ACADEMIC WORLD SCHOOL™
BEMETARA

SESSION- 2020-21
Grade-V
Social Science

1

Unit 1: Our Earth

Globes and Maps

On Your Marks...

Imagine you are at the sea side. You are watching a ship sail away. What do you see happening? Write in the space given below.

I Shall Learn
- ☑ About shape of the Earth
- ☑ About how to use globes and maps
- ☑ About the need for signs, symbols and colour on a map

The ship becomes smaller and smaller _____

_____

The ship slowly disappears at the horizon; the bow first and gradually the mast. The slow vanishing of ship tells us that the shape of the Earth is round and not flat.

Shape of the Earth

In the ancient times, people believed that the Earth was flat. Ferdinand Magellan, a Portuguese explorer, sailed around the Earth and proved that it is round in shape. However, it is not a perfect round. It is round like an orange, bulging at the middle and slightly flat at the top and the bottom. The extreme north and the extreme south points of the Earth are called the **poles**. The region at the top of the Earth is the North Pole and at the bottom is the South Pole.

Earth

Globe

A globe is a model of the Earth. Globes are always mounted on an axle stand. The axle's tilt is the same as tilt of the Earth's axis. A globe accurately represents the distribution of continents and oceans on the Earth.

Globe

Problems with globes

- A globe does not show details of landforms, location of small towns and other such information.
- Globes do not show the entire Earth at a time.
- Larger globes are difficult to handle.
- It is also difficult to carry globes around.

Map

A world map also represents the Earth. It is a drawing of different parts of the world on a flat surface or on paper. Maps show specific details of areas very well. They are also very convenient to carry.

Political map of Europe

Activity

I Explore

Be a researcher

Learn more about maps. You can find more information about them on the Internet. Find out the difference between a map and a globe. Research on the history of map-making.

Types of maps

There are many types of maps such as political map, physical map and different thematic maps. A **political map** of a country shows political features, such as states, provinces, capital cities and major towns. The **physical map** shows landforms and water bodies like mountains, plains, plateaus, valleys, rivers, seas and oceans. Apart from political and physical maps, there are also thematic maps which show special features of a region. Thematic maps include maps showing distribution of rainfall, vegetation, minerals, industries, etc.

You know what

A collection of maps bound together in a book is called an **atlas**.

Signs and symbols

Maps use various signs and symbols to depict different features. If you see a map closely, you would find signs and symbols depicting rivers, roadways, railways, temples, schools, etc. These signs and symbols are also known as the **conventional signs** and **symbols**. Each map contains a key or a legend to help us to understand the symbols used on that map.

Think about it!

What symbols would you use while drafting a map of your school?

Colours on a map

A map also uses different colours to depict different landforms and water bodies. Green colour on a map represents plain areas, while yellow represents deserts. Mountains and highlands are represented by brown, while oceans and other water bodies are represented in shades of blue.

Look Up

Landform: type of land on Earth's surface. This can be a mountain, plateau or a plain.

Direction and Scale

Directions

Directions are very important to study maps. They are used to correctly locate a place on a map.

There are four main directions on a map. They are **north, south, east** and **west**. There are also four sub-directions on a map. They are:

- North-east—between north and east
- South-east—between south and east
- South-west—between south and west
- North-west—between north and west

Scale

You will find a small ruler-like symbol in the lower right side of a map. This is called the **scale** of a map. A scale is used because it is not possible to show actual distances between places on a map. It is the ratio between the distance on the map and the real distance on the ground.

I learnt

	I Understand	I Need Help
1. The Earth is almost round in shape.	☐	☐
2. Globes accurately represent continents and water bodies of the Earth.	☐	☐
3. Maps are drawings of the whole or the part of the Earth on a flat surface.	☐	☐
4. Maps use several signs, symbols and colours to represent different features.	☐	☐

<u>Answer all the following questions by referring the attachments as above</u>.

Q.1. Fill in the blanks: -

a) _____ Map shows political features of a country.

b) The shape of the Earth is not perfectly _____.

c) There are _____ main directions on a map.

d) _____ is a naturel feature of earth's surface.

e) _____ Map shows different land forms.

f) _____ sub directions are there .

Q.2.Choose the correct answer.

a) A water body on a map is represent by the colour _____

i) yellow ii) blue iii) white iv) green

b) _____ are the extreme north and south of the earth .

i) shapes ii) symbols iii) poles iv) axis

c) Which of the following is a sub direction?

i) north-west ii**)** north iii) south iv) east

d)_____ map shows the boundaries between two states .

i) world map ii**)** Political mapiii) Physical map iv) school map

e) which of the following is a direction

i) Direction ii**)** scale iii) colour iv) map

f) _____ is the ratio between the distance on the map and the real distance onthe ground .

i) Direction ii**)** scale iii) colour iv map

Q.3. Match the followings: -

Column A	**Column B**
i. Portuguese explorer	a) Map
ii.Drawing of the earth	b) Green
iii. Forest	c) Ferdinand Magellan
iv.scale	d)ratio on the map and real distance.

