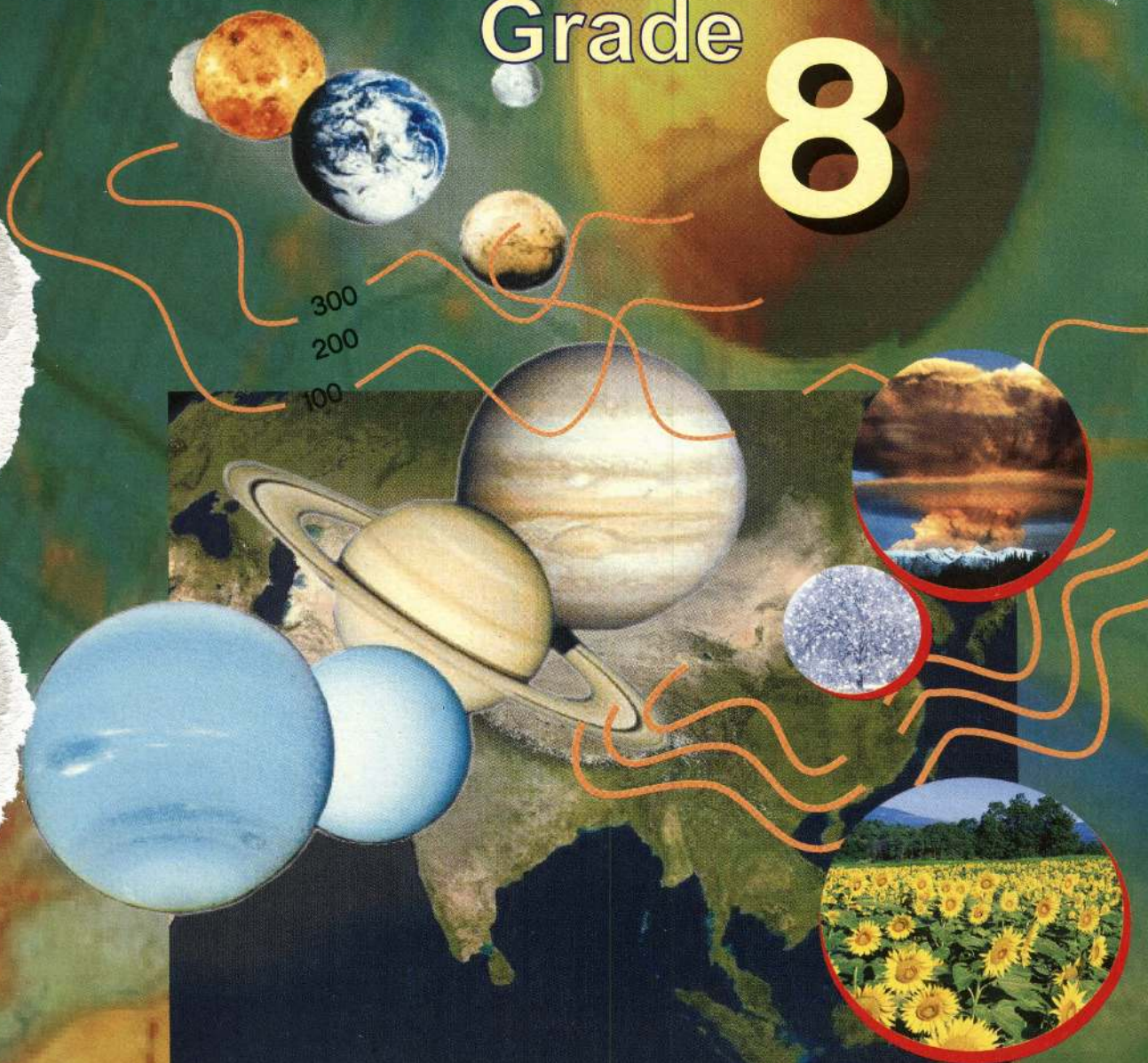


Geography



Grade 8



Educational Publications Department

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GEOGRAPHY

Grade 8



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The National Anthem of Sri Lanka

Sri Lanka Matha

Apa Sri Lanka Namō Namō Namō Namō Matha

Sundara siri barinee, surendi athi sobamana Lanka

Dhanya dhanaya neka mal palaturu piri jaya bhoomiya ramya

Apa hata sepa siri setha sadana jeewanaye matha

Piliganu mena apa bhakthi pooja Namō Namō Matha

Apa Sri Lanka Namō Namō Namō Namō Matha

Oba we apa vidya

Obamaya apa sathya

Oba we apa shakthi

Apa hada thula bhakthi

Oba apa aloke

Apaga anuprane

Oba apa jeevana we

Apa mukthiya oba we

Nava jeevana demine, nithina apa pubudukaran matha

Gnana veerya vadawamina regena yanu mana jaya bhoomi kara

Eka mavakage daru kela bevina

Yamu yamu vee nopama

Prema vada sema bheda durerada

Namō, Namō Matha

Apa Sri Lanka Namō Namō Namō Namō Matha



The Message of His Excellency the President

Beloved Sons and Daughters,

Many countries that lagged behind us at the time we gained independence have now overtaken us and gone far ahead. But, we must not be prepared to copy those countries or work according to the development models of those nations. Similarly, there is no purpose in continuing to lament about our lost heritage. What we shall do instead is to surpass them and reach a stage of overall development they have not reached, and show new paths and possibilities to the world.

Dear Sons and Daughters, we are now engaged in building your future !

Mahinda Rajapaksa
President of the Democratic Socialist
Republic of Sri Lanka

(An extract from the speech delivered by President Mahinda Rajapaksa at the historic Water Filling Ceremony of the Magampura Port on 15.08.2010)

Message from the Hon. Minister of Education

Beloved Sons and Daughters,

You are the most valuable treasure of our motherland. Your value is enhanced through education. In our commitment to accomplish that task, we offer you the best.

This textbook produced by spending the national wealth collected from the tax paying public is offered to you with the sole intention of making you a virtuous and skillful citizen. You will undoubtedly enhance the national wealth through the light of education you gain. This textbook will give you a helping hand to awaken your creativity, as you are a proud descendent of a great generation whose creative power enabled them to carve statues depicting loving kindness and compassion out of hard heartless rock and compose graffiti of great literary value on the 'Mirror Wall'.

I express my gratitude to the Educational Publications Department and to all the others who dedicated themselves in offering this textbook to you.

Bandula Gunawardhana
Minister of Education

Foreword

Since you are living in an ever changing society, it is imperative that you should prepare yourself to face diverse social tides. In this respect, the textbook becomes an invaluable instrument in developing the necessary knowledge and understanding in realizing the above objective.

Hence, this textbook offered to you by the Democratic Socialist Republic of Sri Lanka will undoubtedly be a guide, not only for your self-development but also for the development of the country.

Our fervent objective is, therefore, to see that, you, who are taking steps to cross the vast ocean of knowledge reach the land of success by using this textbook as a raft, would become an accomplished citizen endowed with knowledge and a balanced personality.

I appreciate and honour the contribution and the invaluable support extended by the writers' and editors' panels as well as by the officers of Educational Publications Department in accomplishing this great service.

Tissa Hewavithana
Commissioner General of Educational Publications

Educational Publications Department
Isurupaya,
Battaramulla.
20.03.2012

Monitoring and Supervision

Tissa Hewavithana

Direction

Mrs.K.V.N.Sriyalatha

Co-ordination

Mrs. R.A.D.Nandani Rupasinghe

Panel of Writers

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10. Mrs. E.G. De Silva

11.Mrs. Erangani Perera

12.Mrs K.S. Padmini Senaratne

Editor

Professor M.D.C. Abhayaratne

Proof Reading

Mr. W.P. Jayawardena

Illustrations and Cover

Mr. D.M.J. Pushpakumara

Mrs. Amitha Indirani

Computer Technology**Computer Assistance**

Miss A.L. Kokila Chathurani

- Reprint 2012- Commissioner General of
Educational Publications Department- Commissioner (Development)
Educational Publications Department- Deputy Commissioner
Educational Publications Department- Dr. T.M. Sunethra Thennekoon
Department of Geography
University of Sri Jayawardenepura.
- Deputy Commissioner
Educational Publications Department
- Chief Project Officer, N.I.E, Maharagama
- I.S.A., Zonal Education Office, Matara.
- I.S.A., Zonal Education Office, Minuwangoda
- Teacher Service,
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- Deputy Commissioner (retired)
Examinations Department
- I.S.A., Zonal Education Office,- Teacher Service,
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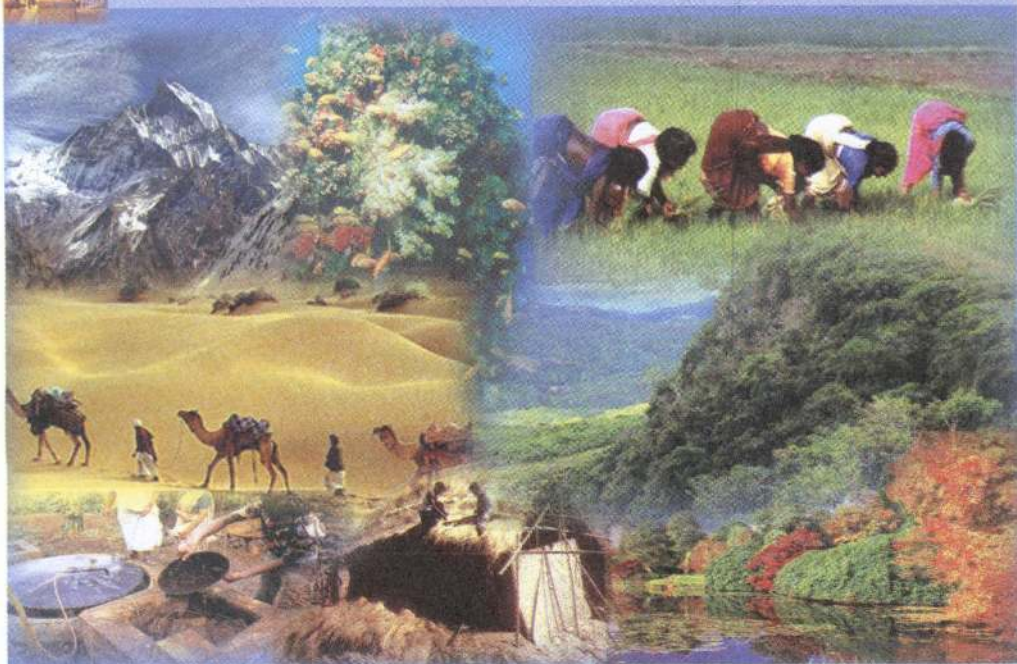
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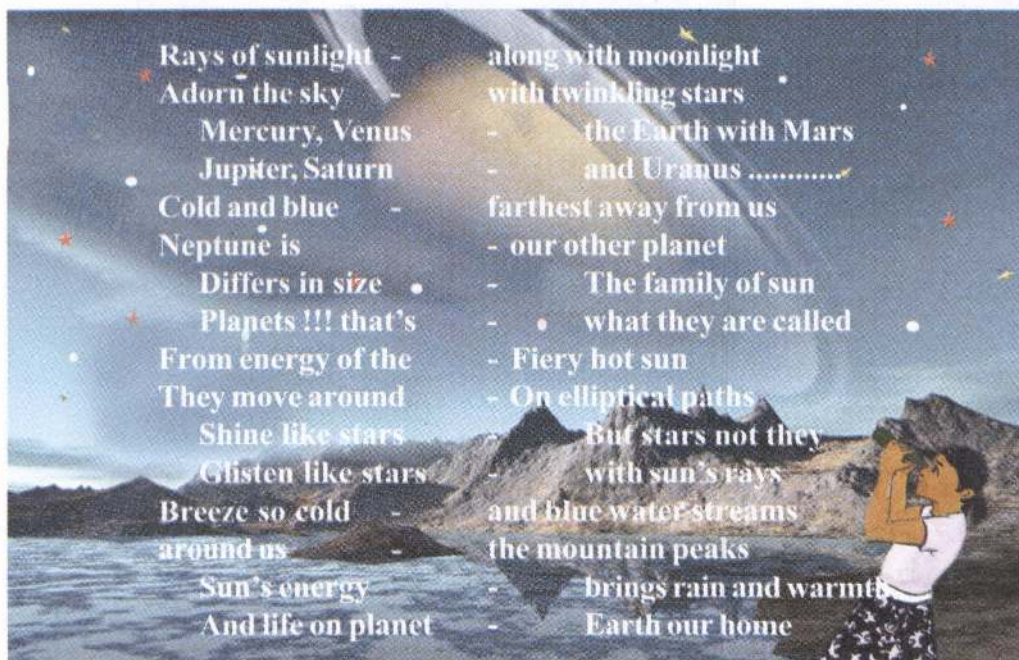
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- Art Teacher
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Activities



1. Recite this poem in a rhythmic way.
2. Name the planets mentioned in the poem.
3. What are the characteristics of the planets, as mentioned in the poem?
4. Name the planet you live in.
5. What are the special features of the planet Earth ?

The Solar System is only one of countless millions of stars that make up a Galaxy. A galaxy is a system composed of millions of stars, dust and smoke. The universe consists of billions of such galaxies. It is difficult to calculate the extent of the universe. The sky that we observe is only a part of that universe.

Our Galaxy consists of the Solar System and countless other stars that shine brightly in the sky. The Sun that you see brightly in the sky is also one of the stars.

Although all the stars we see in the sky are similar to the Sun most of those stars

are thousand times bigger than the Sun. The Sun appears as a large object due to its closeness to the Earth. The other stars appear to be tiny as they are far away from the Earth.

Many of the stars that we see are concentrated in a bright band called the “Milky Way” that can be identified in a cloudless night sky.

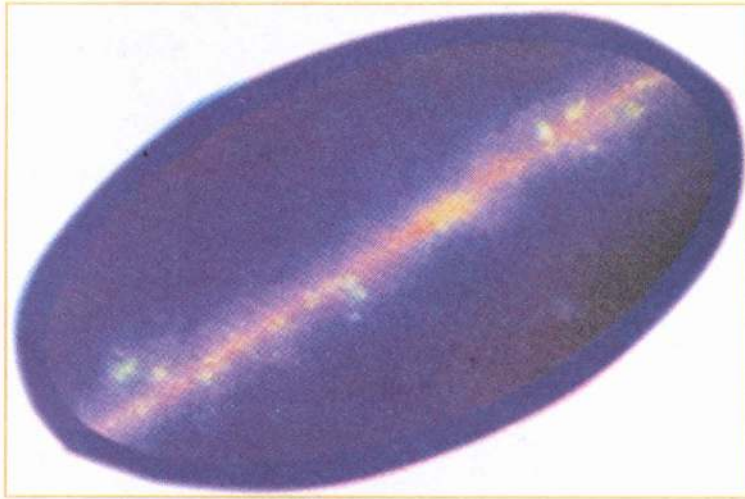


Fig 1.1 - The Milky Way

- The bright shining or twinkling objects
- The objects with light that do not glisten (shine)

→ Stars
→ Planets

- The stars can emit their own light and energy.
- The planets shine as they reflect the rays received from the Sun.

Activity



1. Construct a table to show the characteristics of stars and planets.

Stars	Planets

The Solar System and the Earth

The Solar System consists of 8 planets centred round the Sun. There is information about dwarf planets too that belong to the Solar System. Pluto was considered a planet that belonged to our system until 2007. Today it has become a controversial issue.

(Source :- <http://www.windows.ucar.edu/tour/link=/our-solar-system/dwarf>)

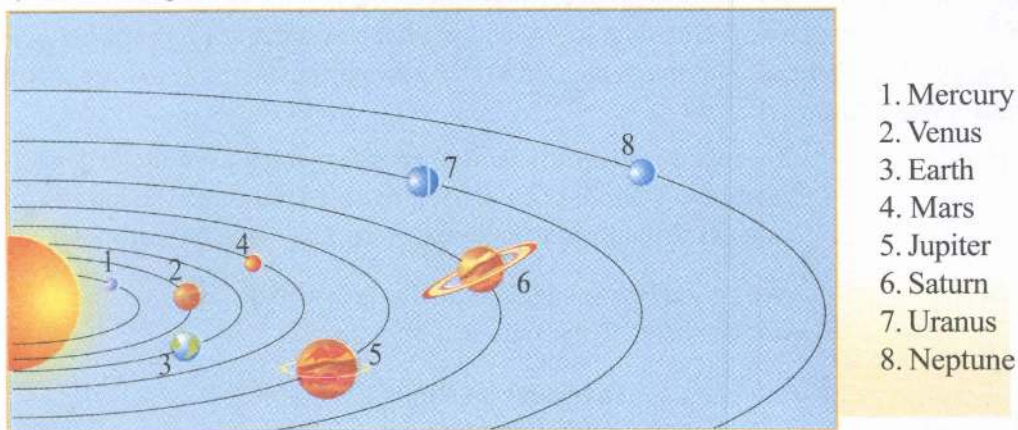


Fig 1.2 - The Solar System

Interior planets

Mercury
Venus
Earth
Mars

Asteroids

Outer planets

Jupiter
Saturn
Uranus
Neptune

Asteroids are smaller than the planets. They cannot be seen with the naked eye.

In addition to the planets in the Solar System there are satellites (Moons), Comets, Meteors and other celestial objects.

Out of these the planet Earth is a special planet of the Solar System. It is also the only planet suitable for human habitation. On this planet life survives as there is sun light, water and air. There is no definite information about the existence of life on other planets so far.

As a result of the Earth's rotation and revolution various changes occur in the environment. These in turn affect human activities in different regions of the Earth.

In this unit you get the opportunity to study the relationship that exists between the Solar System and the Earth.

Activity



Draw a diagram of the Solar System and name the planets.

The teacher informed the pupils to collect information about the Solar System as she is discussing this topic on the following day. In order to find this information Piyumi read a pamphlet. In this pamphlet she found the information she wanted in dramatic form. She could observe in this pamphlet how the planets revealed all details pertaining to themselves by way of an answer to a question posed by a pupil. Piyumi who went through all these details was much pleased to show the particular article to the class on the following day.

- Piyumi - Teacher, I read an article in a pamphlet which gave all the details about the Solar System. It had presented the data in an interesting manner in the form of a drama. Here, I brought that pamphlet.
- Teacher - Very good Piyumi, let us read this article to the class, so that every one can listen to its contents.

The Solar System

The Sun

- Dulmina - You illuminate the whole environment, who are you?
- Sun - Son, I am the father of the Solar System, you are looking for. You call me "The Sun". Those around me are my eight children.
- Dulmina - Uncle, you are extremely bright, and you emit immense heat.
- Sun - Yes, no one can come close to me. However the Earth cannot survive without me. It is I who give light to my children. The Earth on which you live is much more important than my other children.
- Dulmina - How do they exist around you?
- Sun - I have a power of attraction to draw all my children towards me. Due to this power in me they stay round me without escaping into the outer space. This power in me is called the power of gravitation.
- Dulmina - Then, Uncle, tell me how day and night occur.
- Sun - It is a good question. All my children, the planets rotate around their own axes. When they face me, it is day time for the side that gets light. For the other side it is night.



Dulmina - Uncle, you have given me a lot of information. Now please tell me about your children too.

Sun - All right Son, I will send my children one by one to you. They will be talking to you about themselves.

Activity



Dramatize the above dialogue.

Teacher - You all learnt a lot from what Piyumi presented. Look at this picture. Now let us learn more about the Sun.

The Sun

- The Sun is the largest star in the Solar System and it has a power of gravity that can attract the other planets towards it.
- The Sun which is a spherical object rotates round its axis.
- The survival of the Solar System depends on the Sun.
- The distance from the Earth to the Sun is 149.65 million km.
- The diameter of the Sun is 1.4 million km.
- The temperature on the surface is 6000°C .
- Hydrogen found in the interior of the Sun is converted into helium which in turn produces sunlight.
- The Sun affects the existence of living organisms, human activities, as well as the occurrence of various climatic conditions.



Fig 1.3 - The Sun

Activity



Draw a conceptual map containing information about the Sun.



Student investigation

What are the problems you will have to face if the Earth does not get sunlight?

Students were waiting impatiently to know about other information included in the pamphlet presented by Piyumi.

Piyumi starts reading the pamphlet.....

Mercury

- Mercury** - I am the smallest member of the family you are investigating. I am Mercury.
- Dulmina** - You are the one closest to the Sun. Are you visible to us?
- Mercury** - Yes, I am visible just before dawn in the eastern sky and just after sunset in the western sky, since I am close to the Sun.
- Dulmina** - Do you have the strength to radiate light?
- Mercury** - No, I cannot emit light, Sun is the only object that emits light to all of us as the Sun is the leader of our family. We receive Sun's rays and reflect them back. That is what you observe as my light.
- Dulmina** - Do you revolve around the Sun?
- Mercury** - We rotate round our own axis while revolving around the Sun. Each of us has a different path around the Sun which is called the "orbit". The orbit is elliptical in shape. Therefore sometimes we are close to the Sun and sometimes far away from the Sun. This movement around the Sun is called "revolution".
- Dulmina** - The temperature over your surface must be high as you are close to the Sun.
- Mercury** - Yes, the temperature is so high as even to melt lead during the day time; yet, I become so cool at night as to convert oxygen into liquid form. My surface is similar to that of the moon. As I have no atmosphere the fall of thousands of meteors has resulted in many craters on my surface.
- Dulmina** - Is it possible to live on your surface?
- Mercury** - In my world it is extremely hot, and there are no humans and vegetation as water and air which are necessary for life do not exist.

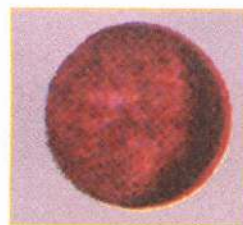


Fig1.4 - Mercury

Activity

Compile a handout about Mercury using the information you gathered from the above conversation.



In the pamphlet which Piyumi brought to the class the information about the other planets had been included. With the teacher's permission Piyumi presented that information too to the class.

Venus



Fig 1.5 -Venus

Except the Sun and the Moon I am the brightest object in the night sky. It is because 85% of sunlight I receive is emitted back. My name is Venus. I am also known as the Evening Star, The Star of Dawn, and the Lamp Star. In size I am similar to the Earth. I am different from other planets as I take a lesser time to travel round the Sun, than the time I take to rotate on my axis.

The other planets rotate from West to East but I rotate from East to West. The main gas found in me is Carbon dioxide. There is no life on my surface.

Earth

I am Earth claiming a unique position in the Solar System. Son, you too are living on my surface. I am the only planet where life exists in the form of human beings, animals and plants as I can provide them with air and water. My main gases are Nitrogen and Oxygen. I am neither very close to, nor very far from, the Sun. Hence I am hot enough for your existence. Day and night is the result of my rotation around my axis. My axis is tilted. My only satellite is the moon which you see in the night sky.



Fig1.6- The Earth

Mars

I am Mars shining in red in the sky. I am also called the Red Planet. There is a thin atmosphere around me. Carbondioxide is the predominant gas. Similar to the Earth, my axis is also tilted.



Fig 1.7 - Mars

Jupiter

I am the largest of the planets in the Solar System. I am called Jupiter. Around me there is a system of thin cloudy rings. The main gases in my world are Hydrogen and Helium. If you observe me using a binocular you see a large red spot.



Fig 1.8 - Jupiter

Saturn



Fig1.9 - Saturn

I am the second largest planet as Jupiter is larger than me. I am the most beautiful planet in the Solar System. I am called Saturn. I have a bright system of rings. If you observe me with a binocular you will see that I am the most beautiful object in the sky. But my surface is not suitable for life.

Uranus

In the Solar System I occupy the 7th place. I am Uranus. I am far away from the Sun. Due to the Methane gas in the upper atmosphere, my colour is bluish green.



Fig 1.10 - Uranus

Neptune



Fig1.11 - Neptune

I am the coldest planet. I am the farthest planet in the Solar System. I am Neptune. The striking characteristic in me is the presence of a black spot on my surface.

The teacher who praised Piyumi for collecting a vast amount of information about the Solar System, by reading books and magazines, further discussed with the pupils the special characteristics of the planets too.

The names of the planets have been used when naming the days.

Sunday - the day of the Sun
Monday - the day of the Moon
Saturday - the day of Saturn



Student investigation

Find the days associated with the other planets.

