at Spitsbergen, Svalbard, Norway. The focus of India's research is on aerosol radiation, space weather, food-web dynamics, microbial communities, glaciers, sedimentology, and carbon recycling.



# Ice Breaker – Word Search

Read the following passage and find the words in bold in the puzzle below. Remember the words can go in any direction and they can share letters as they cross over each other. Did you ever hear of so many words and all mean "ice" or "snow"?

The Inupiaq people of Alaska have more than 100 words for different kinds of sea ice, illustrated here. A female walrus and her calf (**isavgalik**) rest on ice (**nunavait**) in the midst of scattered pack ice (**tamalaaniqtuaq**), interspersed with patches of calm flat water (quunig).

The mass of floating pack ice (**sigu**) consists of various types of ice, such as large floes (**puktaa**q), vertical blocks of ice (**puikaaniq**), ice floes with overhanging shelves (quanilaq), large pieces of darker ice (taagluk), and small floating pieces of dirt ice (**sanalait**).

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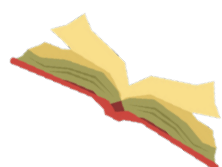


# ACTIVITY SHEET

## Activity 1

The Polar regions remain mysterious and attractive for all till date. It's no surprise that they have inspired an entire genre of books, movies and popular documentaries.

Here is a polar inspired catalogue for you to explore more.



### BOOKS



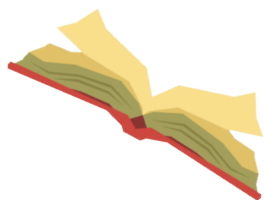
- **ENDURANCE: SHACKLETON'S INCREDIBLE VOYAGE BY ALFRED LANSING:** The true tale of Sir Ernest Shackleton's survival after his ship, The Endurance, became trapped and crushed by ice in the Weddell Sea.
- **RACE TO THE SOUTH POLE BY ROALD AMUNDSEN:** Roald Amundsen examines the history of Antarctic exploration and also the preparation of his own expedition. He shares diary entries from his race to the South Pole and black-and-white photographs of the journey.
- **HOOSH: ROAST PENGUIN, SCURVY DAY, AND OTHER STORIES OF ANTARCTIC CUISINE BY JASON C. ANTHONY:** A quirky, culinary guide to Antarctica. Anthony weaves together surprising stories of castaways surviving on seal blubber and penguin meat, expeditions stretching rations or improvising gruel.



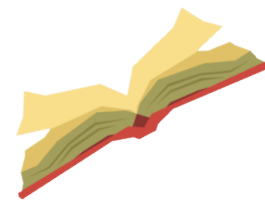


# ACTIVITY SHEET

## Activity 1



### BOOKS



- **AN AFRICAN IN GREENLAND BY TÉTÉ-MICHEL KPOMASSIE:** This is a travel book about a man from Togo who went to Greenland in the 1960s to experience life and culture of the Inuits.
- **ICE STATION ZEBRA BY ALISTAIR MACLEAN:** An old-school 60's thriller set aboard a US nuclear submarine travelling below the Arctic ice pack.
- **THE CALL OF THE WILD BY JACK LONDON:** Buck, the canine protagonist, starts as a pampered pet in sunny California and ends up in the Yukon taking down caribous and running with the wolves and survives. It's a story of grit, determination and nature versus nurture.





## Activity 1

# MOVIES & DOCUMENTARIES

Here is a list of movies that are based in the Arctic and Antarctic regions. How many have you seen?