Q.4. State True or False:-

a) Map is a model of the earth.
b) Physical map shows features such as, states, cities.
c) Big globes are easy to carry.
d) Globe gives us detail information of an area.

Q.5. Answer in one word:-

a) What is a book of map called?

b) Which colour represents the mountains on a map?

c) Ferdinand Magellan belongs to which country?

d) What is a book of maps known as?

Q.6.Answer the following in few words:-

a) What is a globe? How does it help?

b) What is a map? Name the different types of map.

c) What the importance of colours in a map?

d) What is the icons and symbols used on map to represent certain features known as?

Q.7.Answer in detail:-

a) Differentiate between map and globe.

b) The scale used on a map is **1_{cm}=100_{km}.**Fin d out the actual distance between the following

Places with the help of their distance given on the map.

Places	**Distance on a map**	**Actual distance**
(i)Delhi-Jaipur	**3.00 cm**	_____
(ii) Delhi-Shimla	**4.00cm**	_____
(iii) Luck now –Amritsar	**10 cm**	_____

c)Identify the following picture and write the problems with it?

2

Latitude and Longitude

On Your Marks...

Look at the sculpture in the picture. Find out what it is? What is its significance?

I Shall Learn

- ☑ About latitudes and longitudes
- ☑ About how to calculate time and locate places on the Earth

Imaginary Lines

We can a see a number of lines that run from north to south and east to west on a globe. These are imaginary lines. We use these imaginary lines to find the exact location of a place on a map or on a globe. These imaginary lines are lines of latitude and longitude.

Imaginary lines on a globe

Latitudes

Latitudes are the imaginary lines that run from east to west. They encircle the Earth horizontally. These lines are parallel and lie at an equal distance from one another. Hence, these are also known as parallels of latitude. The length of the latitudes increases as we move away from the poles, towards the centre of the Earth. There are 181 lines of latitude.

The latitude which divides the Earth exactly at the centre is the longest. It is known as the **Equator**. The Equator divides the Earth into two equal halves or **hemispheres**. The hemisphere above the Equator is known as the **northern hemisphere** and the one below it is called **southern hemisphere**.

Look Up

Parallel: lying in the same direction but always at the same distance

Lines of latitude are labeled in degrees. The latitudes of the northern hemisphere are indicated as °N. The latitudes of the southern hemisphere are indicated as °S.

The latitude of the North Pole is 90° N, and that of the South Pole is 90° S. The Equator is the 0° latitude.

Some important latitudes are:

Latitude	Degree
1. Equator	0°
2. Tropic of Cancer	23½° N
3. Tropic of Capricorn	23½° S
4. Arctic Circle	66½° N
5. Antarctic Circle	66½° S

The Tropic of Cancer passes through India.

Longitudes

Longitudes are the imaginary lines that run from the North Pole to South Pole. Unlike latitudes, these lines are not parallel to each other. They are all of the same length. All longitudes meet at the poles and widen on reaching the Equator.

Longitudes are important indicators of time, so they are also known as **meridians**. The meridian which passes through the Royal Observatory at Greenwich near South London is called the **Prime Meridian**. The Prime Meridian is 0° meridian. Lines of longitude located to the east of Prime Meridian are indicated with °E and those located to the west are indicated with °W.

The Prime Meridian divides the Earth into two hemispheres—the **eastern hemisphere** and the **western hemisphere**. In each hemisphere, there are 180 lines of longitudes, numbered from 0° to 180°. Combined, these are 360 in total.

Another important meridian is the **International Date Line** at 180 degree longitude. The International Date Line marks the difference of date between the eastern and the western hemispheres.

Locating Places

Longitudes and latitudes form a network called grid. The grid helps us to accurately locate places on the maps and globes.

To locate a place on a map or globe, we must know the degrees of the latitude and longitude. We can find the exact position of the place at the point where these two lines cross each other. For example, New Delhi lies at approximately 29° N, 77° E.

You know what

AM stands for Ante Meridiem. It means before noon. PM stands for Post Meridiem. It means after noon.

Grid of latitudes and longitudes

Calculating Time

Longitudes help in calculating time. The difference between two consecutive longitudes is of 4 minutes. When we travel eastwards from the Prime Meridian, we need to add 4 minutes on passing each meridian. When we travel westwards from the Prime Meridian, we need to subtract 4 minutes as we pass each meridian. The moment we cross to the east of the International Date Line, we gain or add a day. Similarly, if we cross to the west of the International Date Line, we lose or subtract a day.