Table 1.1 - Information on planets

Planet	Diameter in km	Distance to the Sun (km millions)	Period of Rotation	Time taken for a revolution round the Sun	Number of moons satellites
Mercury	4 879.4	57.9	58.65 Earth days	87.97 Earth days	0
Venus	12104.0	109.0	- 243.02 Earth days	224.7 Earth days	0
Earth	12 756.3	149.6	1 Earth day	365.25 Earth days	1
Mars	6 794.0	227.9	1.02 Earth days	686.98 Earth days	2
Jupiter	142 984.0	778.3	0.41 Earth days	4332.71 Earth days	63
Saturn	120 536.0	1 429.4	0.44 Earth days	29.46 Earth years	50
Uranus	51 118.0	2 871.0	0.718 Earth days	84.01 Earth years	27
Neptue	55 528.0	4 504.3	0.67 Earth days	164.79 Earth years	13

Source - Koralagama,P.K.,The Solar System, Planetarium.
<http://www.solarviews.com/eng/sun.htm>



Activities



1. Name the planets in the descending order of their size.
2. What are the planets without satellites ?
3. What is the planet with the largest number of satellites ?
4. What is the planet that takes the longest time for a revolution round the Sun ?
5. What is the possible reason for this long duration ?
6. Name the planet that is approximately similar in size to the Earth.

Dinithi - Teacher, we were able to see all this information about the planets at the planetarium. When we were in it we felt that we were within the Solar System.

Teacher - Yes, Dinithi, we can see all these when we visit the planetarium in Colombo. We can see the other objects like comets and we are given information about the occurrence of the eclipse of the moon. Let us too organize a trip to the planetarium.

Activities



1. Organize an educational tour to the planetarium.
2. Write an article to the Geographical Magazine on the topic “The Earth is more important than other planets”.

Giving further information about the Solar System, the teacher asked :

“ Have you, dear children, heard of the existence of another planet called Pluto? Though at first it was accepted that there are about nine planets in the Solar System, the International Astronomical Association which met in Prague on 24 August, 2006 declared that Pluto is only a dwarf planet. These are named dwarf planets as they do not have clearly specified orbits around the Sun and their gravitational force is low”.

Rashmika - Teacher, I saw in a newspaper that Pluto is a dwarf planet.

Teacher - Yes, not only Pluto, Ceres, Charon and 2003 UB 313 are also called dwarf planets. At present there are controversies about this idea too.



Student Exploration

Refer to books and prepare a booklet including the latest information about the Solar System.

In addition to the Sun and the planets there are other celestial objects too in the Solar System.

Asteroids, comets and meteors are these other objects in the Solar System.

If you observe the night sky on certain days you may see stars falling from the sky. They are really meteors. Comets too are objects that exist in space. They appear in the sky from time to time and have bright tails steering behind them.



Fig 1.12 - A Comet

Satellites

Some planets have satellites (moons) around them. See Table 1.1. The moon is the only satellite of the Earth. Just as the Sun the moon too is a celestial object that shines brightly in the sky. The moon shines bright since it reflects sunlight on Earth. The moon does not appear in the same form in the sky.

The moon takes 27 days 07 hours and 45 minutes for a full rotation and revolution. This means that the same side of the moon is facing the Earth

The changes of the moon that occur during the month are called phases of the moon. The moon appears bright as the light that is received from the Sun is reflected back to Earth. Once in 28 days the full moon or the complete moon appears clearly in the sky.



Student exploration

Draw the change of the shape of the moon for a month starting from a full moon day. Discuss these changes in the class.

On the surface of the moon which is the satellite of the Earth, there is no water and air. Hence it is a celestial body without living beings. However as it is the object closest to the Earth and also the Earth's satellite its influence is seen.

Tides are the result of the combined gravity of the Sun and the Moon

The occurrence of high tide and low tide is the result of the pull of the moon as it rotates round the Earth.



The moon affects natural phenomena of Earth as well as human activities.

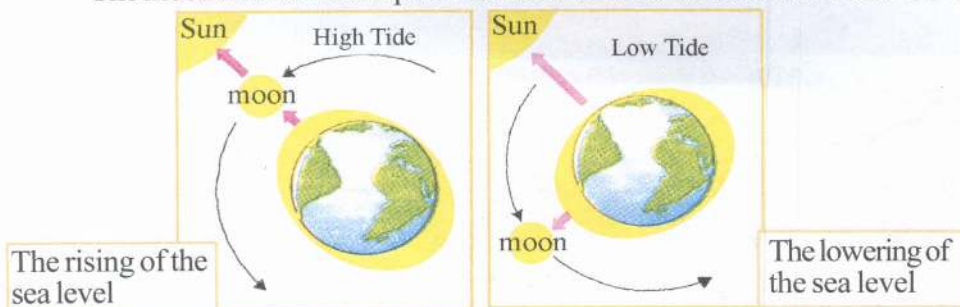


Fig 1.13 -High tide and Low tide

The moon affects the behavioural patterns of animals

- Animals like elephants and the pigs roam even on moonlit nights.
- On moonlit nights the howling of dogs and fox and the cry of the jay are heard.
- There are certain reptiles that prefer moonlight.
- *Sepalika* and white water lilies are flowers that bloom on moonlit nights.
- Normally trees are cut on *Amawaka* (new moon) days to prevent damage by weevils.

Rotation of the Earth

In Grade 7 you learnt about the shape of the Earth, the latitudes and the longitudes.

Using latitudes and longitudes one can determine exactly the location of any country or a place.

- Teacher - Lahiru, when you are travelling in a vehicle do you like to sit near a window?
- Lahiru - Yes, I like to look around, when the vehicle is going fast, it is wonderful to see the trees moving in the opposite direction. One day I felt dizzy, after experiencing this!
- Teacher - That really was a vision, the trees did not move. If you move around fast (rotate) you will feel the objects moving in the opposite direction. We see the Sun rising in the East and setting in the western sky. We feel that the Sun moves from East to West but the Sun does not move. Really it is the Earth that rotates from West to East. This is called the rotation of the Earth.

The Earth rotates from West to East round its axis which is tilted at an angle of $23\frac{1}{2}^{\circ}$.

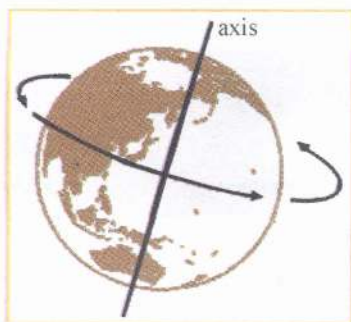


Fig 1.14 - Rotation of the Earth

- Day and night occur as a result of the rotation of the Earth around its axis. To rotate once around its axis the Earth takes approximately 24 hours.
- As a result of rotation there are regional differences in time.
- As the Earth is spherical in shape the side that faces the Sun experiences daytime and the other side experiences the night.

Occurrence of day and night



Fig 1.15 - Difference in day and night in different regions of the world

Activity



1. Observe the picture (1:15). When it is midnight to Australia, what is the time of the other regions in the picture? Select specific longitudinal locations of these regions. Note the difference in day and night.

Since the Earth rotates from West to East the Sun rises early in the countries over eastern longitudes and later in the countries over western longitudes. As a result there are differences in regional time.

The longitudinal location of countries is important when calculating time. There are 180° to the West and 180° to the East from longitude 0° . Longitude 180° is common to both East and West.

Since all the places situated on the same longitude experience noon at the same time they are called meridians. As the longitude 0° runs through Greenwich in England it is known as the Greenwich meridian.

Activities



1. Using the Atlas name three countries situated close towards the 180° longitude East (the Sun rises earlier over these countries).
2. Mark those three countries, where in a map of the world the sun rises earlier.
3. Mark and name 180° longitude and the Greenwich Meridian in the map.

Now let us calculate the time over different longitudes.

The Earth completes one rotation (360°) in 24 hours. Calculate the number of longitudes it would rotate in one hour.

$$\begin{aligned}\text{Rotation of longitudes in 24 hours} &= 360^{\circ} \\ \text{Rotation of longitudes in 1 hour} &= \frac{360}{24} = 15^{\circ}\end{aligned}$$

If the time taken to rotate 15° longitude is 1 hour, what is the time taken to rotate 1° ?

$$\begin{aligned}\text{Time taken to rotate } 15^{\circ} &= 1 \text{ hour (60 mins)} \\ \text{Time taken to rotate } 1^{\circ} &= \frac{60 \text{ minutes}}{15} = 04 \text{ minutes}\end{aligned}$$

Activities



1. Calculate how many longitudes would rotate in 2 hours.
2. Find the time taken to rotate the following longitudes, in hours and minutes.
 - 80° longitudes.
 - 100° longitudes.
 - 180° longitudes.

The time increases when moving eastwards from the Greenwich Meridian. The time decreases when moving westwards from the Greenwich Meridian.

- Eastern longitudes are marked to the East of the Greenwich Meridian and the Western longitudes are marked to the West of Greenwich Meridian.
- Since Sun rises earlier in the East the time advances in that region.

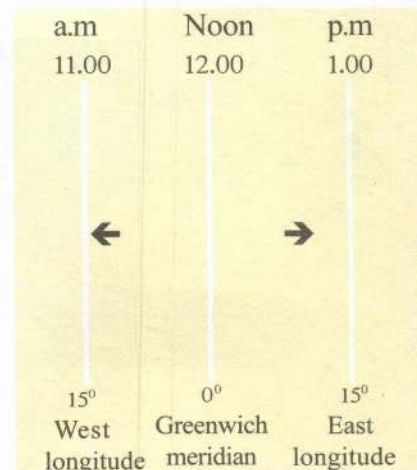


Fig 1.16 - Difference in time

- For every 15° of longitude the difference in time is 1 hour.
- According to this when Greenwich time is 12 noon the time over the 15° E longitude is 1 p.m and over 15° W longitude is 11 a.m.

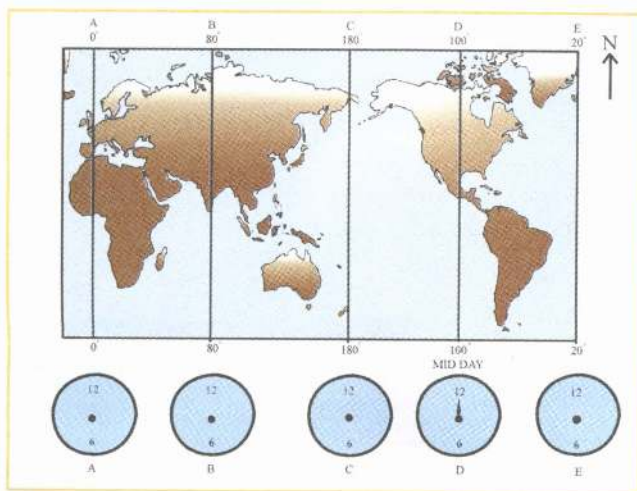
If we know the time at one place it is possible to find the time at another place. If the time in Colombo (80° E) is 12 noon we can find the time in Rio de Janeiro (40° W)

In Colombo (80° E) the time is	= 12 Noon
The longitudinal location of Rio de Janeiro is	= 40° W
The longitudinal difference from Colombo to Rio de Janeiro	= $80^\circ + 40^\circ = 120^\circ$
The time taken for rotation of 1°	= 4 minutes
The time taken for rotation of 120°	= $120 \times 4 = 480$ minutes
	= $\frac{480}{60} = 8$ hours
	= 8 hours

Since Rio de Janeiro is located to the West of Colombo, the rotation time of 8 hours should be reduced from the time in Colombo. Now what is the time at Rio de Janeiro ?

Dasuni - From 12 Noon when you deduct 8 hours the time at Rio de Janeiro should be 4.00 a.m

The teacher explained how to calculate the time of a particular place stating that if the location is towards the East of the given place the rotation time is added and if it is towards the West the rotation time should be deducted.



Map 1.1 - Standard Time Zones

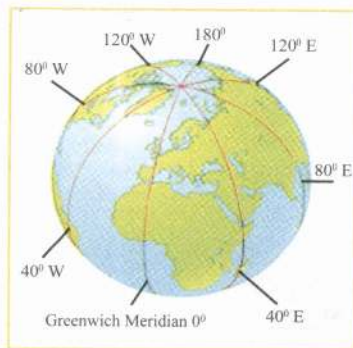


Fig 1.17 - Longitudes

Activities



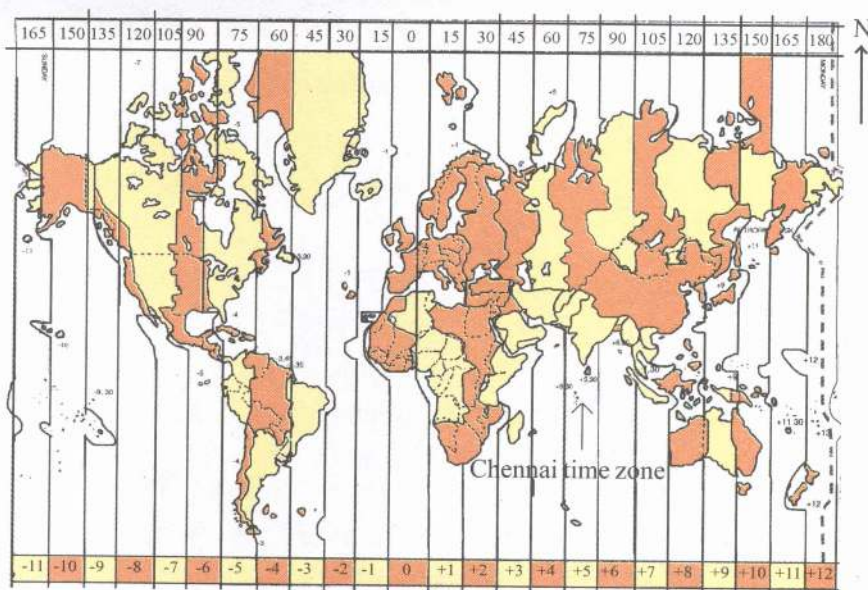
1. Make a copy of the map 1.1.
2. With the help of figure 1.17 calculate the times of the longitudes marked on the map 1.1 and make them on the clocks.
3. Identify the correct longitudes East and West of the Greenwich Meridian.
4. With the help of an atlas find the longitudes that run across the cities of Moscow, Vancouver, Sydney, Buenos Aires and Nairobi. Calculate the time in the above cities according to the time in Sri Lanka.

What we calculated according to each longitude is called the longitudinal time.

Standard Time

- Teacher** - A number of longitudes run across some countries of the world. Then the time taken for rotation also varies. The use of different times in different parts of the same country creates administrative problems for a country. Hence Standard Time Zones have been established.
- Sumudu** - Teacher, How do you determine those Zones ?
- Teacher** - We know that the time difference for 15° is 1 hour. Based on this the world is divided into 24 time ranges. Each of them is called a Time Zone. Based on the time of the central meridian of one zone the standard time is calculated for each of the Time Zones.
- Himath** - Teacher, although our country is small, it extends over the longitudes 80° E and 81° E. So in Trincomalee there is a time difference of 4 minutes.
- Teacher** - Yes, but the entire country is following the time in Colombo as the standard time. Observe map 1.2 carefully and find the time zone for Sri Lanka.
- Mihiri** - Sri Lanka is in the 5th time zone, between 75° E and 90° E.
- Achini** - The central longitude for this zone is $\left[\frac{75+90}{2} = \frac{165}{2} \right] 82 \frac{1}{2}^{\circ}$ Chennai is situated on this longitude $82 \frac{1}{2}^{\circ}$ E.
- Teacher** - The time in Chennai (Madras) is the standard time of this zone. Sri Lanka is in the Chennai time zone. In order to rotate $82 \frac{1}{2}^{\circ}$ the time taken is 5 hours and 30 minutes. When calculating the time for Sri Lanka it is necessary to add 5 hours and 30 minutes to the Greenwich time.

Thus for administrative purposes and in the daily activities of people in each country the standard time is used. In mid - latitudinal countries like Japan and Australia adjusting the time according to the duration of day and night time helps to make the best use of time.



Map 1.2 - Standard Time Zones

There is a difference in the time based on longitudinal location and there is a difference in the dates too.

The International Date Line is important when deciding the date. The 180° longitude is considered for this purpose. The time taken to rotate longitudes 180° ($180^{\circ} \times 4 = 720$) is 12 hours. Therefore on either side of the International Date Line there is a difference of one day. If it is a city located over longitude 178° E the day is Sunday. On the same day if a person travels to a city located on 178° West he crosses the International Date Line and the day is Saturday.

When travelling to a western longitudinal location from an eastern longitudinal location passing the International Date Line a person has to adjust the time by reducing a day. If a person travels to the East crossing the International Date Line he should add one day.



Fig 1.18 - The International Date Line



Student exploration

Calculate the time of two countries west of International Date Line and two countries to its East and Find the date.

Pay attention to the international conferences and sports events that Sri Lanka is participating. Compare the time of those countries with the time in Sri Lanka.

The Revolution of the Earth

The Earth rotates on its axis and it also moves in its orbit around the Sun. This movement around the Sun is called 'revolution'. The path of the Earth around the Sun or the orbit is elliptical in shape. The Earth takes 365 days and 6 hours to complete a revolution. The Earth takes one year for a revolution. When the 6 hours get added up, after four years, we get a year called a "leap year" with 366 days.

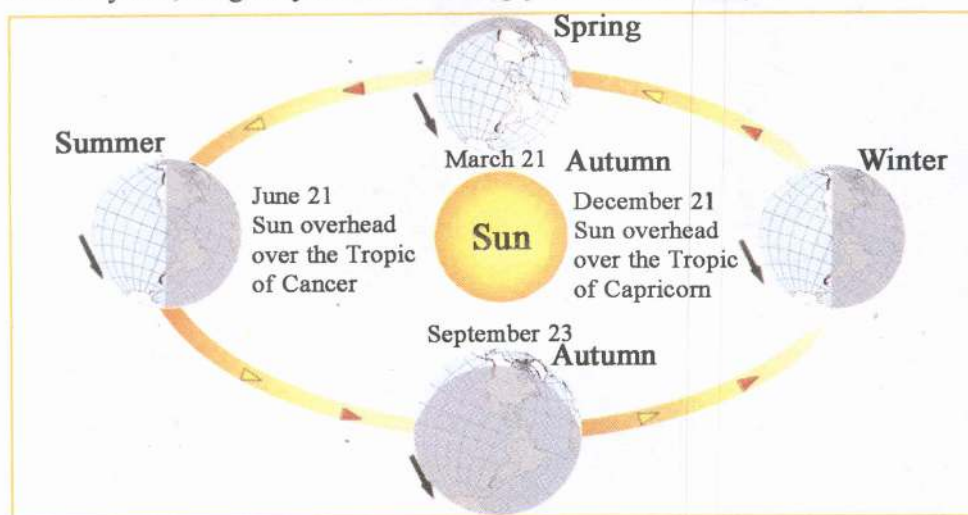


Fig 1.19 - Revolution of the Earth

Carefully observe Fig 1.19 showing the revolution of the Earth. Since the Sun is overhead over different latitudes at different periods of the year you will notice that seasons occur on each hemisphere.

For example from June 21 when the Sun is overhead over the Tropic of Cancer it is Summer for the northern hemisphere and Winter for the southern hemisphere. According to this, identify the occurrence of seasons during the rest of the year.

Seasons are the result of the revolution of the Earth around the Sun.

Study Fig 1.19 and note how the Sun is overhead in the northern and southern hemispheres at different times of the year due to the orbit of the Earth along an elliptical path round the Sun.

The limits of overhead Sun are the Tropic of Cancer in the North and the Tropic of Capricorn in the South.

Due to Earth's revolution and movement in an elliptical path and round the Sun its position overhead the northern and southern hemispheres changes.

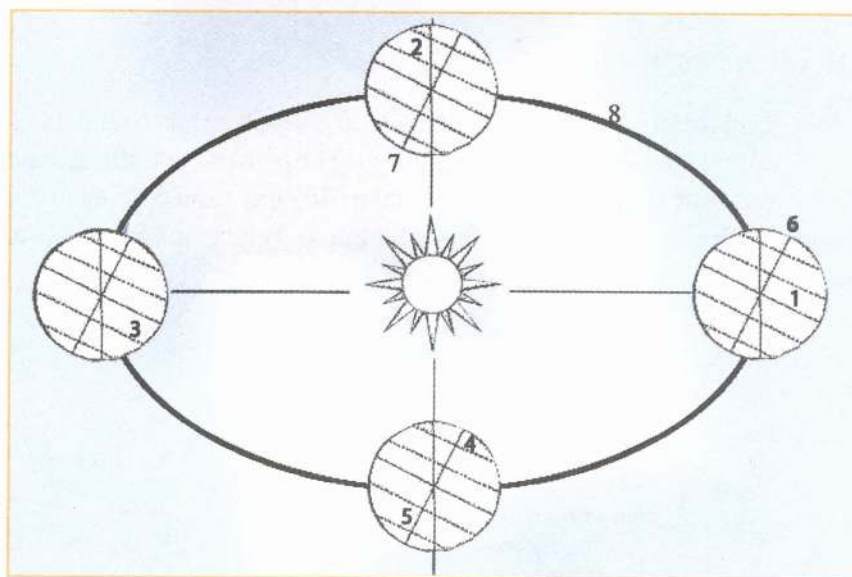


Fig 1.20 -

When the Sun is overhead over the Tropics it is called → the solstices

When the Sun is overhead over the Equator it is called → the equinoxes.

Activities



1. Copy Fig 1.20. Name the latitudes which are numbered, and indicate their values.
2. With reference to the Fig 1.19 showing the revolution of the Earth, name the four seasons.
3. Explain how those seasons change over the northern and southern hemispheres according to the latitude when the Sun is overhead.
4. Write the dates when the Sun is directly overhead over the Tropic of Cancer and the Tropic of Capricorn.
5. On what days is the Sun directly overhead over the Equator?

6. Find out the Summer months for the northern hemisphere?
7. Study the Figs 1.21 and 1.22 and describe how day and night change over different regions of the Earth.

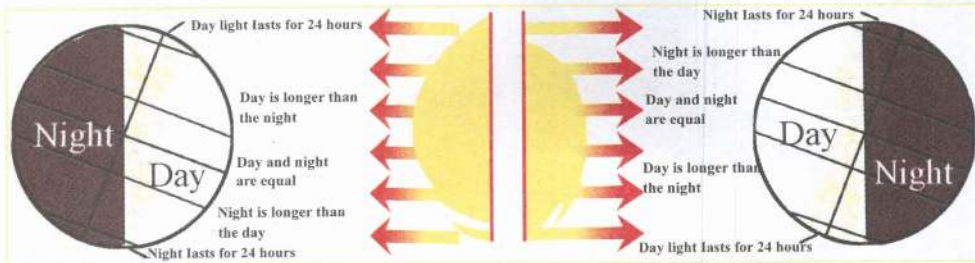


Fig 1.21 - Sun is directly overhead over the Tropic of Cancer

Fig 1.22 - Sun is directly overhead over the Tropic of Capricorn

Differences in seasons in mid latitudes and high latitudinal areas are clearly visible.
Over equatorial areas these differences are not clearly seen.

Differences in seasons greatly affect vegetation as well as other forms of life.



Fig 1.23 - Summer

During Summer the temperature is high. Grain fields are ready for harvesting. The duration of the day time is longer and the duration of the night time is shorter. Summer sets in for the northern hemisphere on June 21 and for the southern hemisphere on December 21.

During Autumn the temperature gradually decreases. With the advent of Autumn leaves start falling. The whole environment looks arid. Autumn sets in for the northern hemisphere on September 23 and for the southern hemisphere on March 21. The duration of both day and night is the same during this season.



Fig 1.24 - Autumn



Fig 1.25 - Winter

During the Winter the temperature is very low and it is very cold. The whole environment turns white due to snow. Winter sets in for the northern hemisphere on December 21 and for the southern hemisphere on June 21.



Fig 1.26 - Spring

During the Spring the temperature rises gradually and leaves and flowers appear on the trees. The whole environment is beautiful. Spring sets in for the northern hemisphere on March 21 and for the southern hemisphere on September 23.

According to the influence of the four seasons human activities too change. Agricultural activities (cultivation of crops and livestock farming) type of dwelling, and clothing can be cited as examples.

eg: Cultivation of crops	→	Crops vary according to seasons
Clothing	→	Winter clothes covering the whole body
Sports	→	Ice Sporting

Activities



1. Prepare a calendar with colourful paintings to show the differences in seasons.
2. Prepare a poster depicting human activities affected by seasons.