- **THE GREAT WHITE SILENCE (1924):** A documentary by photographer and cinematographer Herbert Ponting exploring the ill-fated British Antarctic Expedition led by famed explorer Captain Robert Falcon Scott in 1910.
- **SOUTH OF SANITY (2012):** This was the first feature fiction film shot entirely in the Antarctic, by a British Antarctic Survey (BAS) crew. Director Watson had six years of experience working in Antarctica as a mountaineering guide and Edwards, the scriptwriter, was the London-based BAS doctor and the actors were the crew at the station.
- **PENGUINS (2019):** A heart-warming coming-of-age story by Disney about Steve, an Adelie penguin, as he starts his life journey during the Antarctic springtime.
- **FROZEN PLANET (2011):** Sir David Attenborough's acclaimed BBC docu-series 'Frozen Planet' brings polar wildlife into homes as it explores the Arctic and Antarctica.
- **PINGU (2011):** A Swiss children's cartoon series created by Otmar Gutmann, the series was based at the South Pole. Pingu was a Claymation penguin who lived there with family and friends.
- **ARCTIC TALE (2007):** A documentary film from the National Geographic Society about the life cycle of a walrus and her calf, and a polar bear and her cubs.







## Activity 2

### **DIORAMA DRAMA**

Let's create a fun diorama to bring the Arctic home. Ready?



#### **Materials needed**

1. An empty shoebox
2. Acrylic paints
3. Cotton
- 4.. Card paper
5. Clay
6. Scissors
- 7.. Glue
8. Tape
9. Brushes
- 10.. Pictures of Arctic animals such as Polar bear, Walrus, Seals etc. You can also add pictures of Eskimos.

#### **Directions**

1. Take the shoebox and open it. Tape up the sides of the box to make it firm. You could position the lid of the box as an extension to the back. Tape it all up and make it secure.
2. Paint the backdrop of an Arctic day. Use blues and white to create the sky and the icy landscape.
3. To create icebergs, use cotton and mould it into shape. You could also use thick card paper and cut out shapes and glue it into position.
4. Paint the base of the shoebox with blue colour to represent the sea. You can also glue cotton pieces on the base to show icebergs or ice floes floating on the sea.
5. Draw or print and cut pictures of the animals of the polar regions like the Arctic fox, Polar bear, Seal, Walrus, Narwhal etc. Similarly, you could draw and colour or print and cut out pictures of Eskimos with sleds etc. Get creative!
6. Cut out tabs from the card paper and glue them behind the pictures to help them stand.
7. Mould the clay on a small plastic bowl to create an igloo. You can draw lines on it to show the blocks of ice used to make an igloo. After it dries, paint it with white acrylic paint.

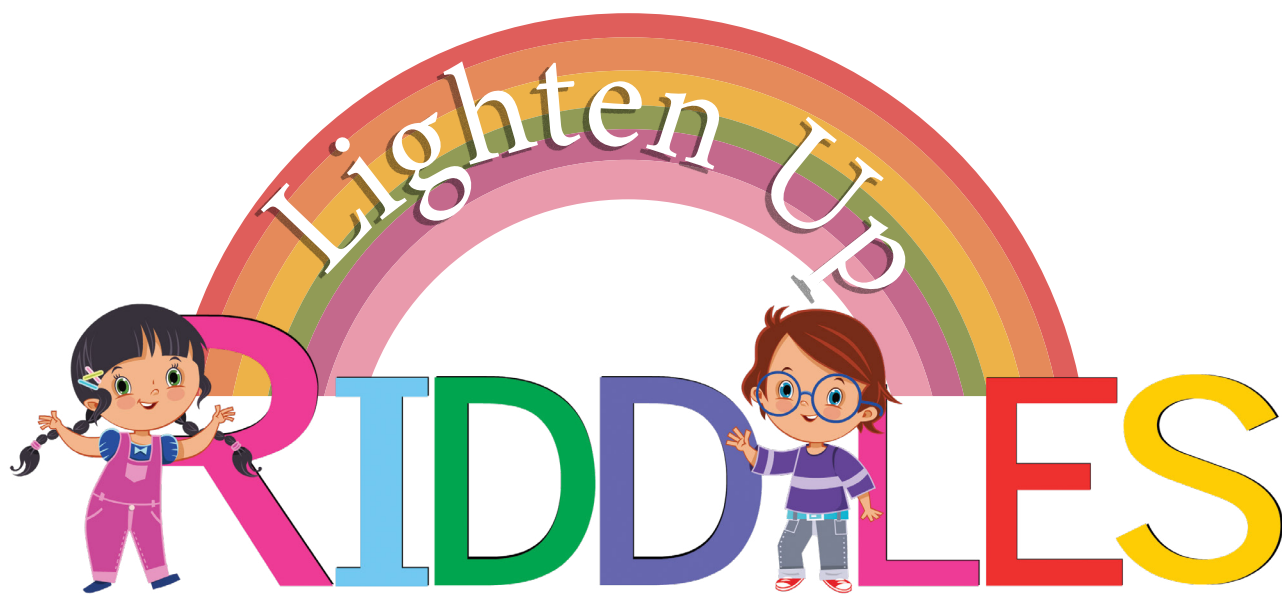
Now that all the elements of your diorama are ready, glue them in position and have fun with the Arctic, right inside your homes.