Look Up

Consecutive: following each other continuously

Let us understand this with the help of an example. The current time at the Prime Meridian is 12 noon. Location A is at 4° E longitude and location B is at 4° W longitude. Then, the time at location A will be 12:16 PM and time at location B will be 11:44 AM.

Think about it!

Australia celebrates Christmas earlier then Europe. Think why?

Activity

I Apply

Find the continent.

Which continent is at 20° south and 140° east?

Which continent is at 40° north and 100° east?

Q.1. Fill in the blanks: -

a) _____ are also known as parallels..
b)_____ is also known as meridians.
c) There are _____ lines of latitude.
d) _____is lies equal distance from the poles.
e) _____ is a network of horizontal and vertical lines.
f) _____is the longest latitude**.**

Q.2. Choose the correct answer.

a) _____ is a network of horizontal and vertical lines.
i) latitudes ii) Grid iii) Equator iv) Prime Meridian
b) The _____ is known as 0° latitude.
i) Poles ii) Tropic of cancer iii**)** Equator iv) Prime Meridian

c) Divides the Earth in to eastern and western Hemisphere

i) prime meridian ii**)** equator iii) Tropic of cancer iv)Tropic of Capricorn

d) The Prime meridian is a longitude of _____

i) 180 ^{o} ii**)** 0° iii) 1/2 ^{o} iv) 4°

e) Imaginary lines running parallel to the Equator are called

i)Meridians ii**)** Latitudes iii) Axis iv) Longitudes

f) There are -_____ lines of longitudes.

i) 360 ii) 181iii) 90 iv) 180

Q.3. Match the followings: -

A column	**B column**
i. Equator	a) 23 ½ ^{o} N
ii. Tropic of cancer	b) Longitudes
iii. Meridians	c) North Pole
iv.90°N	d) longest latitudes

Q.4. State True or False:-

a)Prime Meridian is the longest meridian.

b)There are 181 latitudes in total.

c) Equator is the longest latitudes.

d) Axis divided the earth into northern and southern hemisphere.

Q.5. Answer in one word:-

a) Name the longitude which is marked as 180°.

b) Which latitude runs through India?

c) Name the longitude which is marked as**23**1/2 ^{o} s.

d) Name the 0 ^{o} Meridian .

Q.6. Answer the following in few words:-

a) Name the longitude which is marked as 180°.

b) Which latitude runs through India?

c) Why is Australia celebrated New-yea earlier than Europe ?

d) Which latitude runs through India? Make a list of all the states through which does it pass?

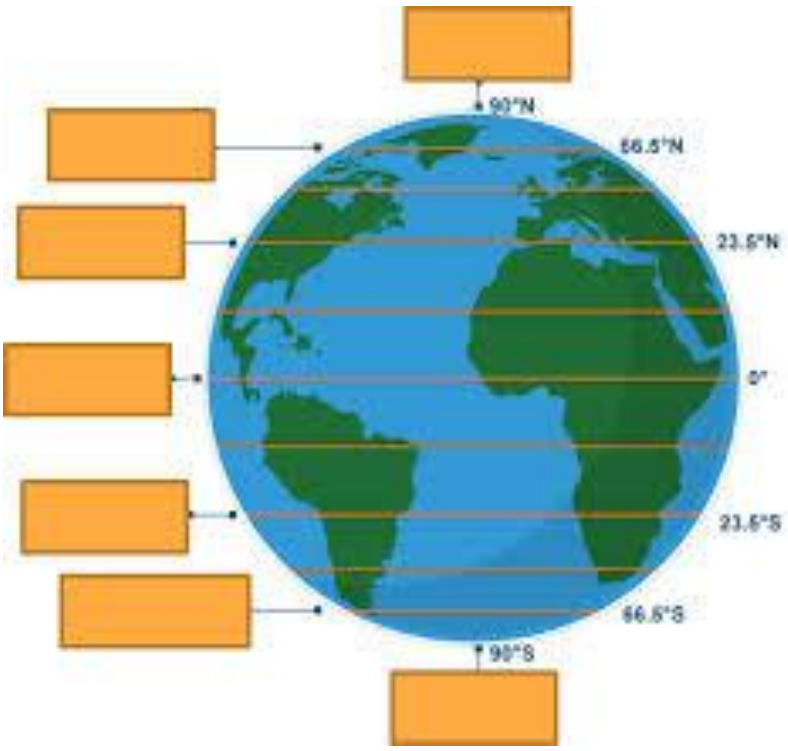
Q.7.Answer in detail:-

a) Calculate the time in the countries which are located at the given longitudes?

i) 16°E ii) 4°W iii) 20°E iv) 30°W

b) Differentiate between longitudes and latitudes.

c) Draw &Label the following diagram.



Activity: Prepare a globe with help of ball and map,

Instruction: Take a ball & color it in blue. Take the out- line map of world &mark all the continents and cut them and paste them in their accurate place.