Now let us examine how day to day human activities are influenced by the processes related to the Earth.

The structure of the Earth

The teacher entered the classroom carrying a globe with her. The students who learnt about the shape of the Earth, continents and oceans, latitudes and longitudes in Grade Seven were waiting impatiently to know about the structure of the Earth on which we live.

The teacher questioned the children about their previous knowledge.

- Teacher - Dinithi, please tell us what is the most prominent colour on this globe.
- Dinithi - It's blue. The oceans are shown in blue.
- Teacher - Good, you are correct. 71% of our Earth is covered with water. Mohamed, what do you observe over the remaining 29%.
- Mohamed - Teacher, we see the vast land surfaces which we call continents. We marked and named these on a world map last year.
- Teacher - You can remember well what you learnt in Grade 7. We call these water surfaces the Hydrosphere and the land surfaces the Lithosphere. Do you notice the trees moving with the wind? We feel the movement of air when there is a wind. Satira, tell us what "wind" is?
- Satira - When the air is moving here and there we call it "wind".
- Teacher - So you understand that there is air around us; we cannot survive without air. There is an atmosphere around the Earth. The atmosphere protects us from the strong rays of the Sun. We are able to breathe due to the presence of oxygen in the atmosphere. Can you all show the atmosphere, around the globe, that you see on my table?
- Sumudu - The atmosphere is around the Earth. It is not visible, but we feel it.
- Teacher - It is a very good answer. Similarly there are other things on the Earth's surface. Observe the school premises carefully.
- Bimsara - Yes, we see small trees and big trees that grow on the soil layer. In the soil layer there are varieties of insects like earth worms and ants.
- Rashmika - Teacher, we made a trip to Yala, there we saw wild animals in the forest.

Teacher - Children, you know a lot about the Earth. It is only on Earth that plants, animals as well as the humans survive. The living beings need water and air for their survival. This layer with living beings and vegetation is called the Biosphere. The structure of our Earth is made up of these four spheres. Now let us name these four spheres which comprise the Earth.

Ann - Hydrosphere, Lithosphere
Atmosphere, Biosphere

Teacher - Although the Earth consists of these four spheres, they are all interconnected.

The Earth consists of four parts which can be clearly identified as the Hydrosphere, Lithosphere, Atmosphere and Biosphere.

Activity



Organize the pupils into groups and get them to observe well the school garden or the home garden or the surroundings well. Let them identify the objects on the surface of the Earth. Ask them to draw a picture so as to include objects such as mountain ranges, rivers, waterfalls, clouds, vegetation, animals, trees moving with the wind and discuss the inter-relationship of the four spheres that comprise the structure of the Earth in relation to the drawing.

The Atmosphere

- The thin air cover around the Earth is the atmosphere.
- It extends up to nearly 1000km from the surface of the Earth.
- Of the planets of the Solar System an atmosphere favourable for living beings exists only on the surface of the planet Earth.
- The atmosphere consists of a mixture of different air particles, dust, smoke and water vapour.

Nitrogen	78.03%
Oxygen	20.99%
Carbon dioxide	0.03%
Argon	} 0.95%
Helium	
Neon	
Other gases	



- It is the atmosphere that protects the surface of the Earth from strong rays of the Sun and the harmful effects of the ultra violet rays.
- The precipitation that provides water to the surface of the Earth is a result of the interaction of atmospheric processes.

Activities



1. What is the most abundant gas in the atmosphere ?
2. Name the gas that is beneficial for the respiration of living beings and state how much of it is there in the atmosphere.

The atmosphere consists of four layers

- | | |
|-----------------|-----------------|
| 1. Troposphere | 3. Mesosphere |
| 2. Stratosphere | 4. Thermosphere |

} Ionosphere

The layer closest to the Earth's surface is the Troposphere. All atmospheric phenomena that influence human activities, namely, temperature, pressure, wind, humidity and precipitation, prevail in this zone.

The ozone layer is situated in the stratosphere. It acts as a screen that protects the Earth from the harmful effects of the ultra violet rays.

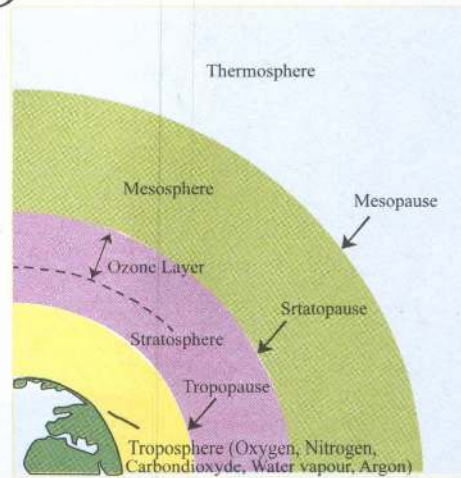


Fig 1.27 - The layers of the atmosphere

Activities



1. The free gift of pure air is polluted today due to human activities. Name the human activities that cause air pollution.
2. Prepare a poster suggesting the ways we can adopt to keep the air pure. Follow the suggested steps.
3. Write three uses of the atmosphere to man.



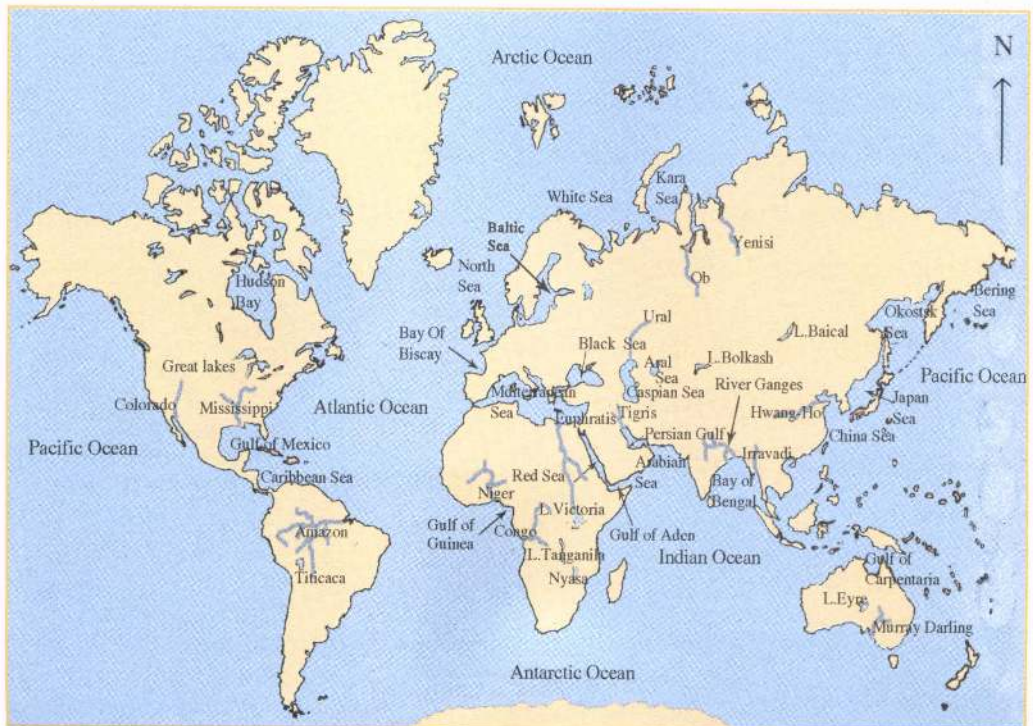
Student Exploration

Gather information about the importance of the ozone layer and prepare a booklet.

The Hydrosphere

The area of the Earth covered by water is known as the Hydrosphere. It consists of

- Oceans and Seas
- Inland seas
- Lakes
- Rivers
- Canals
- Streams as well as underground water.



Map 1.3 - Oceans, seas, rivers, lakes

Water is essential for the survival of all biological systems.

Activities



1. Study map 1.3. Prepare a table to show the various regions of the Hydrosphere.
2. Mark and name the information in the table you prepared on a map of the world. (Use colour blue)
3. Name the seas which are parts of oceans and inland seas. Name the continents where lakes are abundant.
4. Prepare a poster to show the uses of water.
5. Prepare a handbill, including the harmful effects experienced by people due to water pollution.
6. Suggest three ways to protect water resources.



Student exploration

1. Name the different modes of water supply to your locality.
2. Since water is a scarce resource suggest suitable ways of storing rain water to be used when necessary.
3. Draw up a method to store rain water in your home and school. Mention three occasions when this water could be made use of.

The decrease in the quality of water affects adversely the survival of living beings.

The Lithosphere

The thin layer over the Earth's surface that is made up of various rocks is called the lithosphere. The thickness of this layer is 5 – 70km. It is also known as the crust of the Earth.

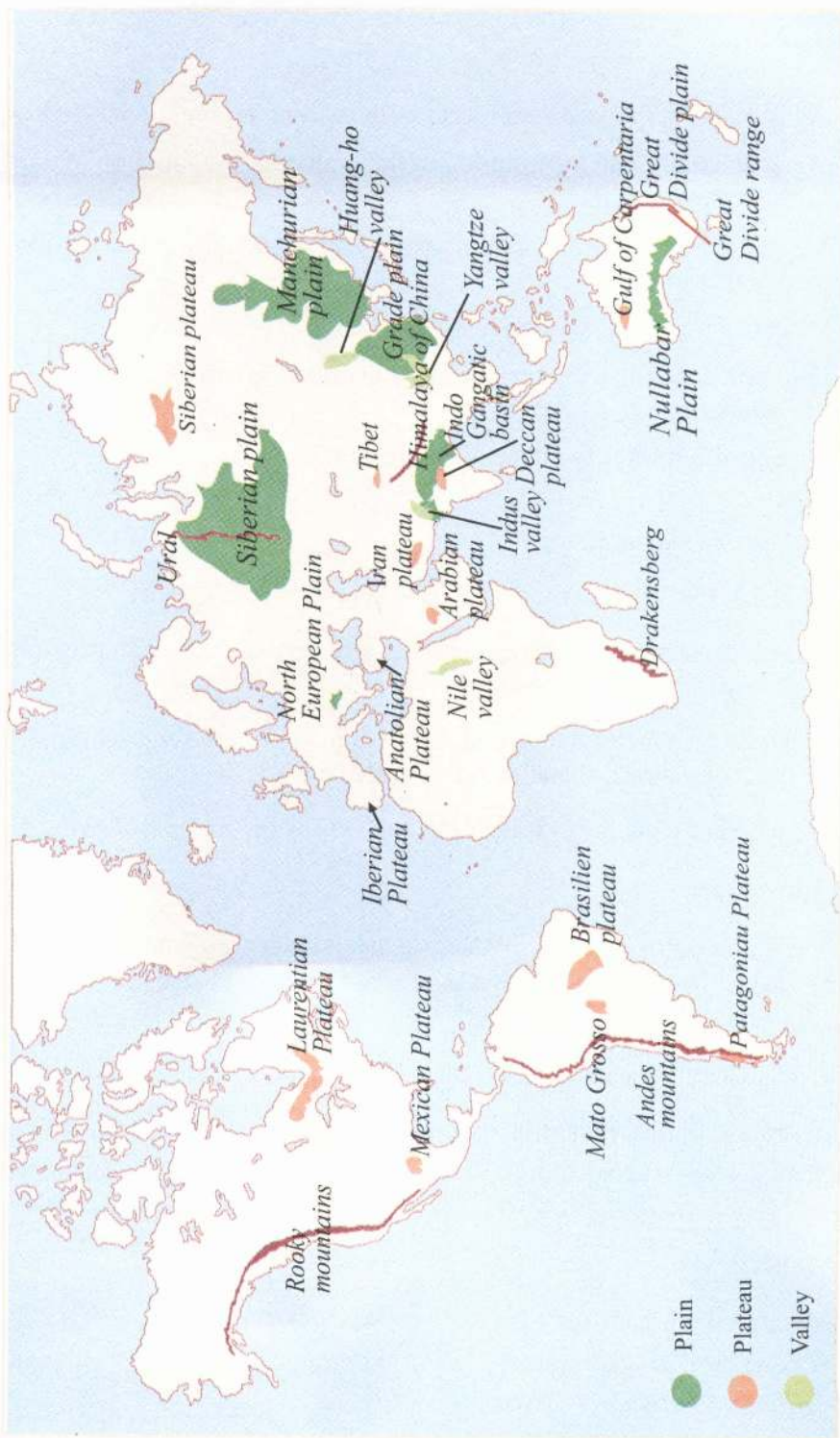
Let us identify the various objects in the land area called the lithosphere.

The various relief features found on the surface of the Earth belong to the lithosphere. Its main relief features are the mountain ranges, plateaus, plains and river valleys.

Activities



1. Observe map 1.4.
2. Taking the continents separately, name the mountain ranges, plateaus and plains and deserts in each.
3. On a world map mark and name these features using colours.



Relief map – 1.4 - Mountain Ranges, Plateaus, Plains

- The Lithosphere consists of six main plates. Due to forces in the interior of the Earth these plates are in motion.
- They move towards each other or away in different directions. These movements result in Earthquakes, volcanic activity and formation of fold mountains. These processes may have much harmful effects on man and other living beings.
- Since in these plate margin zones there is frequent occurrence of earthquakes, volcanic activity and techtonic movements, it is not advisable to construct permanent residential settlements around them.

eg : Houses built in Japan



Fig 1.28 - A Volcano



Fig 1.29 - A mountainous region

Man makes an impact on the Lithosphere in his attempt to fulfil his needs.

Activities



1. Name the human activities on the surface of the land.
2. State the influence man has made on your locality and the results of these activities.
3. Describe the measures that you can adopt to protect the Earth where we live.
4. Give three factors to explain how the Earth and its functioning affects human activities.

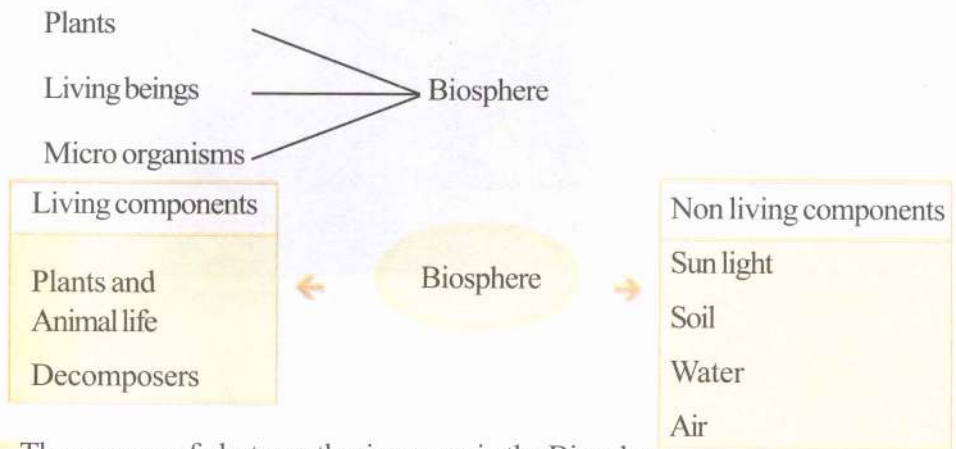
Biosphere



Fig 1.30 - Fauna and Flora

The processes that are active in the Biosphere are related to the Lithosphere, Hydrosphere and the Atmosphere.

The Biosphere is the part of the Earth which is always active for the life processes.



- The process of photosynthesis occurs in the Biosphere.
- In the Biosphere there is a process of interaction between plant and animal life. Plants and animals are interdependent. They cannot survive without each other.
- Today human activities have become harmful to man as well as to other forms of life.

Activity



Discuss with the teacher the human activities that influence the Biosphere, and their results and prepare drawings related to such situations to be displayed in the classroom.

The natural environment of the Earth is made up of variations due to the location of continents, mountain ranges, deserts, plains, rivers, islands and oceans. Thus there is diversity over the surface of the Earth depending on these features. Let us identify some of these variations.

- There is less oceanic influence over the interior of continents. Therefore these regions are arid.
- Since coastal areas get oceanic influence, the dryness is less.
- The climate is different on either side of mountain ranges, on the windward side and leeward side. In Sri Lanka the eastern slope of the Central hills which is in the leeward side gets less rainfall during the Southwest Monsoon, because of the location of the central highlands.
- Favourable climate prevails over islands due to oceanic influence.
- The river valleys have deposits of rich alluvial soil. Agricultural activities are undertaken successfully in these regions.

Human activities are adjusted to the natural environment and the diversity in the environment is the result of these activities.



Fig 1.31 - A Fishing settlement



Fig 1.32 - A Tea estate



Fig 1.33- A Paddy field

2

The Characteristic Features of the Countries in the South Asian Region



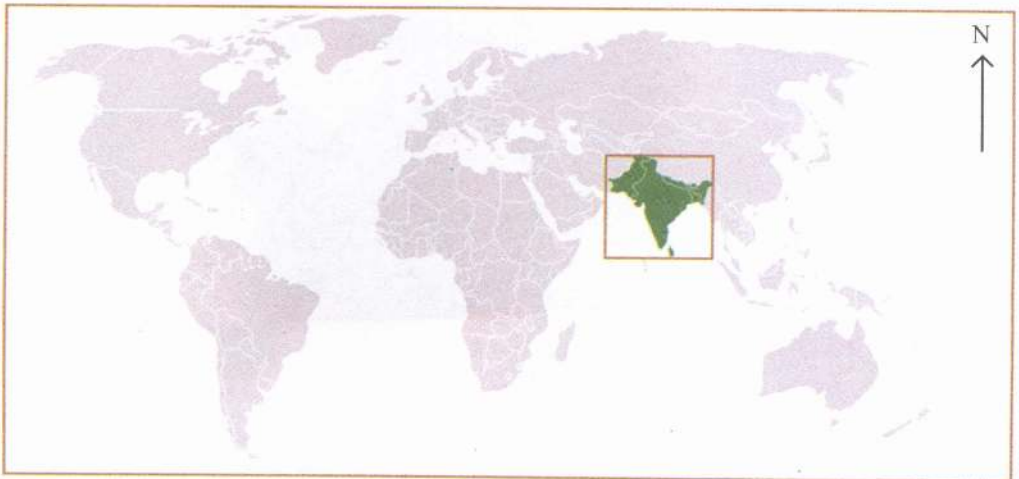
The South Asian Region has a long history as it is a region where habitation took place from the distant past when information about the world was coming to be known. South Asia is also the birth place of most developed civilizations such as Mohenjodaro and Harappa.

This region is bounded by the Himalayan ranges in the North, the Indian Ocean in the South, the Arabian Sea on the West and the Bay of Bengal on the East.

The teacher who wanted to give a clear understanding about the South Asian Region to her class, displayed a world map where this region was shaded.

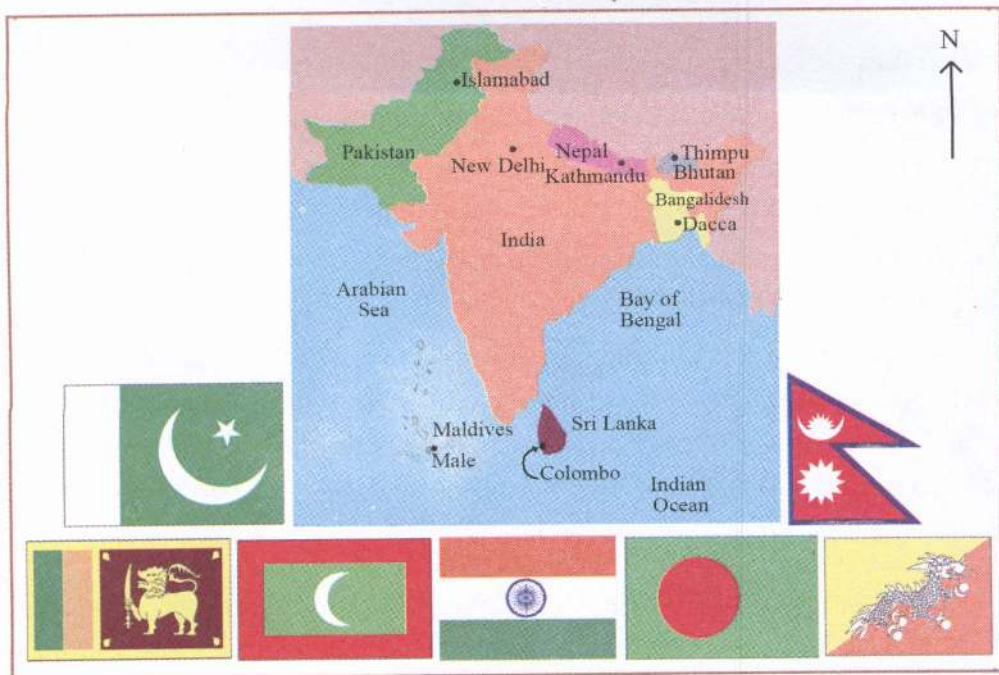
Teacher - Sayuri, now tell us which region on this map is boxed?

Sayuri - It is the South Asian Region.



Map 2.1 The South Asian Region

Teacher - “Very good. Now, children, look at this map too. Dileepa tell us what is shown on this map”.



Map 2.2 The South Asian Countries, their Capitals and National Flags

Dileepa - “The map shows the South Asian Countries and their capital cities.

India	- New Delhi
Bangladesh	- Dacca
Pakistan	- Islamabad
Nepal	- Kathmandu
Bhutan	- Thimpu
Maldives	- Male
Sri Lanka	- Colombo

Through this unit, it is expected to give an understanding about the identity of the South Asian Region, its main topographical features, climates, natural resources, the cultural heritage of the people and their activities.

Activities



1. Shade the South Asian Region in a map of the world.
2. Draw a map of the South Asian Region and shade its countries with different colours. Also mark and name the capital of each country.
3. In this map , mark and shade the Himalaya range in brown, the Bay of Bengal, Arabian Sea and the Indian Ocean in blue.

South Asia is a very old landmass. This region can be distinguished from the other geographical regions by the special identity in its physical, human and cultural features. India, Nepal, Bhutan, Pakistan and Bangladesh which belong to the South Asian Region are situated in the Indian Sub - continent while Sri Lanka and Maldives are located as islands.

The Aryans are said to have migrated to this region from the Steppes grasslands of Central Asia. From time to time they migrated to the Indo - Gangetic plain through Afghanistan via the Bolan and Khyber Passes and established settlements there. A group of these Aryan people came to Sri Lanka too and settled at a later time.