# Ice Breaker – Word Search

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





## **GUESS WORDS WITH THE HINTS.**

1. I start with an A and end with an A and all penguins find their way.
2. My name has a colour that is very rare to see in my land.
3. "The \_\_\_\_\_ and The Carpenter, and The Mad Hatter's Riddle" features in Alice in Wonderland, fill in the missing animal.
4. Oh dear! I'm the only one in the deer family where Mr. and Mrs. both have antlers, who am I?
5. I'm a sword-carrying marine animal found in the Arctic waters. Who am I?





# JOKES



What do you call fifty penguins in the Arctic?

Lost! REALLY lost! (Penguins live in Antarctica!)

What do chefs call "Baked Alaska" in Alaska?

"Baked Here"

What vegetable was forbidden on the ships of Arctic explorers?

Leeks!

Why are bad school grades like a shipwreck in the Arctic Ocean?

They're both below C level!

Getting a job in the Arctic in the winter is great! Why?

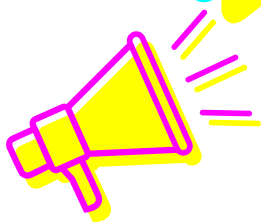
When the days get short, you only have to work a 30-minute work week.

What do Arctic hares use to keep their fur looking spiffy?

Hare spray!

Source: Multiple sources

## FUN FACTS



- The word 'Arctic' comes from the Greek word for bear, 'Arktos'. This did not refer to the Polar bear but instead referred to the constellations seen in the northern sky: the 'Ursa Minor' (Little Bear) and the 'Ursa Major' (Great Bear).
- The Arctic Circle hosts the world's greatest seed storage facility, the Svalbard Global Seed Vault, run by the Norwegian government. The facility built in the permafrost, holds seeds for more than 4000 plant species—including life-sustaining food crops—keeping them safe in the event of an apocalypse!
- Antarctica holds almost 80% of the world's fresh water locked in its vast ice sheet. The Antarctic ice sheet covers an incredible 14 million km<sup>2</sup> (5.4 million square miles), leaving only 1% of Antarctica ice free.

- Mount Erebus is one of the active volcanoes in Antarctica. Located on Ross Island, it has unique features such as twisted ice statues that form because of gases seeping from vents near the volcanic crater.
- In 1911, the ice of the Taylor Glacier was observed to be coloured a deep red by water flowing from deep within the glacier. For many years, the source of the red colour remained a mystery. In 2017, scientists discovered that the water flowing from within the glacier was from a subglacial lake high in salt and oxidised iron and this gave the water its striking red colour and gave its name, Blood Falls.