Fig 2.1 - Khyber Passes

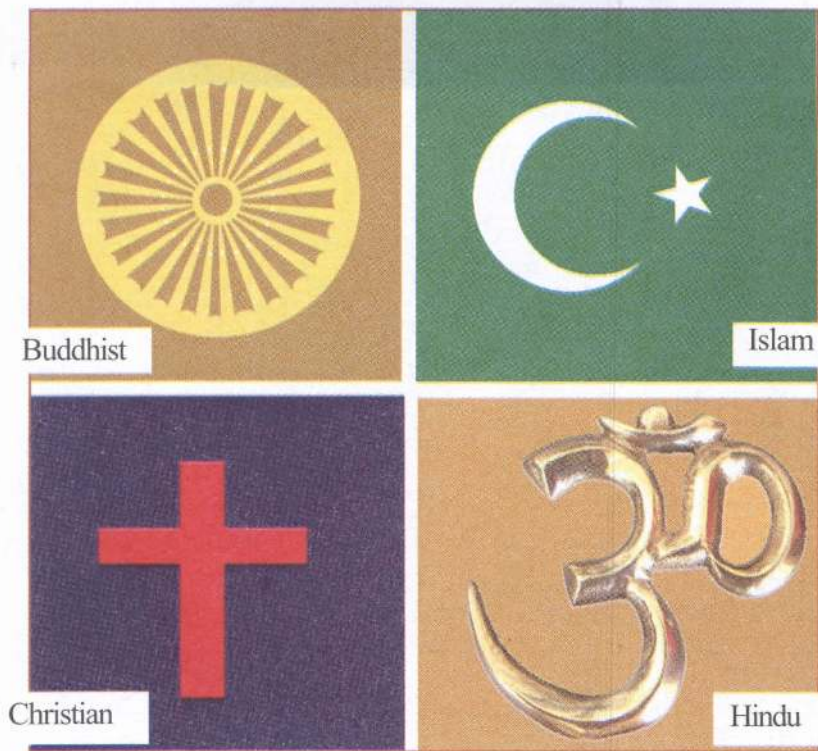


Fig. 2.2. Symbols of Various Religions

Activities

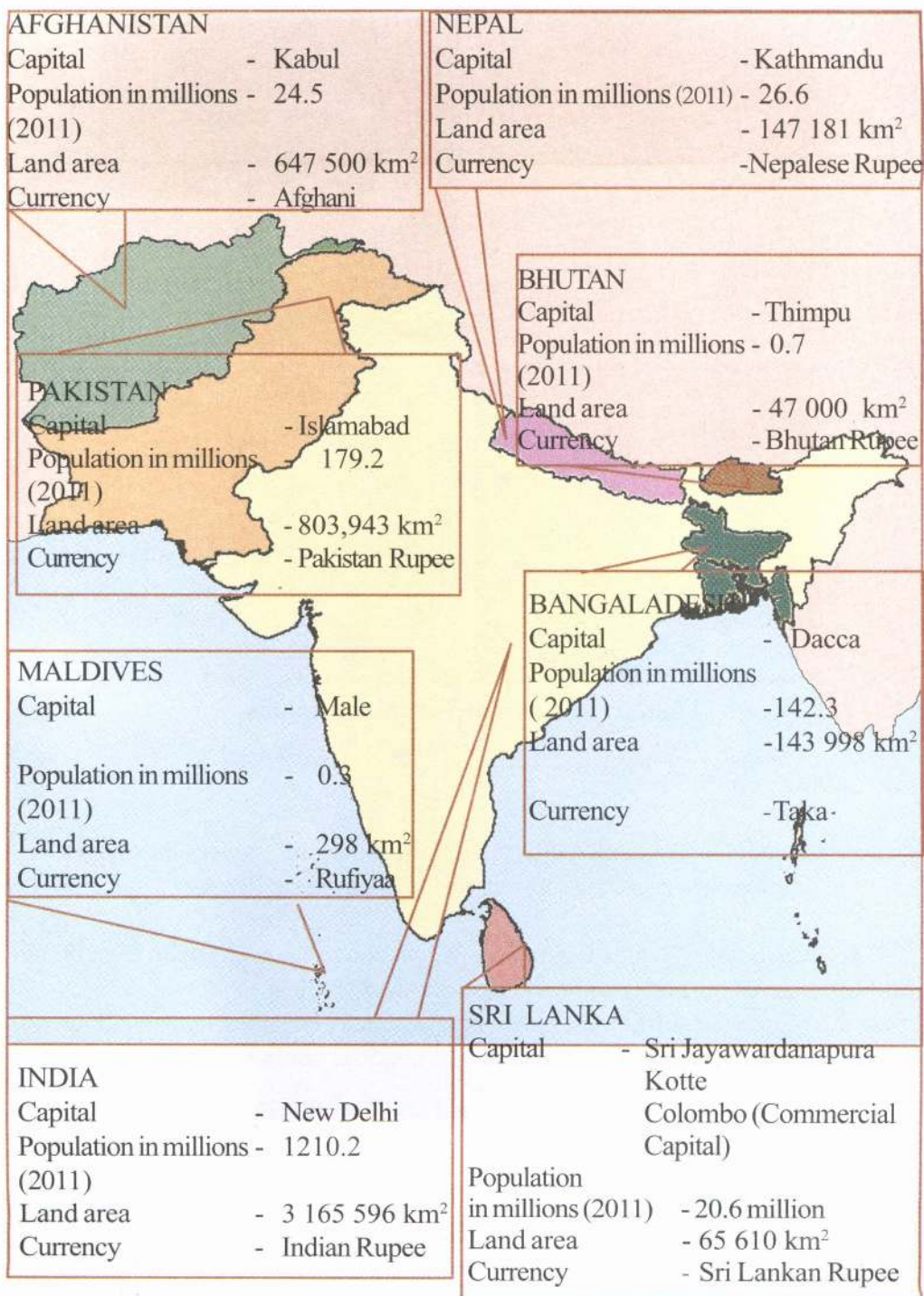


1. Prepare a folder containing information about the various races, languages and religions in each of the countries in the South Asian Region.

The South Asian Region has a tropical monsoon climate. The main form of livelihood is agriculture and paddy cultivation is the prominent. Common features seen in this region are utilization of small blocks of land, engaging human labour abundantly, use of traditional methods and less use of technology, in agriculture.

Poverty and dense population are common problems in this region. India and Pakistan stand ahead of other countries in the field of industrial development.

Teacher - These countries have established the South Asian Association for Regional Co-operation (SAARC) which is an organization for economic, social and political co-operation. Hence these countries are also known as SAARC countries. Read the following details (You will be able to learn about the population, land area, and currencies used in these countries by reading them).



Source : [http://wikipedia.org/wiki/ list of countries by population](http://wikipedia.org/wiki/list_of_countries_by_population)

Afghanistan too was awarded membership at the SAARC meeting held in new Delhi in 2007.

The SAARC organization aims at preparing a background for the promotion of friendship, trust and understanding among the South Asian people. Apart from these, the organization has other aims of developing solidarity among the SAARC nations and also working out socio- economic development strategies.

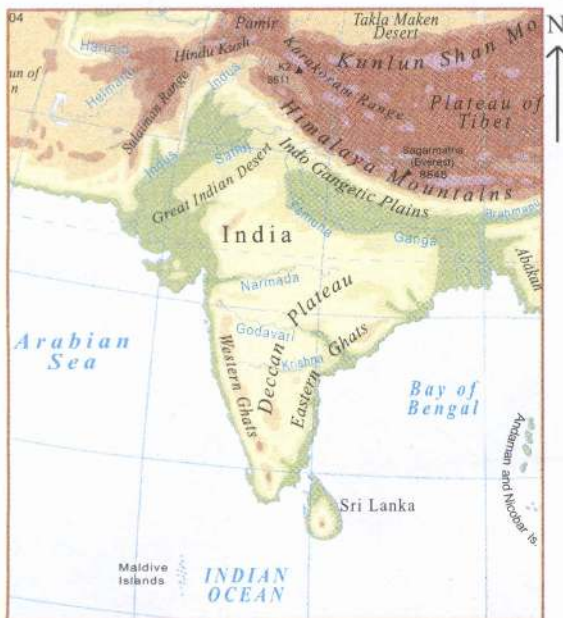
Activity



Complete the following table incorporating the relevant information as given below.

South Asian Country	Name of Head of State	Photograph of Head of State	Population	Religions	National Flag

The Physical Landscape of the South Asian Region



You learnt in the previous lesson that the South Asian Region is separated from the other landmasses of the Asian Continent by the Himalayan wall situated to the North of this region.

This boundary consists of mountain ranges such as the Himalayas, Hindukush, Sulaiman, and Karakoram. Everest, which is the highest mountain peak in the world is located in the Himalayan ranges.

The other mountains in South India are Western Ghats, Eastern Ghats, Sathpura - Mahadev, and Vindhya mountains.

Map 2.3 The relief features of South Asia

Out of all these mountains, the Himalayas is prominent as a giant rain - cloud. Nepal and Bhutan are countries situated at the Southern foot - hills of Himalayas.

Apart from the high mountains, the other prominent relief feature in this region is the great Indo - Gangetic Plain. The two largest rivers in India, the Indus and Ganges flow through this vast plain. The largest delta in the world is formed at the place where river Ganges meets the sea. Bangladesh and its Sunderbans marsh are situated in this Delta. Another relief feature is the Deccan plateau which is bounded by Western Ghats on the west and Eastern Ghats on the east. This is known as one of the oldest landmasses composed of lava.

Some relief features seen in the South Asian Region are shown in Table 2.1

Table 2.1 - Relief features in the South Asian Region

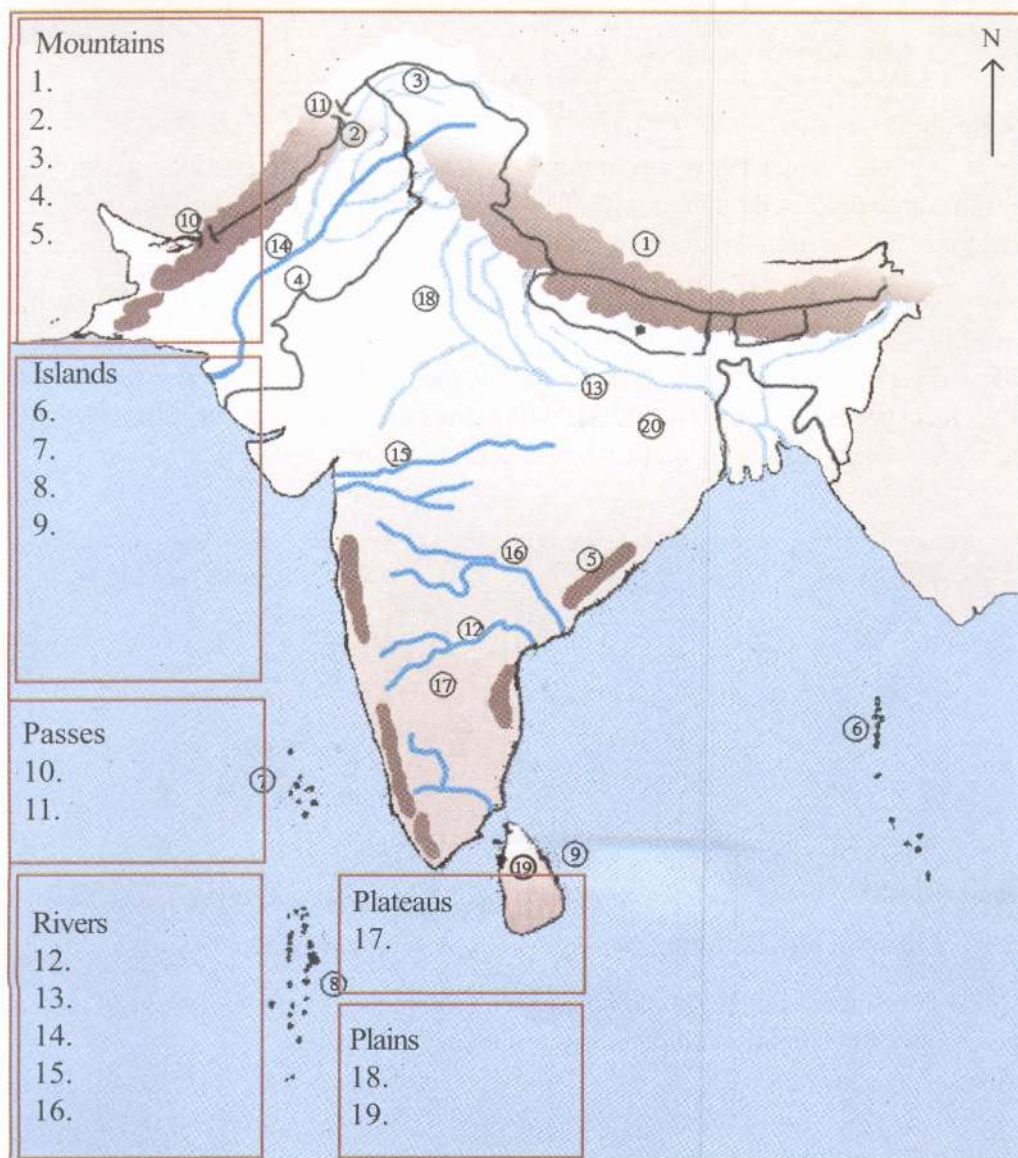
Country	Mountains	Rivers	Plains	Plateaus
India	Himalayas Karakoram Western Ghats Eastern Ghats Sathpura, Mahadev Vindhya	Ganges, Cauveri Indus, Krishna Narmada Tapti, Godavari Mahanadi Tungabadra	Indo Gangetic	Deccan Chotanagpur Malva Pamir
Pakistan	Hindukush, Sulaiman, Kirthar Makran	Indus, Sutlej Ravi, Jhelum Chenub	Sind Punjab	Baluchistan
Sri Lanka	Pidurutalagala Samanala, Knuckles Namunukula Kirigalpotta Rakwana	Mahaweli Kelani, Kalu Walawe, Gin, Nilwala	Interior plain Coastal plain	Hatton Coslanda Mahanuwara Welimada Mahawela- tenna
Nepal	Mountain Peaks of Himalayas Makalu, Siwalic Dhawalagiri Kanchenjunga Everest, Annapurna	Karnali Arun Sankoshi	Kathmandu	
Bhutan	Himalaya Range Kulakangir, Punakhar	Manas, Tongsa Kur		
Bangladesh	Chittagong Rangamahar	Brahmaputra Pathuma Madhumati	Sunderbans	
Maldives	Consists of a group of coral reefs of 1.7 metres in height			

Activities



Copy the following map of the South Asian Region in your exercise book.

1. With the help of an Atlas, identify the relief features shown by numbers in that map and write their names at the relevant places.
2. Write down these relief features separately under mountains, rivers, plateaus, plains, passes and islands.



3. Join the items in column A to match with those in column B in the following Table.

A	B
The highest peak in Nepal	Thar desert
Dry desert	Himalayas
Region of lava soil	Everest
The boundary that separates } South Asia }	Bangladesh
A country with largest delta	Deccan region
A tributary of Indus	Brahmaputra
A tributary of Ganges	Jhelum

Climate

The class teacher gave an opportunity for the Grade 8 pupils to view a computer programme prepared on the topic “The Climate of the South Asian Region.” The details of this programme are given below.

The main factors which determine the climate of a country are temperature and rainfall. The South Asian Region is a zone which shows a variety of climates. Areas like Cherapunji which gets the heaviest rainfall received in the world, arid regions like the Deccan plateau, areas like the Himalayas with a heavy snow cover and deserts like Thar which has a high temperature can be seen in this region.

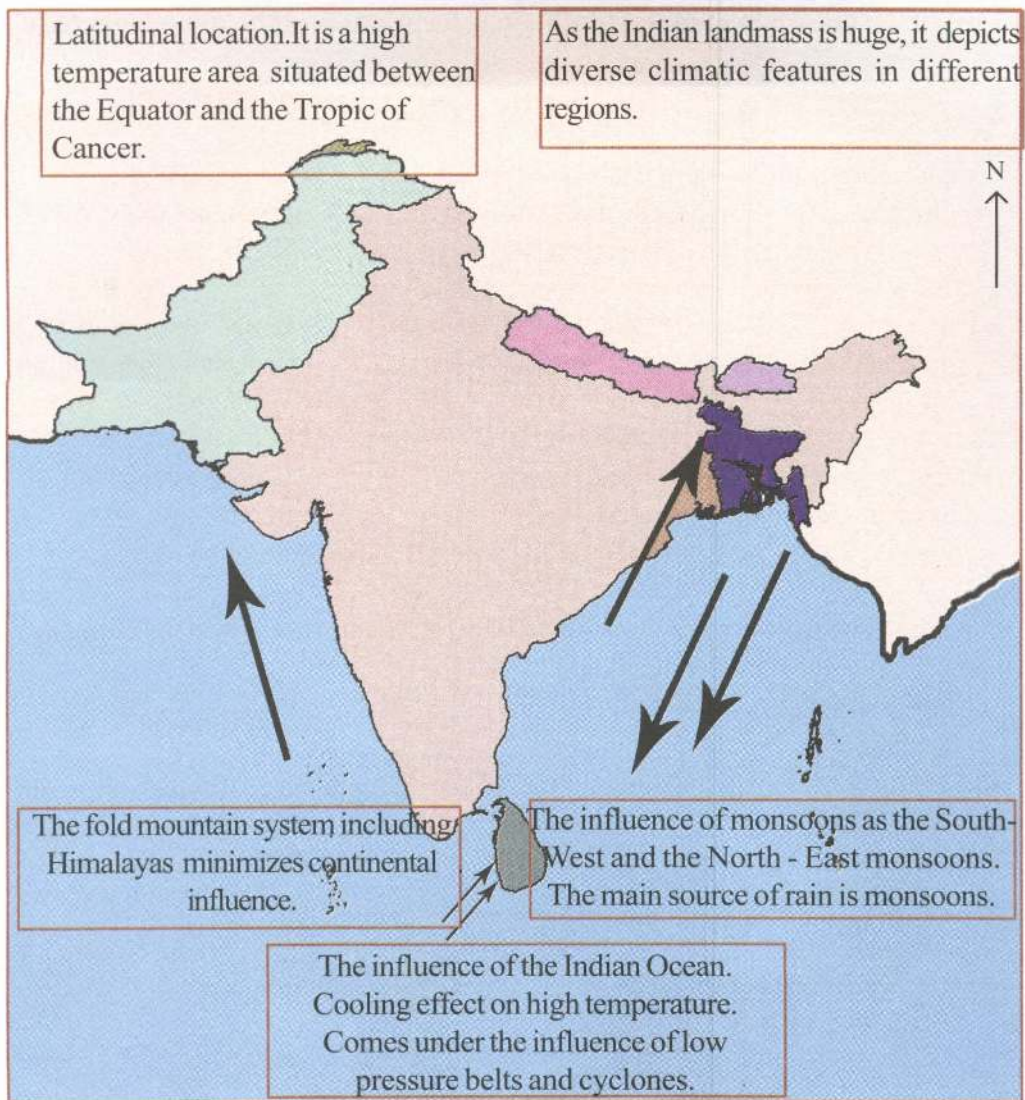


Fig 2.3 -The Himalayas



Fig 2.4 - Thar desert

The South Asian Region is an area with a diversity of climates. Several factors determine this diversity of climates in this region.



The main climatic types in this region are,

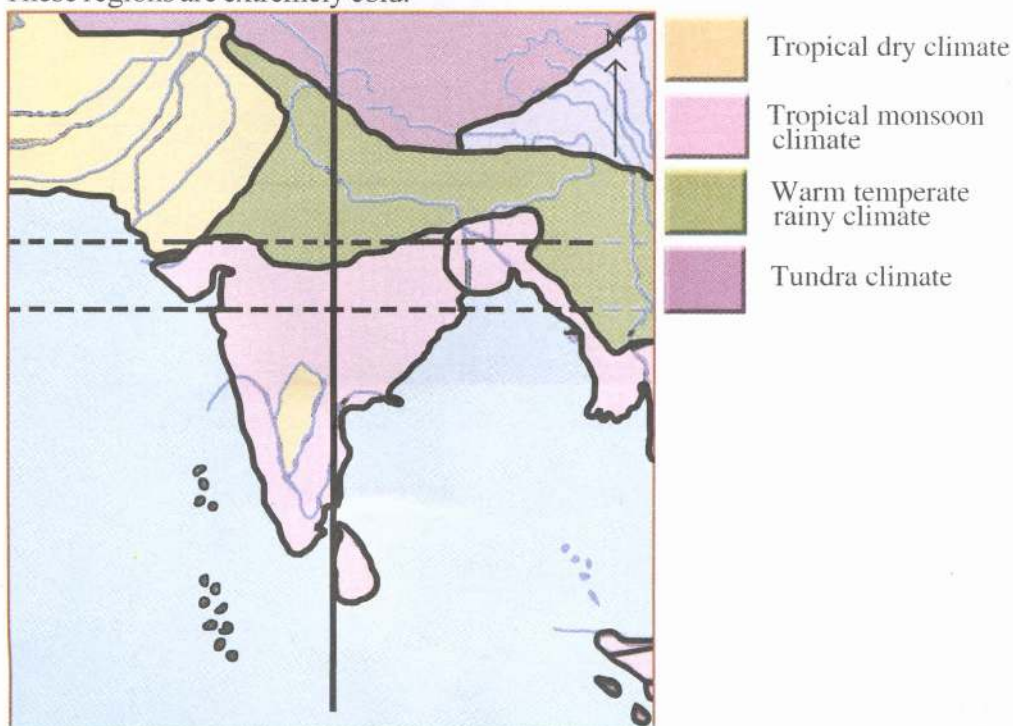
1. Tropical monsoon climate
2. Tropical dry climate
3. Warm temperate rainy climate

These climatic types, the areas where they are found and their characteristics are given in Table 2.2.

Table 2.2 - The main climatic types, their locations and the main features

Climatic type	Locations	Features
Tropical monsoon climate	Western Ghats, Eastern Ghats, Bangladesh, Sri Lanka	<ul style="list-style-type: none"> • Rainfall distributed throughout the year • Heavy rainfall
Tropical dry climate	Punjab Plain, Western Rajasthan, Thar desert, Deccan plateau	<ul style="list-style-type: none"> • Evaporation takes place more than rainfall • Winter rain
Warm temperate Rainy climate	Indo-Gangetic plain, Chota Nagpur Plateau, Northern part of the Deccan Plateau	<ul style="list-style-type: none"> • Cold season is dry • Rainfall during summer

Tundra climate is found in Areas over 3000 metres in elevation on the Himalayas. These regions are extremely cold.



Map 2.4 - The main climatic zones within the South Asian Region

Three distinct seasons could be identified in the South Asian Region.

Cold Season

December to February



During this season minimum temperatures are experienced in India.

Hot Season

End of March to end of May.



During this season, the maximum temperature is experienced. Temperature is high due to the location closer to the Equator and also due to the northward path of the Sun.

Rainy Season

June to mid December



Heavy monsoon rains are received during this season. Cherapunji in Assam gets the highest rainfall.

Fig 2.5 - Climatic Seasons

The teacher who suspended the computer programme for a while engaged in a discussion with the class.

Teacher - Children, you may have observed now that South Asia is a vast land area. Hence, there is a diversity in climatic types and also a change of seasons.

- Dasun** - Teacher, I have heard that during the hot season in India, people die due to drought in regions like Haryana.
- Teacher** - Yes, sometimes a few people die due to high temperature.
- Mohammed** - Teacher, many areas in Bangladesh get flooded. I have heard so!
- Teacher** - Yes. It is true that Bangladesh is an area which gets flooded frequently. Refer to the note below. It shows clearly the climatic conditions in each of the countries.

Thus the teacher drew the attention of the class back to the computer screen.

<p>INDIA There is a diversity of rainfall. There are arid regions with no rainfall as well as areas where snow falls. The Deccan region is an area which receives an annual rainfall of less than 1200mm.</p>	<p>MALDIVES The temperature is high due to the proximity to the Equator. As these are islands, there is the influence of the ocean too. In future these islands face the threat of rising of the sea level due to thawing of snow in the high latitudes.</p>
<p>NEPAL Experiences a cold, dry climate with a severe spell of drought. Natural disasters like landslides, floods and storms also occur.</p>	<p>SRI LANKA The rainfall is distributed throughout the year. Drought is less. Though there is high temperature due to closeness to the Equator, it is offset by the oceanic influence.</p>
<p>BANGLADESH It is a low land. It is a country which faces destruction annually due to floods.</p>	<p>BHUTAN There is heavy rainfall as it is situated in the southern lowlands of Himalayas.</p>
<p>PAKISTAN There is an arid climatic zone in some areas. Snowfall occurs in the northern region.</p>	

Activities



1. What are the factors that determine the nature of climate in India?
2. Match columns A and B by drawing lines to join.

A	B
Cold Season	End of March to end of May
Hot Season	June to December
Rainy Season	December to February

3. Mark and name the following areas on a map of South Asia.

Cherapunji which gets the highest rainfall in India.

The Thar desert which gets low rainfall.

An area which receives monsoon rainfall.

A region where there is arid climate.

4. Prepare an illustration which shows the various influences that may occur due to high temperature and high rainfall with reference to Sri Lanka.

The Distribution of Natural Resources in the South Asian Region

Shawari wanted to find facts about the natural resources of this region. She went to her teacher uncle and asked for details.

Shawari - Uncle, I have to get ready to do an assignment in class. Please tell me some facts about the natural resources of South Asia.

Uncle - Ah, it is nothing much. What should be included in the assignment?

Shawari - Land, forest resources, minerals and other information about water resources.

Uncle - Here you have the Regional Geography Text book. You will find the information you need in it. Read it.

Shawari went through the Regional Geography Text book and noted a few important facts on land, forests, minerals and water resources of the South Asian Region.

The following day, Shawari went to her class- room and showed the teacher the information sheet she had prepared and displayed it in the classroom. Those information sheets are presented here under figures 2.6 and 2.7. The teacher praised Shawari for finding information for the lesson. Then she conducted a discussion about the natural resources in South Asia including the information found by Shawari.

According to Table 2.3 the land area of South Asia is 4,373,626 square kilometres in extent. About 18% of this land is utilized for cultivation. Around 11% of the land remains forested.

Table 2.3 . The total land area and Arable (cultivable) land in the South Asian Region.

Country	Total land area in square km	Arable (cultivable) Land %
India	3,287,263	51.63
Pakistan	796,095	25.28
Bangladesh	143,998	58.47
Nepal	147,181	16.92
Sri Lanka	65,610	29.20
Bhutan	38,394	2.73
Maldives	298	43.33

Source - <http://www.cla.gov/Library/Publications/the-world-factbook/> - (25 May 2011)

Activities



1. Prepare the data in descending order given under arable land in the above Table (2.3).
2. Using the data you prepared under activity 1 draw a bar chart.
3. Name the two countries which have the minimum and the maximum arable land.

The distribution of forests in the South Asian Region is shown in Fig 2.6

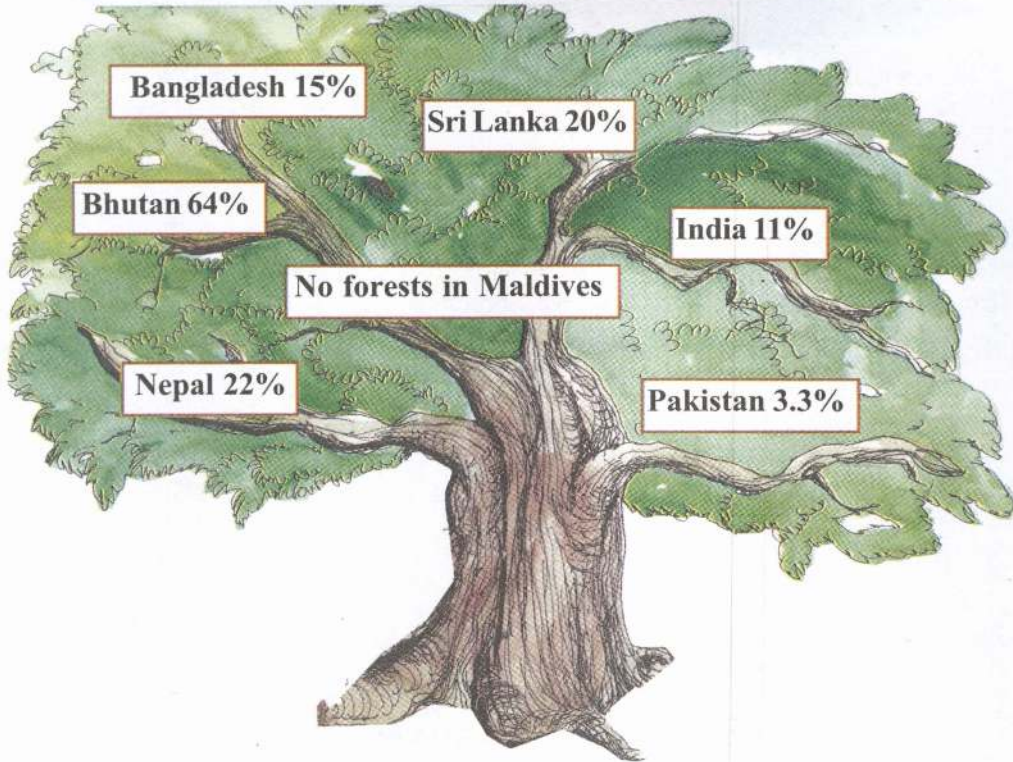


Fig 2.6 The distribution of forests in the South Asian Countries

In the South Asian Region, the pattern of natural vegetation has adapted to the climate of the region. The main factor that influences the nature of forests is rainfall. The duration of the rainy season, the prevalence of drought and temperature differences influence the growth of vegetation.

Activities



1. What are the factors that decide the nature of forests in the South Asian Countries?
2. Fill in the blanks with reference to the picture above.

The greatest distribution of forests in the South Asian countries is in It is percent. The forest cover is lowest in The distribution of forests in Sri Lanka is

Mineral Resources in the South Asian Region

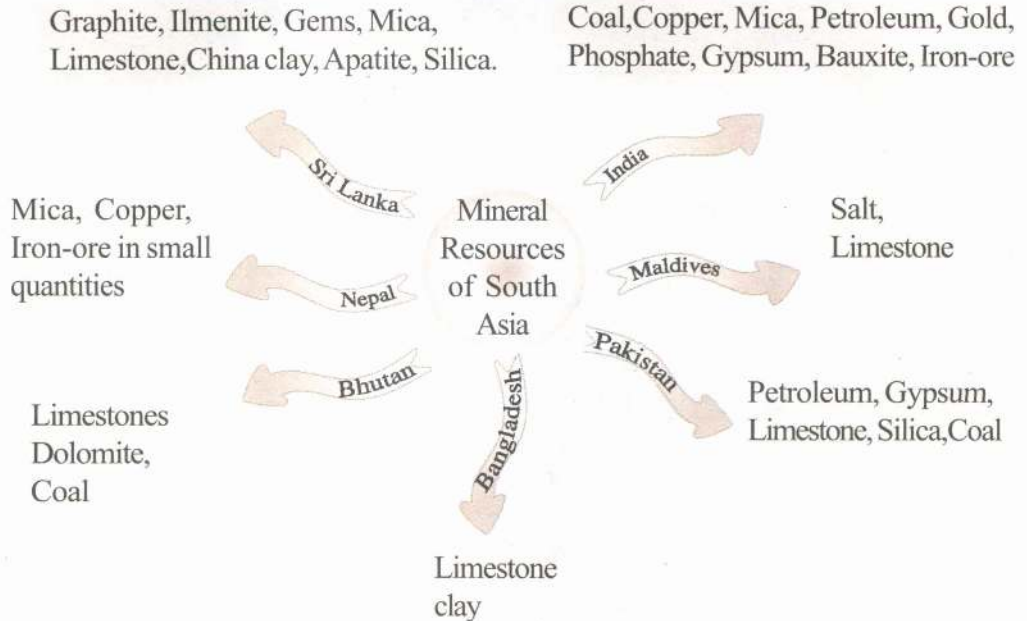
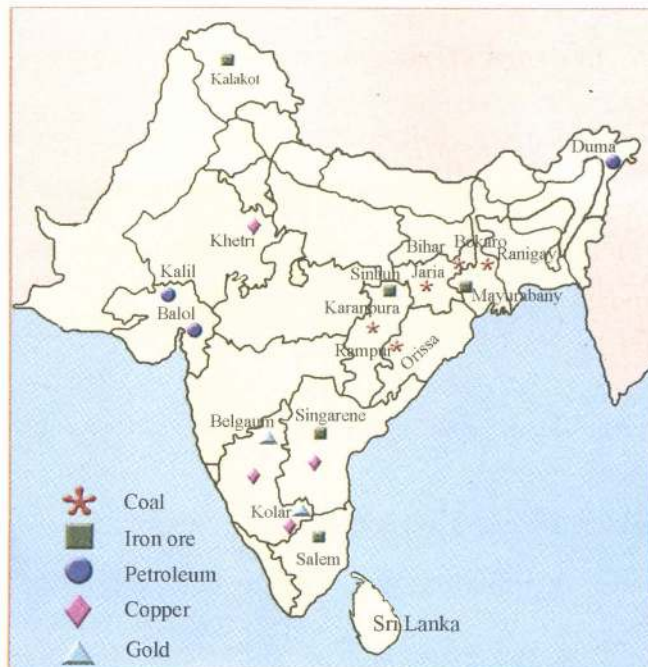


Fig 2.7 Mineral Resources of South Asia



Map 2.5 -The Mineral resources of the South Asian Region

Activities



1. With the help of the teacher, mark and name three areas each where coal, iron ore and limestone are distributed in the South Asian Region.
2. Draw a reference key to your map.
3. According to Fig 2.7 what is the country that has the largest distribution of mineral resources in South Asia?

Water Resources

There are several ways of obtaining water in the South Asian Countries.

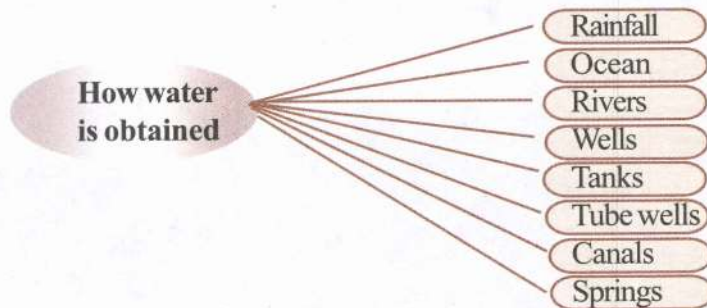


Fig 2.8 - Sources of obtaining water

Water is very important for regions in Deccan, Bhutan and Pakistan since these areas receive low rainfall and droughts occur in them. Water is very useful for agricultural activities, generation of hydro-electricity and for industries.

Activities



1. Prepare a poster depicting various modes of obtaining water.
2. Prepare a report containing the diverse uses of water.
3. What are your suggestions for the protection of water resources in the South Asian Region ?
4. Name the South Asian Countries which have oceanic resources.



Student Exploration

Prepare a document containing the uses of the ocean with the help of your teacher.



Fig 2.9 - Mongoloid Race

The South Asian Region is a densely populated area where diverse communities live. They are the Caucosoid race exclusive to this region. The people of Nepal and Bhutan belong to the Mongoloid racial group. In areas like Pakistan and North India mostly people are of high stature with fair skins. In countries like India and Sri Lanka most of the people are dark - skinned. Some pictures of the people of these communities are given below. Examine them and try to identify the communities living in these areas.

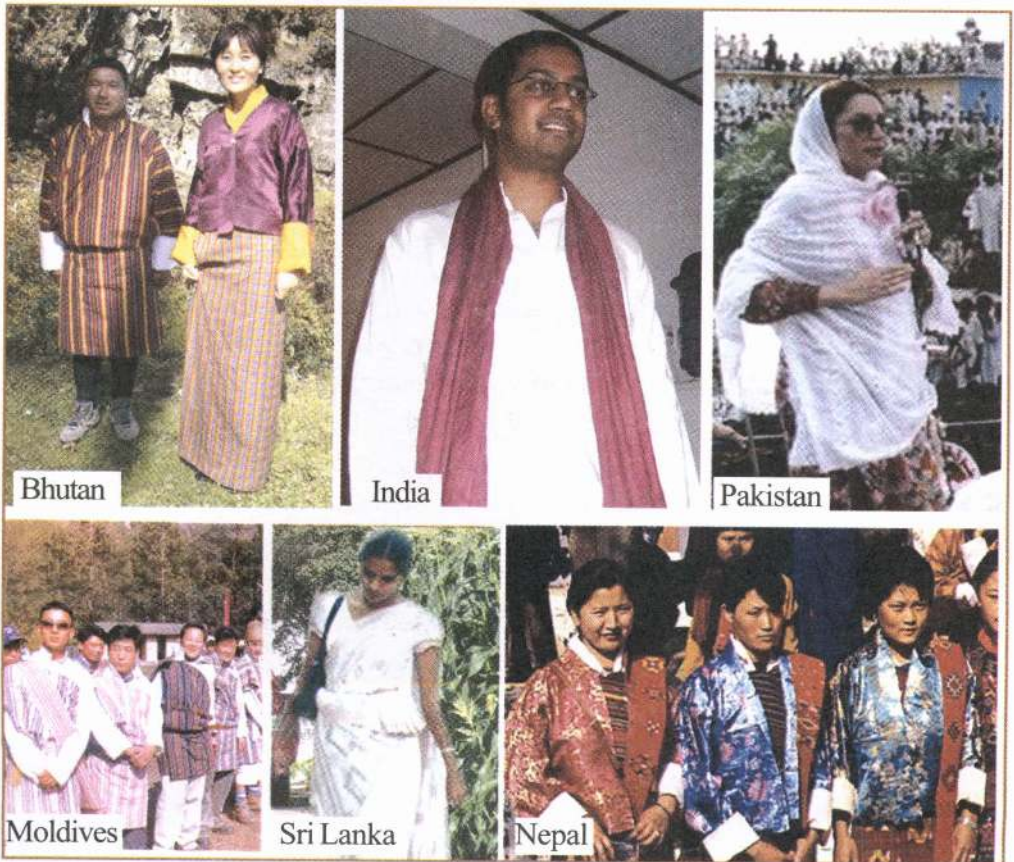


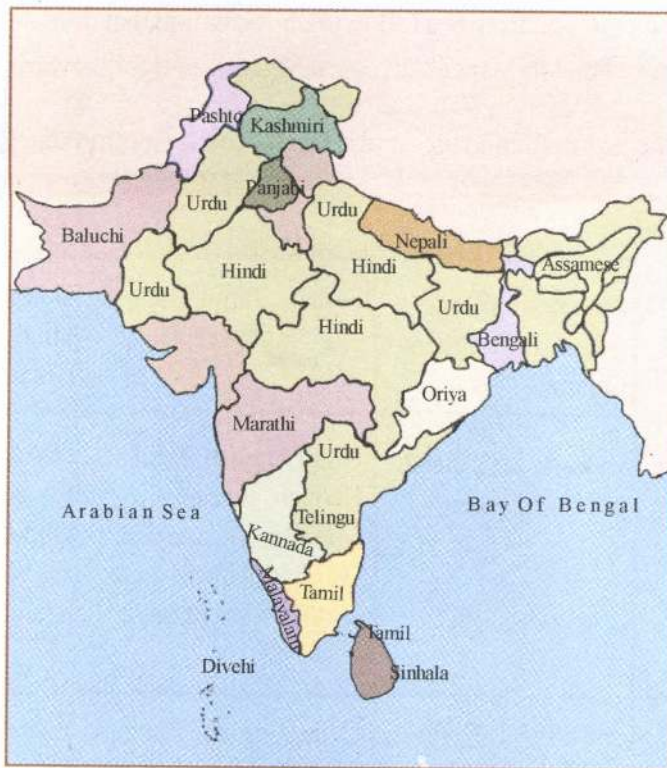
Fig 2.10 - South Asian Community

It will be clear to you from the following information that diverse racial groups live in this region and that they speak diverse languages and follow various religions.

Table 2.4 - Ethnic groups, languages and religions in the South Asian Region

Country	Ethnic groups	Languages	Religions
Sri Lanka	Sinhalese, Tamils, Muslims, Burghers Others	Sinhala, Tamil, English	Buddhism, Catholicism Hinduism, Islam, Christianity,
India	Indo-Aryan, Tamil, Muslims, others	Hindi, English, Tamil, Bengali, Telingu, Marathi, Malayalam, Gujarati, (They speak about 14 languages)	Hinduism, Islam, Christianity, Buddhism, Sikhism
Pakistan	Muslims, Punjabi, Sindi, Pusdun, Baluchi, Urdu	Urdu, English, Punjabi, Sindi, Baluchi	Islam, Hinduism, Christianity
Bhutan	Mongoloid	Aridi, Sonko, Guru, Assam	Buddhism, Hinduism, others
Nepal	Nepali	Nepali, Maitali, Newari, Bospori	Buddhism, Hinduism
Bangladesh	Bengali	Bengali, English	Islam, Buddhism, Hinduism, Christianity
The Maldives	Malay, Sinhalese, Tamil	Diwehi, English	Islam

According to the above information a Multi-racial community can be seen in the South Asian Region. In India alone there are more than 1000 dialects and 300 tribes. Apart from this indigenous people also live in the South Asian Region.



Map 2.6 - The main languages

Activities



1. Name 3 religions followed by the majority of South - Asian countries and 3 languages spoken by the majority of the countries.
2. Match the columns.

Country	Ethnic Type
Sri Lanka	Nepali
India	Indo - Aryan
Pakistan	Sinhala
Bangladesh	Malay
Nepal	Bengali
The Maldives	Mongoloid
Bhutan	Punjabi

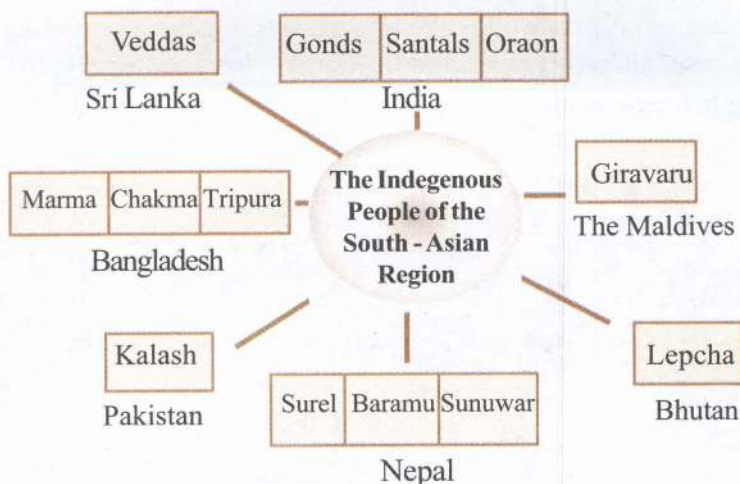


Fig 2.11 - The Indigenous people of the South Asian Region

Activities

1. Gather information and prepare a booklet on the indigenous ethnic groups living in each of the South Asian Countries.
2. Give 2 reasons for the existence of a multi-national society in this region.

The Cultural Heritages

This region has claims to a very developed civilization in the world like Mohenjadarro and Harappa. Hence this region has a diversity of special cultural heritages both religious and national.

Cultural heritage can be defined in simple terms as the arts and crafts and the traditions and modes of living which people have inherited from the distant past. Such heritages can be of two types, that is, as tangible heritages and intangible heritages.

Table 2.5 - The Cultural Heritage

Cultural Heritage	
Tangible Heritages	Intangible Heritages
Tank	Music (Oriental, Urdu, Karnata)
Dagaba	Dancing (Bharatha, Kathakali, Kandyan, Low country)
Temple	Languages (Hindi, Sinhala, Tamil)
Carvings	Religions (Buddhism, Hinduism, Islam)
Works of Art	Medical (Unani, Ayurveda)

There are a number of world cultural heritage sites in this region which is endowed with such diverse cultural heritages. The Taj Mahal of India and Sigiriya of Sri Lanka are important as heritages declared as world heritages by the UNESCO. Pictures of some places of cultural value that are spread throughout this region are given below.



Samadhi Statue



Temple of the Tooth Relic



Saranath Statue



Thanjavur Perum Kovil



Annai Velankanni Church



Asoka Pillar



Shat Gombuj Mosque (Sixty Tomb Mosque)



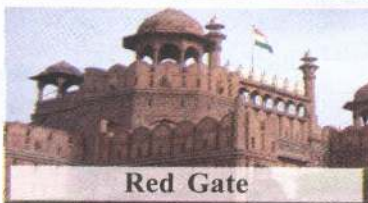
Sanchi Gate way



Sigiriya



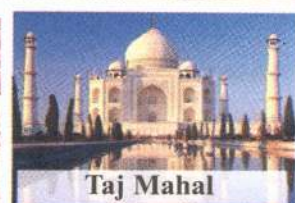
Ajantha



Red Gate



Isurumuniya



Taj Mahal

Fig 2.12 - Some places of cultural value in South Asia

Activity



1. Name the countries in which the places depicted in above pictures are situated and explain their cultural importance with reference to two facts.



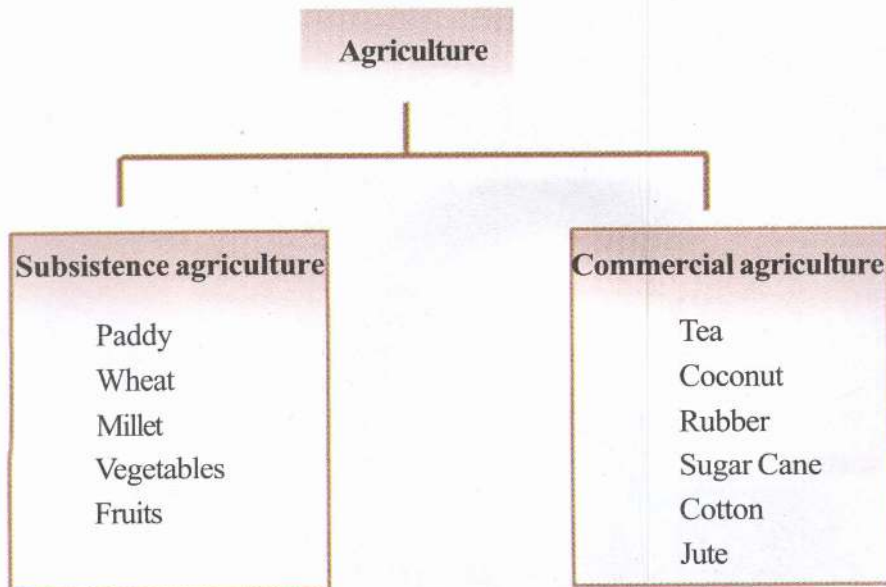
Student Exploration

Find out the cultural heritages of each of the countries in the South Asian region with the help of your teacher and prepare a booklet containing information on them.

Human Activities

Human activities in the South Asian Region can be considered under economic, social and political aspects. Apart from the Maldives, in this region, the major economic activity of the other countries is agriculture. Agriculture consists of two sectors, namely subsistence agriculture and commercial agriculture. Certain crops cultivated under commercial agriculture are also utilized as agricultural raw materials.

Study the chart given below and understand the crops grown under subsistence and commercial agriculture in each country.



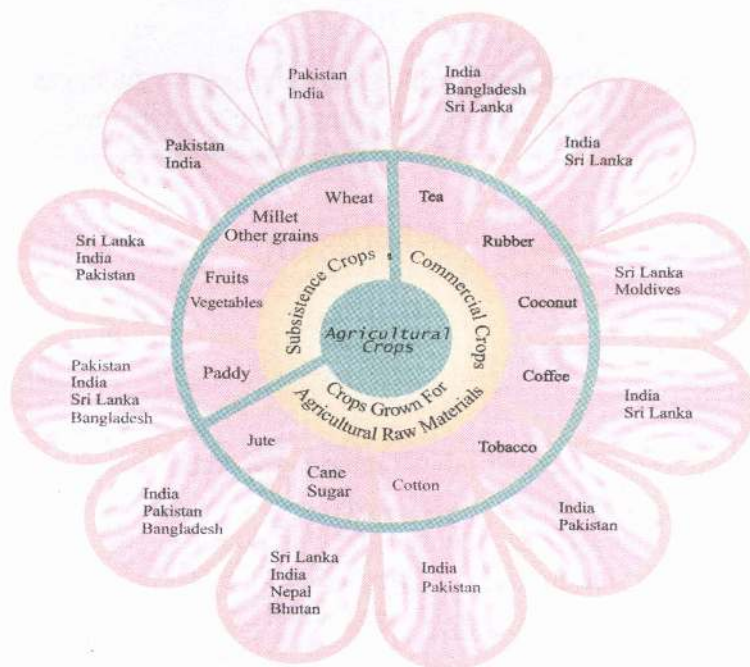
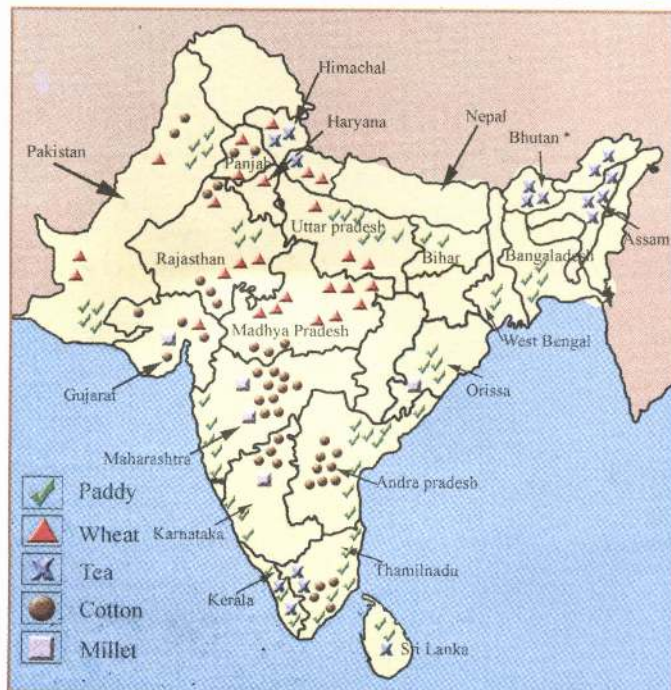


Fig 2.13 - Countries in which agricultural crops are grown



Map 2.7 - Distribution of crops

These are several distinct characteristics in subsistence agriculture in this Region

1. Traditional system of land tenure.
2. Low harvests due to small plots of land.
3. Fragmentation of land.
4. Increasing poverty of farmers.
5. Family labour used mostly in cultivation.
6. Very low use of fertilizer.
7. Minimum use of technology.
8. Engaging in traditional agricultural activities.