1. ANTARCTICA
2. GREENLAND
3. WALRUS
4. CARIBOU
5. NAREWHAL

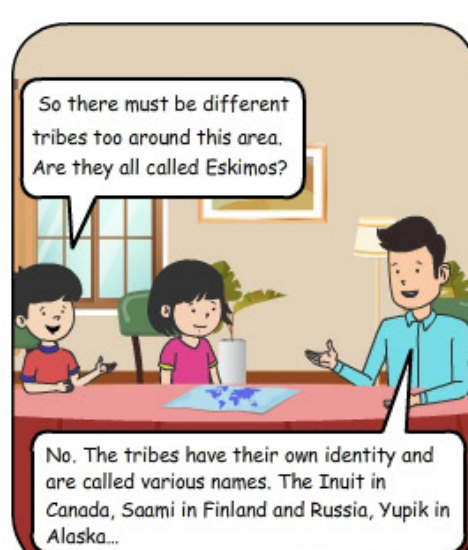
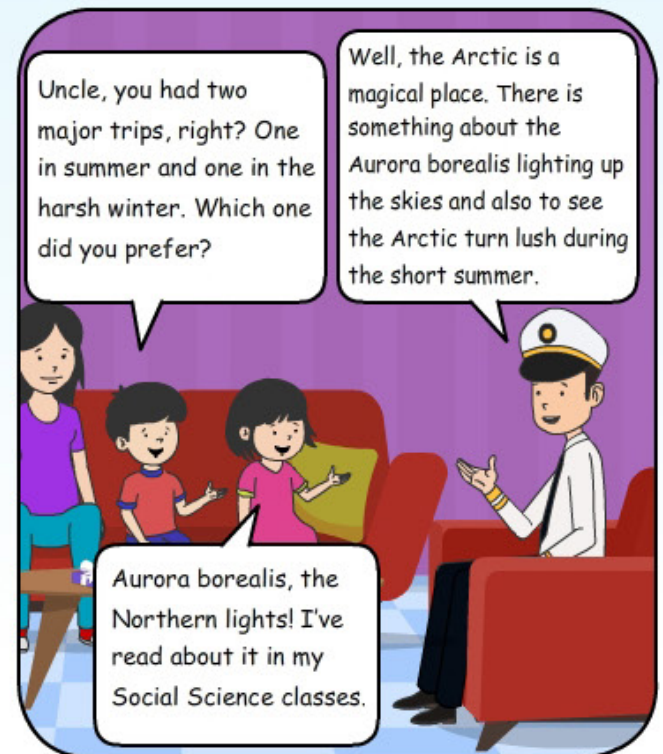
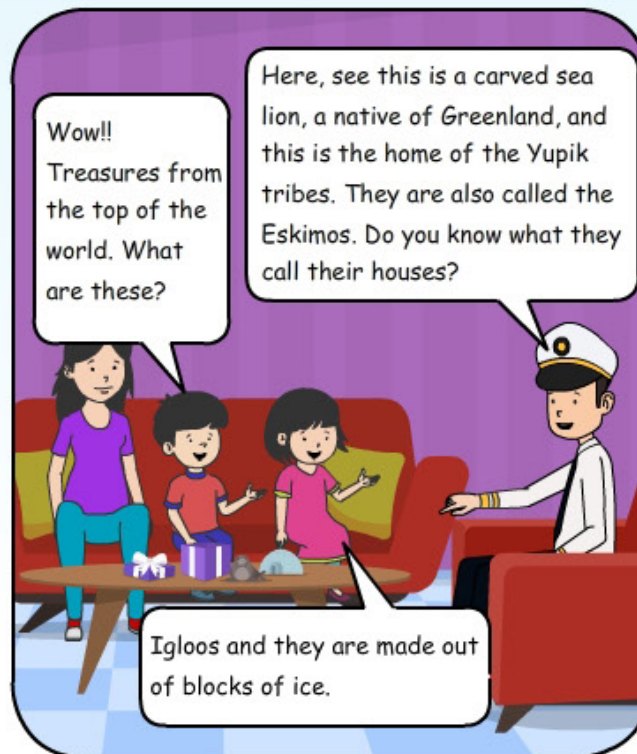




# Comic Strip



## BAIRA AND BELA





# CURRENT EVENTS UPDATES

## January 2021

### January 1

In Nepal, thousands of people protest Prime Minister K.P. Sharma Oli’s decision to dissolve the parliament.

### January 4

Congresswoman Nancy Pelosi was re-elected as the speaker of US House of Representatives for the 117th Congress.



British diplomat Brian Urquhart who was known for developing the United Nations practice of peacekeeping died at the age of 101.