There are several distinct characteristics in commercial agriculture.

1. Large farms / estates
2. Increased use of fertilizer.
3. Use of modern technology.
4. Use of labour on a large scale (for tea, rubber plantations).

Activities



1. On a map of the South - Asian region mark and name two areas where paddy, cotton, jute and tea are grown.
2. Name the crops grown under commercial agriculture and list the various industries carried out using these crops.
3. Write the advantages that could be derived from uplifting subsistence agriculture in the countries in the South Asian Region.

Animal Husbandry

Animal farming is also another aspect of agriculture. Here cattle, goats, sheep and poultry are reared.

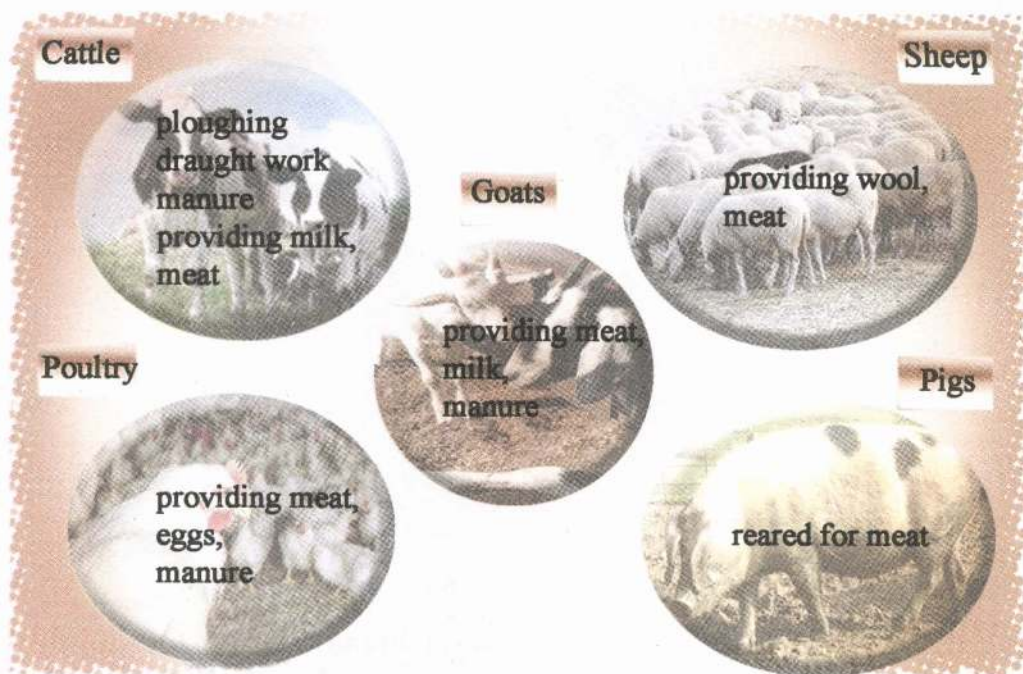


fig 2.14 - Livestock farming for various needs

Livestock farming is done in some countries on commercial basis. For instance, livestock farms are seen in Ambewela in Nuwara Eliya District of Sri Lanka, and in Assam and Punjab states in India.

Activity



1. Observe Fig 2.14 and fill in the table given below.

Animals reared for each need			
Meat	Milk	Wool	Manure



Student Exploration

1. What are the various steps taken by the Government of Sri Lanka to develop local production of milk.
2. Write your suggestions to save the foreign exchange spent on the import of milk foods.

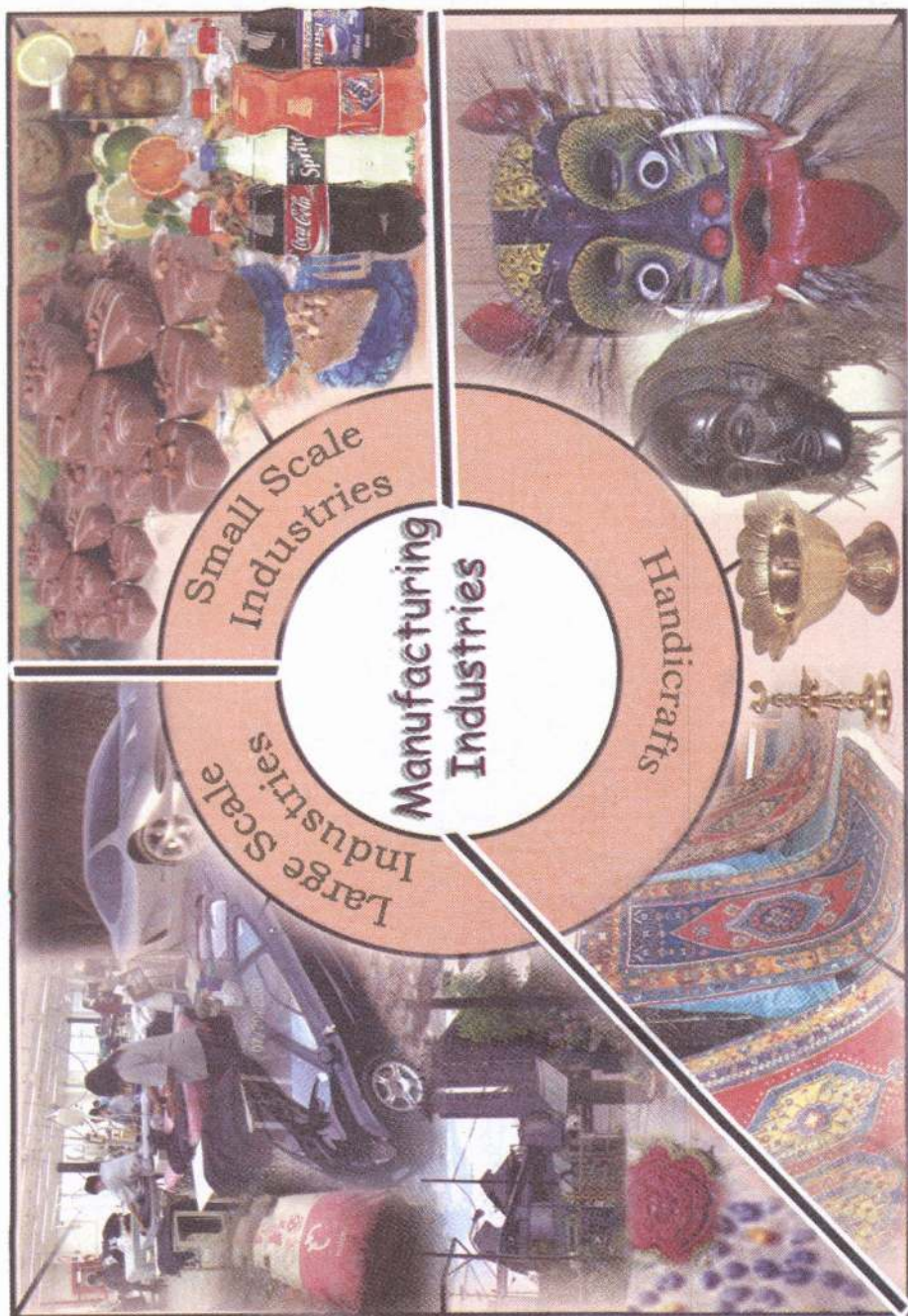


Fig 2.15 - Manufacturing Industries in the South Asian Region

Manufacturing Industries

Looking at diagram 2.15 you will notice that there are a large number of different industries in the South Asian Region. They hold an important place in the economy of a country. The South Asian Region too can be described as a region making an effort at industrialization. India is the foremost country as an industrial country in this region. Apart from India, Sri Lanka and Pakistan too have given an important place for industries. The chart below shows the industries distributed in the South Asian Region.

Table 2.6 - The manufacturing Industries in the South Asian Region

Country	Industries
Sri Lanka	Garments, cement, fancy goods, sugar, confectionery, leather goods, ceramics, gems
India	Motor cars, motor - cycles, textilies, iron and steel, electrical appliances, computers, plastic goods, trains
Pakistan	Garments, electrical appliances, iron and steel, leather goods
Bangladesh	Garments, leather goods
Nepal	Textiles, carpets
Bhutan	Handicrafts, timber products
Maldives	Fishery, Industries related to coconut

The Tourist Industry

The tourist industry is in a developed level in all the countries of this region. These countries are endowed with places of natural beauty as well as historically important places, wild animals and forest parks and world heritage sites which attract tourists. In the Maldives, the main economic activity is the tourist industry. The tourist industry provides many facilities in the sandy beaches, gives opportunities to observe wild animals, make pilgrimages and trips which widen knowledge and give a chance for enjoyment and leisure. By developing the tourist industry it is possible to earn foreign exchange as well as to obtain employment opportunities.



Fig 2.16 - Places of tourist attraction

Activity



1. Name 10 places famous for the tourist industry in Sri Lanka and India and prepare a report on any 5 of these places you named.

Political and Social background

Democratic systems of government prevail in the countries of this region. Since most of these countries were under colonial rule for a long time, they show features of developing countries. Within this region, there are state - border disputes among countries. In almost every country, there are terrorist clashes.

South Asia is one of the densely populated regions in the world. Socially, most of the people are rural folk. Traditional social conditions are mostly seen in this society. Extended family system is a special characteristic feature. In India, there are such extended families who live under the same roof. The people value their traditional cultural habits and are highly hospitable.

Activities



1. Prepare an information sheet containing the conflicts prevalent in the countries of this region. You may collect facts from newspaper articles and various magazines and also by listening to the radio and watching television.
2. What are the causes for such conflicts?
3. Mention the steps that can be taken to prevent such conflicts as a region.



In the second chapter you learnt about the location, climate, physical features, economic and cultural activities of the countries in the South Asian Region. These facts show very clearly that there are many diverse features among these countries though it is considered one region. In this chapter let us find out how human activities and people's lives have adapted to the diversity in the physical environment with reference to the following topics :

- Energy in rural areas in India.
- Hilly tribal community of Himalayas.
- Iron ore mining in India.
- Jute Industry in Bangladesh.
- Rural Industries in Pakistan.
- Tourist Industry in the Maldives.

Energy Sources in the Rural Areas in India

India is the largest country in the South Asian Region. It is a fast developing country. Yet about 74 % of the total population of India live in rural areas. The majority of the people living in the rural areas are extremely poor. These people obtain land, houses, food, a means of living and energy with great difficulty.

Any source of energy that exists naturally or man-made can be defined as energy. Fig 3.1 shows different sources of energy. Identify them.

Now let us find how the people living in the rural areas of India obtain their energy requirements.

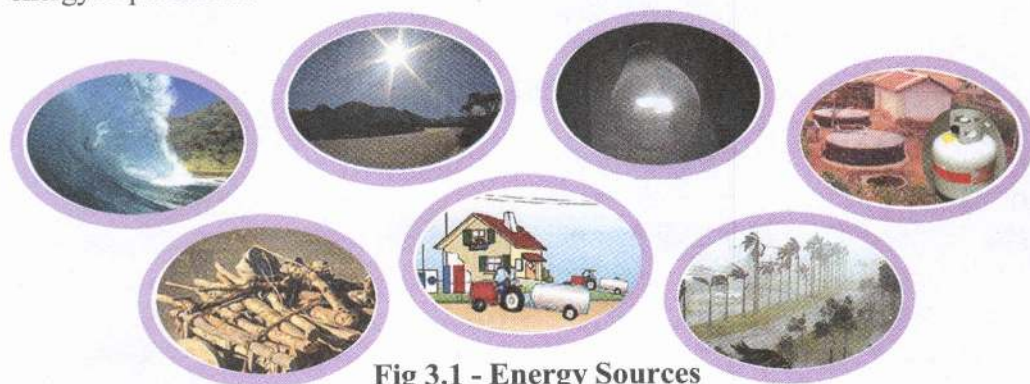


Fig 3.1 - Energy Sources

Activity



Name the energy sources shown in the above figure.

Every person needs any one of these energy sources for his or her day to day activities. Thus energy helps man in diverse ways to improve his standard of living. In India the ways of generating energy are varied and they differ from region to region. The ways of producing energy and the materials that are utilized to produce them are:

- i. Hydro - electricity
- ii. Agricultural waste, (vegetable matter, hay, leaves)
- iii. Dried cow - dung
- iv. Dried cane sugar residues
- v. Ghee

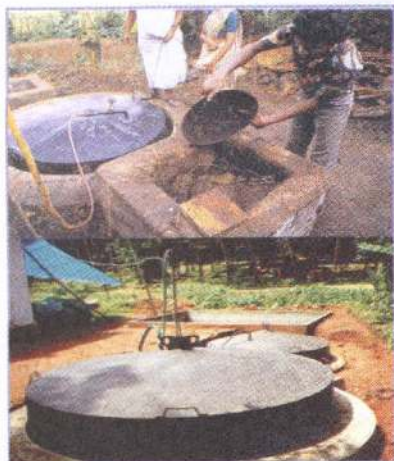
Agricultural waste is used mainly in generating energy.



Fig 3.2 Preparation of sources of energy using dried cow-dung and hay

It is easy to obtain cow-dung in India because cattle rearing is carried out in many areas. Since the cow is considered with sanctity in India, slaughtering of cattle is prohibited. Cow-dung obtained from cattle is mixed with hay and utilized as a source of energy. In some areas, it is possible to dry cow-dung owing to dry climatic conditions. Due to the poverty of the rural folk it is not possible to use other sources of energy. Hence, more attention is paid to energy sources such as cow-dung and firewood.

The energy thus produced is used in cooking food, heating water and cremation of the dead.



Bio- gas prepared by using vegetable waste and cow-dung is also an important source of energy in the rural areas of India. It has been possible to cook food and obtain light from bio gas units.

While about 14 percent of total electricity produced in India is utilized for domestic purposes, only a small proportion of the rural population use electricity.

Fig 3.3 - Preparation of a bio-gas unit

Though various energy generating methods are available in obtaining energy, the rural population of India face various hardships. Some of them are given below.

- Due to the shortage of firewood there are obstacles for cooking and boiling water.
- Since the Government has prohibited felling of forests, women have to trek long distances in search of firewood.
- The inability of transferring technology to distant difficult areas.
- The failure of bio-gas units to provide lighting for a long period of time.
- Obstruction for the use of electronic media.

The beneficial effects of energy resources on the lives of the people

- Provision of facilities to carry out small scale industries.
- Facilitating the use of tube wells driven by power, which leads to the development of cultivation.
- Possibility of drying and storing surplus food items and grains.
- Earning money by selling dried cow-dung and hay and also the residue of sugarcane.

The Government of India has adopted various courses of action in developing awareness among the people living in rural areas on the methods of obtaining the maximum use of energy sources. A few of them are mentioned below.

- The government has passed legislation relevant to the use and conservation of energy resources and proper implementation of such legislation.
- Developing awareness among the people about conservation of energy through sustainable use.
- Assisting in the application of technology to increase the uses obtained from a unit of energy.

Activities



1. Of the energy sources that are used in India, name the ones that are not used in Sri Lanka.

Discuss with the teacher, the possibilities of using such energy sources in Sri Lanka and the advantages that could be derived through using such sources.

2. Formulate a table and show the problems faced by the rural population of India in obtaining their energy sources and the difficulties they have to face as a result.
3. What actions can you take as a pupil in using energy sources and conserving them?
4. i) What types of energy are used in your home?
ii) State the steps you can take in economical use of such energy sources.
5. Name the types of energy used in lighting your home.
6. i) What steps will you take in minimizing the cost of energy within one month while conserving energy?
ii) Write down the results obtained through such a course of action (on the light bill and expenditure on firewood).

The Hill Tribes of the Himalayan Mountain Range

If someone asks you to name the highest mountain range on the crust of the Earth, your answer would be “ it is the Himalayan Mountains”.

The Himalayan Mountain range which extends over 2 400 km in length is about 7 200m in height. These ranges extend to a large area of the Earth’s surface. In this region, many human activities are limited to a great extent on account of its magnitude, its



altitude and the lack of transport facilities. In this region there are about 279 tribal groups who have lived here for a long time adapting themselves to its physical environment.

Do you remember the world renowned person who conquered 'Everest' the highest peak of the Himalayan Mountains? He is Sir Edmund Hillary. Tensing who assisted him to climb Everest is from the Sherpa tribal group who lived in a region down the Himalayan range.



Tensing of Sherpa tribe



Sir Edmund Hillary



3.4 - Himalayan Range

Different Tribal groups living in the Himalayan Region

Himachal Pradesh in India

Ladakh

Himalayan

Sikkhim

Solokumbu

- Khasa

- Darads

- Bhutias

- Lepchas

- Sherpas

For free distribution

The Lifestyle of the Hill Tribe

These tribal communities have adapted their lifestyle to suit the physical environment and the climatic conditions in the mountainous areas. Their physical characteristics have been adjusted according to the climate and topographical conditions to enable the day-to-day activities more easy.

- Their feet and soles are broad and strong to enable climbing up and coming down.
- Their lungs can withstand air pressure in the upper slopes of the hills enabling them to live under conditions with less oxygen.
- Their arms are very strongly built so that they could carry heavy loads.
- Their nostrils are large and broad.

These are some of those characteristics.

The main forms of livelihood in these regions are agriculture and animal husbandry. Paddy is cultivated in terraced fields in the lower slopes of hills and in the lowlands of river valleys.



Fig 3.5 - A terraced paddy field

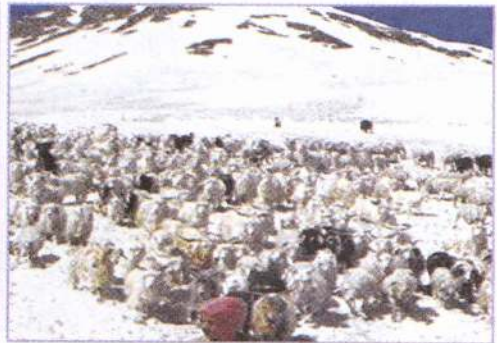


Fig 3.6 - Goat farming in Kashmir

Under animal husbandry, cattle, sheep and goat farming are carried on around the Himalayan range. Nomadic herding of animals is also important. They rear the type of cattle called 'Yak' to obtain milk.

The Sherpa women, a hill tribal group living in Nepal earn an additional income by weaving cloth and sewing woollen garments. These woollen garments are used by the hill climbers to protect themselves from the cold. Hence it is clear that they have adapted their lifestyle to suit the physical and climatic conditions prevalent in these regions.



Fig 3.7 - Women weaving woollen cloths

The tribal people who live in the Himalayan region are engaged in jobs attached to the tourist industry also as guides, vendors and carriers of loads.

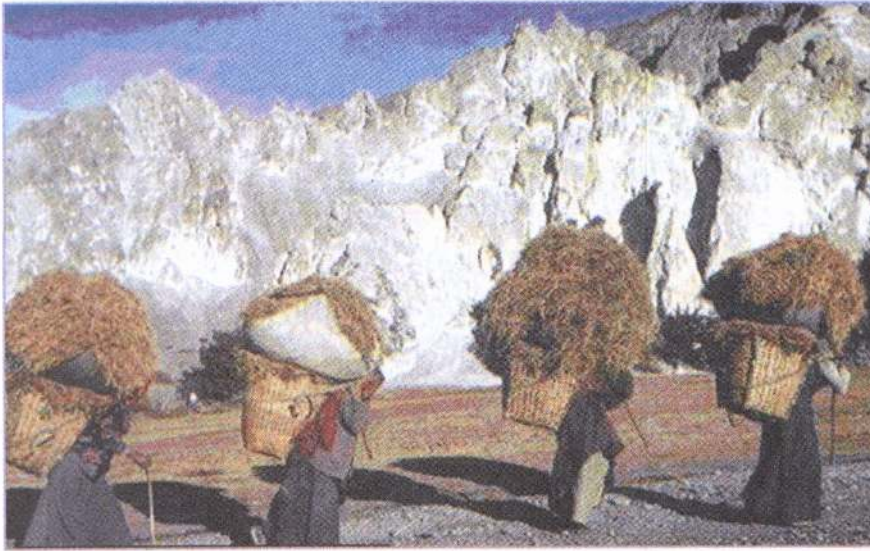


Fig : 3.8 A group of mountain climbers carrying loads of goods

The dwellings of the hill tribes also differ according to the physical environment as well as their forms of livelihood. Their dwellings have been constructed using materials found in the natural environment such as stones, saw dust, clay and timber while the roofs are thatched with dried grass.



Fig 3.9 - Cluster dwellings around a farm



Fig 3.10 - Hill Tribal dwelling

The tribal community living in the hilly regions of Nepal prefer to live in dwellings clustered together closer to their cultivated lands. Very often hilly tribal people do not own permanent dwellings. The Sherpas who are engaged in nomadic herding occupy their temporary houses constructed in the upper, middle and lower slopes of the hills during various times in the year when they move from place to place.

The hill tribal people who engage in agriculture, cultivate paddy, wheat, maize, green gram, gingelly, vegetables and yams such as potatoes. They keep a part of their harvest for consumption and sell the surplus.

They also consume different types of yams grown in the forest, bees' honey and flesh of animals hunted as their food. Their clothes are made of materials that are resistant to the cold. Their normal dress consists of a cap, shoes and a long cloak with long sleeves that cover the whole body.

The Problems related to the lives of the tribal people

- Limitation of their land use with the coming of other community groups from various regions and problems of their land ownership.
- Less opportunities for educational facilities for their children. This is because sometimes there is only one school for a number of villages and the children have to travel long distances through rough roads.
- Theft of their animals as well as problems faced in finding food for animals.
- Obstacles to their traditional lifestyles as a result of diverse development activities launched by the Government and their fear of adapting to new lifestyle.
- Environmental pollution that occurs as a result of large crowds who come for mountaineering as well as from tourists visiting the Himalayan mountain region. Other problems are destruction of springs due to agricultural activities, scarcity of drinking water and destruction of forests.

Activities



Complete the following paragraph using appropriate words.

1. Various (i) groups live in the Himalayan regions. The person who helped (ii) who conquered (iii) was (iv)..... He was of the (v) tribe. In the Himachal Pradesh of India the (vi)..... tribe lives while those who live in (vii) are a tribal group who live as nomadic herdsmen.

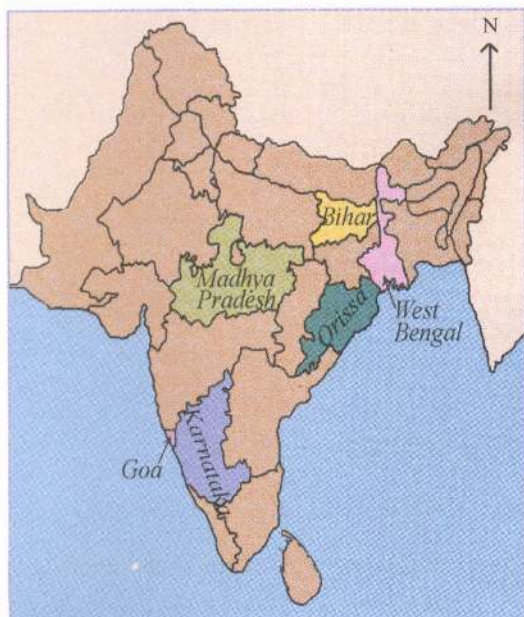
2. Name 2 problems faced by tribal groups at present.
3. Explain clearly and in simple terms how the tribal groups living in the Himalayas adapt to the environment.
4. Evaluate in five sentences the various services rendered by the hill tribes for the development of their own regions.
5. Construct a folder containing details about the standard of living of the tribal groups living in the South Asian Region.



Student Exploration

Find out and write about the human activities adapted to the physical conditions prevalent in the central hill country of Sri Lanka.

Iron-ore Mining in India



According to the distribution of iron ore-in the world, Russia occupies the first place while India is placed second.