### January 5

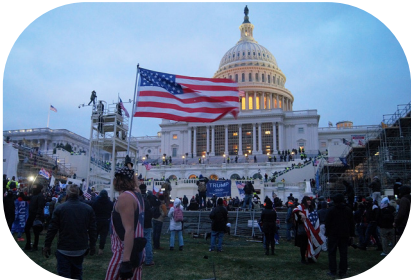
The Government of India recently launched the 40th Indian Scientific Expedition to Antarctica to further study ocean and climate change and the geology of the frozen continent.

Chinese billionaire Jack Ma has been missing from public view leading to various conspiracy theories.



### January 7

US was rocked by scenes of unprecedented violence as crowds of Trump supporters laid siege to the Capitol building.



## January 2021

### January 14

Lasith Malinga, former Sri Lankan batsman, announced his retirement from international cricket.

### January 15

Former US president Donald Trump became the first US president to be impeached twice.

Palestine to hold elections for the first time in 14 years.

### January 20

Hundreds of people were arrested after protests in Russia calling for the freedom of Alexey Navalnaya.

India started supply of vaccines to its neighbouring countries as part of its Vaccine Maitri programme.

### January 29

Kaja Kallas became the first woman Prime Minister of Estonia.



## February 2021

### February 1

Myanmar woke up to the news of a military coup and arrest of civilian leader Aung San Suu Kyi. UNSC has called for the release of all leaders



### February 7

A glacial burst on the Nanda Devi mountain range triggered an avalanche and caused floods in Rishiganga and Dhauliganga rivers in the Chamoli region of Uttarakhand in India. The flood washed away the Rishiganga hydroproject. Many people were reported dead and many more missing.

### February 10

China and India started disengagement process on both sides of the Pangong lake in the Ladakh region, after a long-drawn military and political crisis.

West Africa was on high alert after incidents of an outbreak of Ebola virus in Guinea were reported.

### February 15

Japan was shaken by an earthquake measuring 7.3. It left 100 people injured.

World Trade Organisation (WTO) appointed Ngozi Okonjo-Iweala, former finance minister of Nigeria, as its first African woman Director General.





# CURRENT EVENTS UPDATES

## February 2021

### February 20

Astronomers announce the discovery of HD 110082 b, a sub-Neptune exoplanet three times larger than the Earth orbiting a young star.

USA formally re-joined the Paris agreement after exiting the climate meet under former President Trump.

### February 25

Novak Djokovic, the world number one Tennis player, won his 9th Australian Open Title and his 18th Grand Slam after defeating Russia's Daniil Medvedev.



In women's singles, Naomi Osaka won her 2nd Australian Open Title by defeating Jennifer Brady of the US

### February 27

Saudi Arabia passed a historic law allowing its women to join the armed forces.

## March 2021

### March 5

An earthquake of magnitude 8.1 struck New Zealand and triggered fears of a massive tsunami.

Pope Francis arrived in Iraq making him the first sitting Pope to visit the country; Iraq became the first country that he visited after the travel ban lifted amid COVID-19 restrictions.



### March 10

The first ever QUAD Summit was held virtually between India, Japan, USA and Australia.

### March 15

International Olympic Committee (IOC) President Thomas Bach was re-elected for an additional four-year term.

### March 20

An earthquake of 7.2 magnitude struck off the coast of Miyagi, Japan, causing tsunami waves.

Australia was battered by heavy storm, causing flooding in various towns and parts of Sydney.

### March 23

Ever Given, a container ship, got lodged into sand off the narrow stretch in the Suez Canal. This has caused ship transport and worldwide business impact with a traffic jam on the seas.



### March 25

Russia launched 38 foreign satellites aboard Soyuz-2.1, a fully commercial launch vehicle, from the Baikonur cosmodrome in Kazakhstan. The satellites belonged to 18 different countries including South Korea, Japan, Canada, Saudi Arabia, Germany, Italy and Brazil.

### March 30

The Parliament of New Zealand unanimously approved the bereavement allowance legislation that will give couples who have suffered a miscarriage or stillbirth three days of paid leave. New Zealand has become the second country in the world to provide such benefits after India.