India is a country rich in mineral resources. Iron-ore is distributed very widely. West Bengal, Bihar, Orissa, Madhya Pradesh, Karnataka, Goa and Mysore are the regions where iron-ore deposits are found. Identify these regions in map 3.1. The iron and steel industry is developed in India due to the prevalence of large iron-ore deposits and the abundance of coal deposits which is an energy source necessary for melting iron-ore.

Map 3.1 - Distribution of iron - ore in India

The Effect of the iron-ore mining industry on human life

Iron-ore is a natural resource and in the areas where iron-ore is mined, it has influenced the lives of people in many ways.

- In the areas where the iron-ore mining industry is distributed, the standard of living of the people is at a high level due to the development of industries. Jamshedpur, Raniganj, Mayurbanj, Bhadravathi and Goa have become industrial areas and various types of occupations are available in those regions ranging from manual labourers to engineers and executive grades as a result of the industrial development of these regions.
- Due to the need of mining iron-ore, infra - structure facilities have developed. For example the emergence of new settlements and urbanization of many areas, due to the movement of people to areas where iron-ore mining exists in search of jobs, housing complexes had to be constructed which in turn led to the improvement of highways, communication, electricity and the emergence of services such as hospitals and educational institutions.
- Training of a labour force and promotion of welfare activities.
- Due to mining iron-ore and dumping of material mined in the surrounding areas, farmers have lost their agricultural lands in those areas. Since the peasants did not get employment in the industries, this has caused a decline in their standard of living.

There are unfavourable effects of iron-ore mining industry on human life

Environmental problems are the major issues.

- The forming of large craters on Earth due to iron-ore mining.
- Change of existing climatic conditions.
- Changes seen in vegetation and animal life.
- Emergence of a landless community due to the scarcity of land.
- Workers have become victims of respiratory diseases and skin diseases.

Apart from the above problems other cultural problems such as decreasing agricultural lands and growth of urbanization too have arisen.

Activities



1. With the help of an atlas, find the places with iron-ore deposits in India and mark and name them on a map of the Indian sub - continent.
2. Explain citing two factors how the iron-ore mining industry in India affects the life of people living in those areas.



The Jute Industry in Bangladesh

Jute industry in Bangladesh too is an industry that influences life there. Jute is the most important fibre among the natural fibres. The Jute industry is the major source of income in Bangladesh. Hence Jute is known as the 'Golden Fibre' in Bangladesh. Jute fibre has diverse qualities.

- Strength
- Long life
- Resistance to high temperature
- Resistance to marine water
- Easiness for colouring
- Smoothness and shine are some of them.

The plant that gives jute fibres consists of small leaves. These plants can be grown in marshy lands. The conditions required for the jute plant to grow well are the availability of water and high temperature.



Fig 3.11 Jute plant

Areas where Jute is grown in Bangladesh

Lower Ganges valley

Sunderbaans marsh in the lower Brahmaputra valley

Activity



Using an atlas mark and name the jute growing areas of Bangladesh on a map of the sub-continent of India.

Jute - based Products

Jute fibre which is an eco-friendly material provides raw materials for the production of clothes as well as serveral other non-traditional manufacturing industries.



Fig 3.12 - A few jute - based products

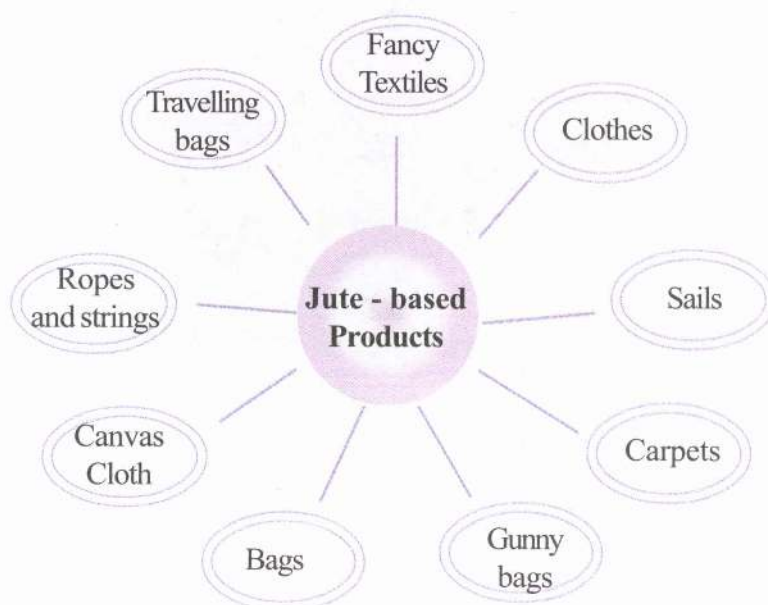


Fig 3.13 - Jute Based Products

Activity

Draw a poster which shows jute – based products.

New Trends in the Jute Industry

- There is a great demand for jute from many countries of the world as it is an eco-friendly material.

- Widely used to decorate interior parts of motor vehicles.
- Since the use of polythene as a packing material is prohibited in various countries of the world, jute products have become important again as a packing material.
- Production of various fancy goods and bags of various designs using jute.
- Used as a raw material in rural industries of Bangladesh.

The Table below shows how the jute industry influences human life.

Beneficial	Harmful
<ul style="list-style-type: none"> • Availability of employment opportunities in the areas where jute is grown and in the jute factories. • Development of roads and other infrastructure facilities. • Promotion of welfare services and health services. • Possibility of growing jute in areas where other crops cannot be grown. • The suitability of lands for jute cultivation in Bangladesh. • Increased income of those engaged in jute cultivation. 	<ul style="list-style-type: none"> • The workers in the areas where jute is cultivated and those working in the jute factories are compelled to do heavy work. • They are paid low wages. • Women and child labour employed mostly for various processes (as rotting of jute leaves, chopping and reaping the harvest). • Since the children have a source of income, they do not attend school. • Spread of diseases through breeding of mosquitoes in the areas where jute is grown.

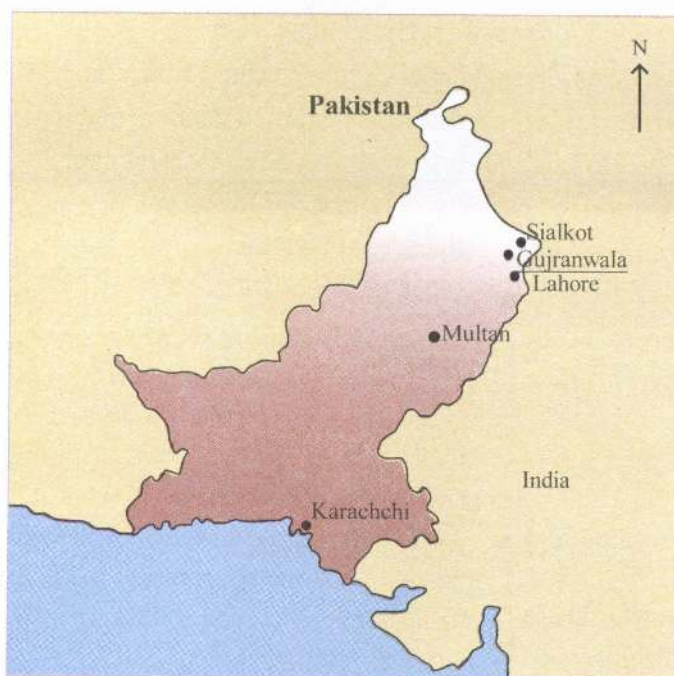
Activities



1. Mention the unfavourable influences created by the jute industry of Bangladesh on human life and suggest ways of overcoming such impacts.
2. Write the advantages of the products based on fibres of eco-friendly material.
3. List the products based on local plants and fibres used in your home.
4. Compare and contrast the properties of alternative synthetic and natural products found in the market.

Rural Industries of Pakistan

Pakistan is a country situated adjoining India to the Northwest. It is considered a country, poor in natural resources relative to the other countries of South Asia. Hence the dearth of local raw materials poses a problem in establishing large scale industries.



Various industries have been established at village level using the limited amount of raw materials that could be obtained from the physical environment in the country. Due to this the expansion of rural industries has greatly influenced the life of the people of Pakistan.

This has helped to solve the unemployment problem of the rural folk to some extent.

Map 3.2 - Distribution of areas where rural industries are abundant in Pakistan

Lahore, Multan, Sialkot, Gujranwala, Sind and Karachchi are the areas where rural industries are distributed on a large scale in Pakistan.

Rural industries of Pakistan

Handloom textiles
Fabric painting
Carpets
Shoes
Pottery
Copper industry
Musical instruments
Sports goods
Cane-rattan goods



Fig 3.14-Some rural industries in Pakistan

There is a large scale local demand as well as a demand from foreign countries for these products. There are also specialized regions for some types of commodities produced under rural industries. Sind is famous for carpets and Sialkot is famous for sports goods.

Activities



1. On a map of the sub-continent of India mark and name three regions where rural industries are concentrated in Pakistan.
2. Give two reasons why special attention is paid to rural industries in Pakistan.

New trends related to rural industries of Pakistan

- Increase in demand from the local and foreign markets.
- Motivation to apply new technology in rural industries.
- Willingness shown by those engaged in agricultural activities to work in rural industries.

Beneficial effects of rural industries on human life

- Rise in the standard of living of the rural folk.
- Ease in production and marketing due to the transport facilities and supply of electricity to rural areas.
- Provision of incentives for rural industries.
- Increase in the foreign demand for special products such as sports and musical instruments and hence the increase in income.

Problems related to rural industries

- Shortage of raw materials (timber and cane).
- Low wages paid to women and child labour.
- Difficulties in marketing of products.

Activities



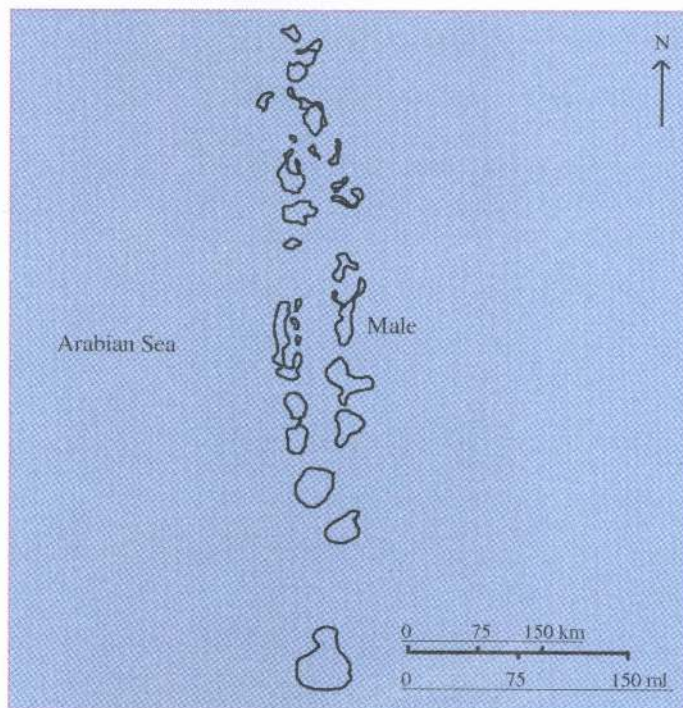
1. Although Pakistan is a country having less natural resources, the rural industries have been developed. Explain how it influences the development of the country.
2. Write two reasons to explain why the rural industries of Sri Lanka are not so developed when compared to those of Pakistan.



Student Exploration

Prepare a list of rural industries that have been developed in different areas of Sri Lanka.

The Tourist Industry of the Maldives



Map 3.3 - The Maldives

The state of Maldives consists of about 1190 islands. These islands are formed of coral reefs and only 200 of them are inhabited. The Maldives are only upto eight metres in elevation from sea level. The fishing industry is the major traditional mode of livelihood in the Maldives.

The tourist industry is the main source of foreign exchange.

The Factors that have led to the development of Tourism

- Shallow sea with coral reefs.
- Clear water.
- Coast with beautiful sand sheets.
- Protected lagoons and natural environment with isolated islands.



Fig 3.15 - Tourist attractions

In recent years the tourist industry here has gained prominence in foreign exchange earnings surpassing the fishing industry in the country (dried fish and Maldivian fish production). By the year 1992 the foreign exchange earned by tourist industry exceeded the foreign exchange earned by the fishing industry. At present more than 70 Holiday Resorts have been constructed in the Maldives. Most of these Holiday Resorts have been built in island closer to the airport at Male.

Today the Maldives earn 17% of her Gross National Product from the tourist industry.

The countries from which the largest number of tourists arrive are.

- | | |
|-----------------|---------|
| • Germany | • Italy |
| • Great Britain | • Japan |

The special facilities of the tourist industry in the Maldives

- The tourist industry of Maldives is largely influenced by environmental factors.
- Transport, communication, drinking water and other infrastructure facilities are provided not only by the Government but also by the private sector.
- In addition, attractive sites and opportunities have been provided for tourists. e.g. - Sandy coasts with clear water, facilities for swimming and sun-bathing along the beach.

There are facilities for wind surfing, boat-riding, scuba diving, water skiing and sailing boats and yachts. Holiday resorts have been constructed to meet the tastes of tourists (for example for those who wish to holiday in isolation). Transport facilities by boats and sea planes are supplied.

The tourist industry has been organized in such a way as not to undermine the identity and culture of the Maldivian people.

For instance, Male Island is prohibited for tourists as the majority of Maldivians live there. Some other islands too are prohibited for tourists since they are set aside to provide space for the increasing population of Maldivians. (the Wilili Island in 1990)

Circuit bungalows, holiday resorts and hotels are constructed only in the islands set apart for foreign tourists.

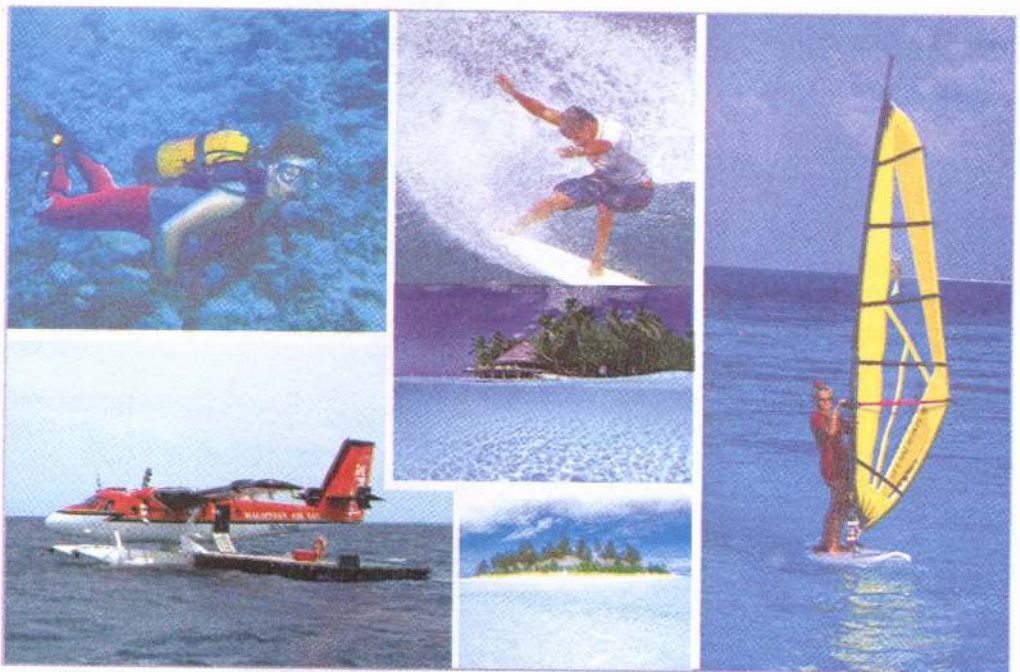


Fig 3.16 - A few attractive places and scenes related to Tourism

The Influence of the Tourist Industry on the lives of the people of the Maldives

- Creation of various employment opportunities related to tourism (Guides, drivers and media men attached to hotels).
- Improvement of self-employment opportunities and providing a market for their products (trade and production of goods).
- Ability to live upholding their culture and nationality.



Fig 3.17- A few employment opportunities

Activities

1. What are the factors that have led to the improvement of the tourist industry in the Maldives?
2. Write two measures adopted by the Government of the Maldives to preserve their culture and nationality in spite of the development of the tourist industry.
3. Prepare a handout containing information and pictures about the tourist industry of the Maldives and tourist attractions and situations.
4. Compare the tourist industry of the Maldives with that of Sri Lanka.

4 Comparison of Sri Lanka's Level of Development with other South - Asian Countries



All of us who are Sri Lankans like to be developed. Likewise all the nations of the world are engaged in a constant attempt to reach development competing with one another. These efforts made by individuals, families, countries and nations are known to the world as Development.

From time to time different individuals and institutions have given different interpretations and definitions for "Development".

Some of these interpretations are given below.

"Development means the improvement of the standard of living of the world population". First Development Decade 1961-1970, United Nations Organisation.

"Development is the process of bringing down poverty, inequality of income and unemployment from a higher level to a lower level."

Dudly Seers - 1972

According to the above interpretations Development means,
"The overall development of Economic, Social, Political and Cultural sectors."

Let us now pay attention to the approach used by the subject teacher in Divulapitiya Madhya Maha Vidyalaya to explain the meaning of Development to Grade 8 pupils.

The teacher who presented several interpretations of development displayed Figs. 4.1 and 4.2 to the class and after a few minutes posed several questions to the



Fig. 4.1 - House A



Fig. 4.2 - House B



1. What do you mean by “Development”?
2. Present your ideas with reference to the figures 4.1 and 4.2 provided.

The statements given by the groups in relation to the pictures provided were listed on the blackboard by the teacher as follows:

1. “Development means the progress made by man”.

2. Fig 4.1

- Rural dwelling
- Less security
- Less facilities
- Not a permanent house
- Remote environment

Fig 4.2

- Modern house
- More security
- More facilities
- Permanent house
- Attractive environment

The teacher stated that though the facts forwarded by the pupils are sufficient to assess the level of development of the two houses, in order to compare and measure the level of development among countries, a more in-depth analysis of information is required, Hence, the teacher forwarded the information given below.

The aspects relevant to the development of an individual

- Type of employment.
- Income earned.
- Educational level.
- The way of spending the leisure time.
- Residence.
- The goods and equipment used.
- Helping others.
- Nutritional level.
- Values.
- Health condition

The different areas which can be used to compare the level of development among different countries

- Education
- Health
- Transportation
- Security
- Industrial development
- Development in the agricultural sector
- Communication
- The country's indebtedness
- The country's income
- Social welfare etc.

After discussing this information with the class, the teacher drew the attention of the pupils to the specific lesson, in the text book, scheduled to be taken up next. This was on the “development information of South Asian Countries”.

Countries of the South Asian Region have different levels of Development. Factors such as the size of these countries, abundance of resources and technological knowledge have caused this diversity. Taking the overall nature of the agricultural, industrial and technological fields, India and Pakistan are ahead of the other countries. In Sri Lanka and the Maldives, Social Development is at a high level, while in countries like Nepal, Bhutan and Bangladesh, Economic and Social development is at a low ebb.

Now, let us compare the level of development in Sri Lanka with that of South Asian countries.

Here we are comparing the level of development in Sri Lanka, with the other countries of the South Asian Region, under four main fields.

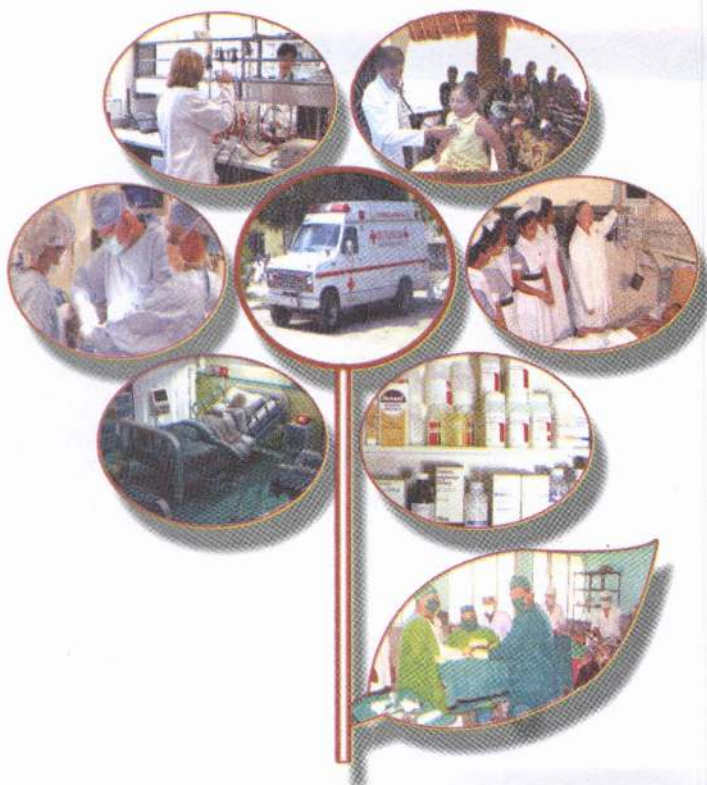
1. Health
2. Literacy
3. Employment
4. Per capita income

The aspects like literacy, life expectancy at birth, infant mortality rate, maternal mortality rate etc. can be used to compare the quality of human development.

Health

Fig 4.3 shows several aspects that are included in the field of health. Observe those aspects carefully.





Activities



1. Name what is seen in Fig. 4.3.
2. Find out and make a list of facilities available and issues confronted in a hospital in the area in which you live.

Fig 4.3 - Different aspects that cover the health sector

When the background information given in Fig. 4.3 improve, the standard of health of the people in the country reaches a higher level. That is an indication of development.

The governments of South Asian Countries including that of Sri Lanka, voluntary organisations and international organisations have invested and dedicated themselves to improve the standard of health of the community.

For the development of the health sector, the South Asian Countries have taken the following steps.

- Increase in the amount of money allocated for the health sector.
- Building of hospitals.
- Improvement of the benefits provided to the community.
- Improvement of the training and specialised knowledge of the officers engaged in the health sector .
- Raising awareness in the people to develop health habits.

Through such activities all the South Asian Countries are working to win the confidence of the people placed in the health sector. They have implemented various programmes to make the people healthy citizens.

1. Control of infectious diseases	Mumps Chicken pox Measles
2. Holding health clinics (in hospitals/ mobile)	Maternity clinics Dental clinics Eye clinics
3. Executing community health programmes	Preparing a clean environment Disposal of waste matter Use of pure water
4. Providing medical advice	Controlling of epidemics Improvement of nutritional levels Improvement of family health
5. Immunization programmes	Diphtheria Whooping cough Polio

When the people make use of the services provided through the above programmes, there will be an improvement in the health sector within the country. Accordingly, the following features can be observed.

- Decrease in Infant Mortality Rate (Infant deaths occurring during the first year from the time of birth)
- Decrease in Maternal Mortality Rate (The number of deaths of mothers at child birth)
- Increase in the Life Expectancy at birth (Duration of life after birth).
- Decrease in the number of patients who visit a doctor for treatment.
- Decrease in the number of patients per - bed in hospital wards.

Table 4.1 shows some social indicators related to the health sector in South Asian Countries. Using the knowledge of the growth of the health sector you have gathered so far, compare the level of development in South Asian Countries.

Table 4.1 - Population relative to bed strength per doctor in hospitals in South Asian Countries.

Country	Sri Lanka	India	Pakistan	Bangladesh	Nepal	Bhutan	Maldives
Population per doctor 1999	3132	1916	1544	4102	25001	6510	1358
Population per hospital bed 1998	349	1493	1429	3333	5000	625	705

Source 4.1 - Prepared from Sri Lanka Socio - Economic data - 2002
(Central Bank of Sri Lanka)

Activities



1. According to the above table, name the countries which have the highest and the lowest population per doctor.
2. Write respectively in order the population per doctor and population per hospital bed in South Asian Countries.
3. Write three sentences comparing the social development of Sri Lanka with the other countries.

Table 4.2 - Infant mortality, Maternal mortality ratios and Life Expectancy at birth in South Asian Countries

Country	Year	Sri Lanka	India	Pakistan	Bangladesh	Nepal	Bhutan	Maldives
Indicator								
Infant mortality (Per 1000 live births)	2011	15	50	64	45	53	47	11
Maternal mortality (Per 100,000 live births)	2008	39	230	260	340	380	200	37
Life Expectancy at Birth - (Years)	2011	74	64	65	69	68	69	73

Source : <http://www.prb.org/Publications/Datasheets/2011/world-population-data-sheet/data-sheet.aspx> (2012.03.16)

<http://www.cia.gov/libraryry/publications/theworldfactbook/goes/ce.html> - 2012.03.29

Activities



1. Of the South Asian Countries, name the countries that have the highest and the lowest rates of,
 - i. Infant mortality.
 - ii. Maternal mortality.
 - iii. Life expectancy at birth.
2. i. According to Table 4.2, name two countries which have a high level of Social Development.
 - ii. Give three reasons for your selection.
3. In the form of a Table present three reasons each, for the decrease in infant mortality rate, and maternal mortality rate and increase in life expectancy at birth in Sri Lanka over the other countries in South Asia.
4. Select any data of your choice from Table 4.2 and draw a bar graph of them to a suitable scale. Write two sentences about it.

Literacy

Literacy means the ability to write, read and understand a particular language. We all communicate with one another with the help of a language. Most countries have a mother tongue exclusive to it. In maintaining international relationships with various nations and ethnic groups, the ability to speak, read, and write several languages, other than one's mother tongue is a special advantage.

The ability to write, read and express ideas in any language is promoted through school education. Many countries provide education free as a welfare activity of the government.

Fig 4.4 shows some of the measures taken by the Sri Lankan Government to develop education (literacy).

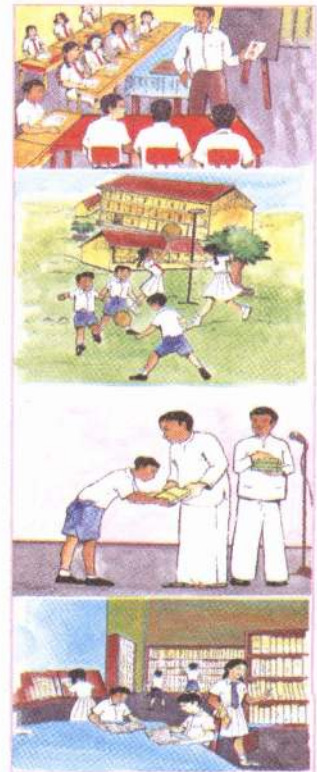


Fig 4.4

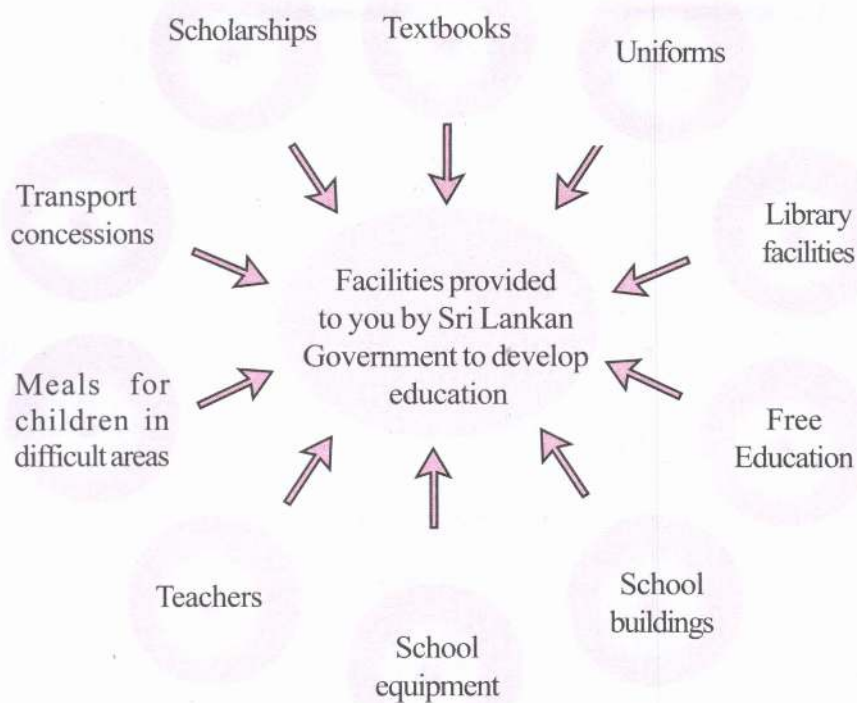


Fig 4.5 - Facilities provided to you by the Sri Lankan Government to develop education

Activities



1. Prepare a poster depicting the measures taken by the Sri Lankan Government to uplift literacy.
2. Indicate separately in a Table, the facilities provided to you, by your school and your family to uplift your literacy level.
3. Write five duties you should perform on behalf of the country, enjoying the above facilities.

In order to protect the rights of the children of Sri Lanka, the government has made education compulsory for all children between 5 to 14 years. It is prohibited to employ the children of school-going age as labourers. The government is resorting all these measures to uplift the literacy level of the people of the country.

Literacy is also used to measure Human Development of country's population.

Literacy too is a very good criterion in comparing the development levels between different countries because literacy is the basis for all development activities. Let us compare Sri Lanka's literacy level with other South Asian Countries.

Table 4.3 - Literacy levels of South Asian Countries (As a percentage).

Year \ Country	Sri Lanka	India	Pakistan	Bangladesh	Nepal	Bhutan	Maldives
1999	91.0	57.0	45.0	41.0	40.0	42.0	96.0
2004	92.5	61.0	49.9	41.0	48.6	47.0	97.2

Source - Sri Lanka Socio - Economic data 2002 -2007 (Central Bank of Sri Lanka)

Activities



1. Draw a bar graph so as to indicate the information given in Table 4.3 and display it in the classroom. Copy it into your exercise book too.
2. i. Which country has the highest percentage of literacy in 2004?
ii. Which country has the lowest percentage of literacy in 2004?
iii. Write three reasons each which have contributed to the above differences.
3. Give your views comparing the literacy level of Sri Lanka with other countries.

Several factors have contributed to the prevalence of different levels in literacy rate in South Asian Countries and also to the differences in literacy levels in regions or provinces within a country.

- The economic strength of the government.
- Socio- cultural attitudes (religion, caste and race).
- Gender - male/ female (In India some tribal women are paid less attention than men).
- Family economic status.
- The facilities provided by the government for education (welfare services and free education).

- Teacher pupil - ratio in a country (In Sri Lanka the number of pupils per teacher is 19 (for Government schools only) Source : School Census - 2007 Ministry of Education, Sri Lanka.
- Inequality in the distribution of educational facilities in the country (In Sri Lanka the majority of popular schools and universities are situated in the Western Province).
- The nutritional level of children. (malnutrition and other diseases are obstacles for good education).

Improvement in the literacy level of the people of a country will lead to human and social development, resulting in the following features :

- Drop in maternal deaths.
- Increase in life expectancy.
- Upliftment of the nutritional level.
- Leading a healthy life.
- Access to a job considered to be superior.
- Making use of communication facilities.
- Well considered decision making skills and planning the future.
- Educating the future generation.
- Investing the available resources in income earning projects.
- Leading a good life.

Improved literacy level of the people in a country contributes to its development.

Activities



1. With the help of the teacher, explain with two examples how the upliftment of the literacy level of your family members, leads to strengthen your family income.
2. Write an essay on the topic "The improvement of the literacy rate contributes to the development of a country".

Per Capita Income

Per Capita Income is another criterion that can be used to compare the level of development among several countries. Per Capita Income means the value of income obtained by dividing the total income of a country earned through all the sources by the population of that country.

You make use of goods and services to meet the different daily needs of life. You will be able to understand what goods and services are by observing Figure 4.6.

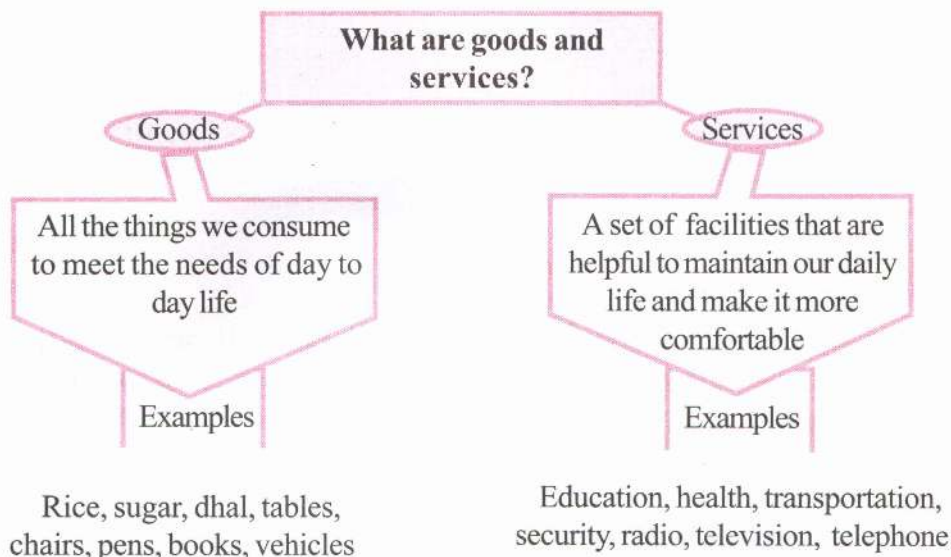


Fig 4.6 - Goods and Services

Every person should have an income to buy goods and services. There are different sources of income for our families. You will be able to understand this from Fig 4.7

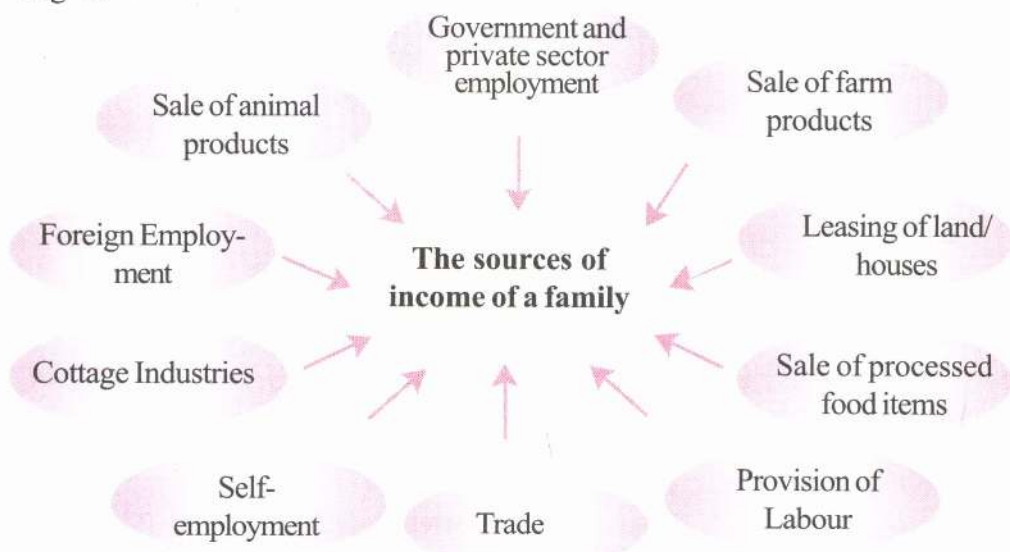


Fig 4.7 - Different sources of family income

As shown in Fig. 4.7 members of a family earn an income according to their skills. Some people may have several sources of income. The occupation a person engages in varies according to his knowledge, training and education level. He may be receiving that income daily, monthly, annually or in instalments.

Accordingly. . .

The Gross National Income of a country is its total income during a year from all sources.

When you divide the Gross National Income of a country by its mid - year population you can get the Per Capita Income.

Activities



1. Mention the different sources of income of your family unit.
2. Write three sources of income of a country.

In order to explain the meaning of per capita income further the subject teacher presented a simple example.

Thilina's family has five members

The monthly income earned by the father who is a teacher	= Rs. 20,000.00
The monthly income earned by the mother who is a clerk	= Rs. 18,000.00
The income earned as rent from a room	= Rs. 1,000.00
The income from the home garden	= Rs. 300.00
Interests from bank deposits	= Rs. 200.00
Total monthly income of the family	= Rs. 39,500.00

$$\frac{\text{The per Capita monthly income of Thilina's family member} = \text{Rs. } 39,500.00}{\text{Number of family members} = 5} = \underline{\underline{\text{Rs. } 7,900.00}}$$

Though Thilina's father and mother get monthly salaries, Thilina, his sister and brother do not earn any income as they are pupils. However when the monthly income of the family is divided among the family members, the Per Capita Income of the family is Rs. 7,900.00. After calculating the Per Capita Income of Thilina's family, the teacher explained the method of calculating the Per Capita Income of a country in the following manner.

$$\text{Per Capita Income} = \frac{\text{Gross National Income}}{\text{Mid - year population of the country}}$$

The value of Per Capita Income of any country is determined by equally distributing the value of Gross National Income among all, namely the young, old, clergy, the employed and the unemployed. If the number of people unemployed is more in a

country, then the Per Capita Income takes a low value. If the majority of people are engaged in the production of any kind of goods and services, then the Per Capita Income reaches a higher value.

Based on the value of Per Capita Income we can compare the development level of Sri Lanka with other countries. This will be clear to you if you draw your attention to the information given in Table 4.4.

Table 4.4 shows the Gross National Income and Per Capita Income 2010 of the South - Asian Countries in the year 2010. According to the data given in the Table, in some countries even though the Gross National Income is high, Per Capita Income could be low. In some other countries even though the value of the Gross National Income is low, Per Capita Income has taken a high value.

Among the South Asian countries India has the highest value of Gross National Income. Yet Per Capita Income is less than in Sri Lanka. Although the Gross National Income is low in Moldives the Per Capita Income is at a high level. From this Table it is clear that in comparing with the other countries in South Asia the Per Capita Income in Sri Lanka is at a high level.

Activities



1. Using the data in Table 4.4 draw a bar graph to show the Per Capita Income level in 2010 in the South Asian Countries.
2. Which country had the lowest Per Capita Income and which country had the highest Per Capita Income in relevant year?
3. Compare the Per Capita Income of Sri Lanka with the other South Asian Countries and comment on it.

Table 4.4 - Gross National Income and the Per Capita Income of South Asian Nations

Indicators	Country		Year		Sri Lanka		India		Pakistan		Bangladesh		Nepal		Bhutan		Maldives	
Gross National Income in millions of U.S. Dollars			2010		46,738		1,566,636		182,537		104,478		14,529		1,361		1,340	
Per capita Income in U.S. Dollars			2010		2,290		1,340		1,050		640		490		1,920		4,270	

Source : <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf> (2012.02.16)
: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNI.pdf> (2012.02.16)

Results of
increasing the Per
Capita Income of
the people in a
country,

Its poverty is eradicated.

Its indebtedness is alleviated.

Its family income level rises.

A good market is created within the country.

More employment opportunities are created
within the country.

The production of goods and services increases
in the country.

The capacity to buy goods and services increases.

The standard of living of the citizens rises.

We, as citizens, have a number of duties to perform in order to increase the level of Per Capita Income and develop the country.

- Make the maximum use of time and engage in a productive activity.
- Participate, to the best of our ability, in the production of goods and services for our family/ country.
- Buy and value local products.
- Make use of the resources economically or frugally.
- Serve the country fruitfully to the best of our ability.

It is the duty of all, young, old, big and small to understand this situation and work accordingly. For a country to rise up as a nation everybody should perform his or her duties well. The secret of development is to produce whatever you can for the benefit of the others too. The best examples are the activities in a bee-colony and an ant-hill. These insects put their maximum strength to produce whatever possible for the benefit of others too. As a citizen, if you too understand this situation and work accordingly, you can contribute to the development of the country. You will be able to learn more about development in the higher grades in your school.



Activities



1. Write a short essay on the topic, “How you can contribute to raise the Per Capita Income of the country”.
2. Explain the statement “how unity among the neighbouring countries, contributes to development” citing two examples.

Employment

To explain the concept of employment, the teacher displayed in a prominent place, a poster showing the people engaged in different occupations.

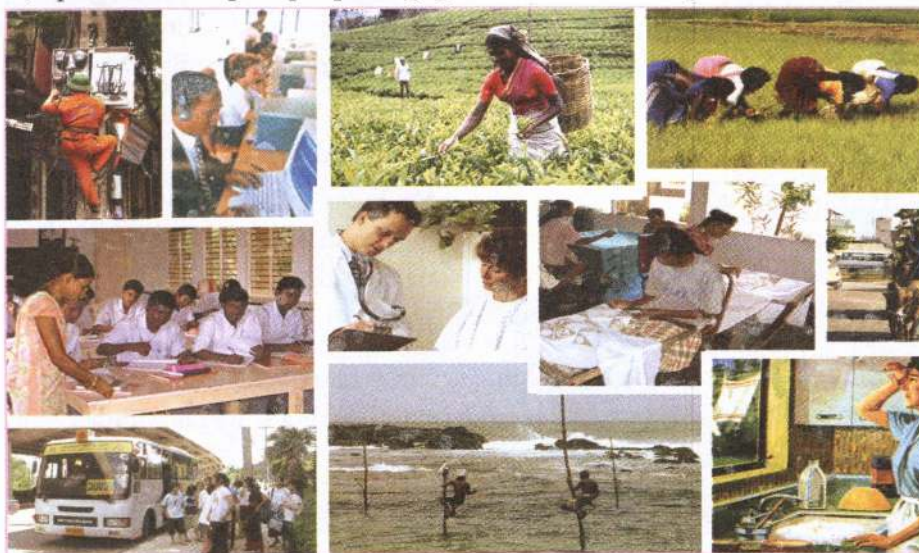


Fig 4.8 - Different occupations

Activity



Observe the above photographs carefully and group them into the three sectors agriculture/ industry/ services.

Accordingly,

You can identify three main sectors where the citizens of a country are employed. They are,

1. Agricultural Sector
2. Industrial Sector
3. Service Sector

Agriculture

Employment in the agricultural sector of a country can be identified, by finding the percentage engaged in agricultural activities.

As in the South Asian Countries, people all over the world are employed in occupations associated with agriculture.

Cultivation of food crops

- Paddy, wheat, vegetables, fruits, crops for the production of beverages.

Production of raw materials for industries - Sugar cane, cotton and rubber cultivation.

Labour is required for activities related to agriculture such as preparation of land for cultivation, planting, applying fertilizers, weeding and harvesting. Most important for this is, to have a strong and healthy labour force for this type of work. Most of these jobs can be seen in the agricultural lands.

If a higher percentage of the working population of a country is engaged in the agricultural sector the economy (Gross National Product) of such a country is not very steady. Some of the reasons for this are given below. Examine how far these factors relate to South Asian Countries including Sri Lanka.

- Until the harvest of the agricultural sector is reaped, there is no steady income (due to sudden weather changes and pests there is a strong possibility of a crop failure before the harvesting time).
- Very often the price of these products will drop during the harvesting season. (in Sri Lanka, paddy and fruit prices fall).
- Difficulty in storing agricultural products and keeping them for a long time. (vegetables, fruits, and varieties of green leaves).
- Since it is very expensive to keep the agricultural products (stored) for a long period, they have to be consumed within a short period. (rice, vegetables, milk, meat, fish etc.) The farmer is unable to store them till the market prices increase.
- A fair price is not paid for farm produce/ products. (In Sri Lanka, paddy, chillies, onions, vegetables).

For such reasons even though the majority of the labour force in a country is engaged in the agricultural sector, the income could be less. That too is not a steady income.



Industries

Employment in the industrial sector of a country can be identified, by finding the percentage of employees engaged in occupations related to industry. The table below shows some industries based on crops and mineral resources.

Industries based on agricultural crops	Industries based on mineral resources
Rubber - Tyre production	Iron-ore - Iron and steel production
Cotton - Textile production	Clay - Tile and brick production
Sugar cane - Sugar production	Limestone - Cement production

Activities



1. Prepare a list of industries in your locality.
2. Divide that list into two sectors, (a) Industries based on agricultural crops and (b) industries based on mineral resources.

Relative to the agricultural sector, the problems related to the production of industrial goods are somewhat less.

- Influence of natural disasters is less on industries (due to weather changes, pests)
- Though industrial products can be stored often they will not perish or the prices will not decrease (textile, cement, pins, tyres)
- As industrial goods are produced by machinery, it is possible to produce the estimated amount, within a specific period. (1 000 tyres per month, 10 000 millions of pins per day)

Based on such factors, the employees in the industrial sector, can earn a fixed income unlike those in the agricultural sector.

There may be similar industries located in the areas you live. Another section of the population in a country is engaged in sectors such as machine operators and machine repairers.

Service Sector

Employment in the service sector can be identified, by finding the percentage of the population engaged in different services. To all the citizens of a country including the people engaged in agricultural and industrial sectors, services are essential to perform various activities. Some of these services are given below.



If a higher percentage of a country's population is engaged in the service sector, the standard of living of the majority of the population may be considered to be at a high level. All the services help to make the day to day life of the people more comfortable. Most leaders of states attempt to improve the service facilities when preparing their development plans.

If the majority of the working population of a country is engaged in the service sector, that country may have a high level of development.

Activity

Prepare a poster that displays the employment in different service sectors.

When collecting information about a country's development, it is important to find out the number of people engaged in the sectors of agriculture, industry and services.

Now let us compare the level of employment in Sri Lanka with the other countries in the South Asian Region.

Table 4.5 - Percentages of employment and unemployment in South Asian countries

Country	Relevant Period	Sri Lanka	India	Pakistan	Bangladesh	Nepal	Bhutan	Maldives
Agricultural sector	2004 - 2010	32.7	52.0	45.0	45.0	75.0	43.7	11.0
Industrial sector	2004 - 2010	24.2	14.0	20.1	30.0	7.0	39.1	23.0
Service sector	2004 - 2010	43.1	34.0	34.9	25.0	18.0	17.2	65.0
Unemployment	2008 - 2011	4.2 2011	9.8 2011	5.6 2011	5 2011	46.0 2008	4.0 2009	14.5 2010

Source - <http://www.cia.gov/library/publications/theWorldfactbook/goes/ce.html> - 2012.03.29

The citizens in a country who are not employed are known as the unemployed. The percentage of unemployment too is shown in Table 4.5. The presence of a large unemployed labour force is a hindrance to a country's development. Then those employed will have to earn for the unemployed too. This causes a drop in Per Capita Income and an increase in poverty. This will reduce the ability to buy goods and services. Then the people will get into debt in order to fulfil the basic needs. (food, clothing, shelter). This is a hindrance to development.

Activities



1. According to Table 4.5, which country has the highest numbers employed in the agricultural sector?
2. Which country has the highest numbers employed in the service sector?
3. Arrange the employment in the service sector of the different countries in proper sequence.
4. Write five sentences comparing the level of employment in Sri Lanka with the other countries of South Asia.

Even though the employment in a country is discussed under three separate sectors, they all contribute to the development of the economy of the country, and Fig 4.9 below shows how these sectors are interdependent.

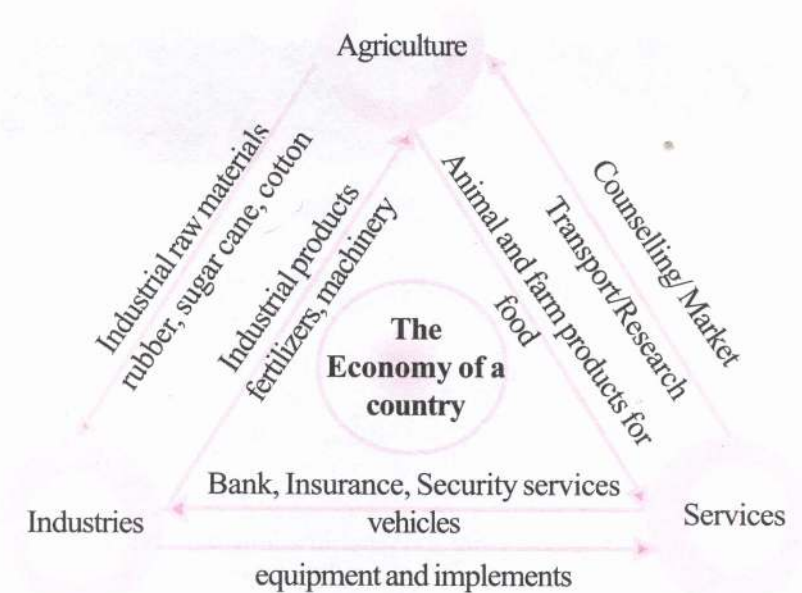
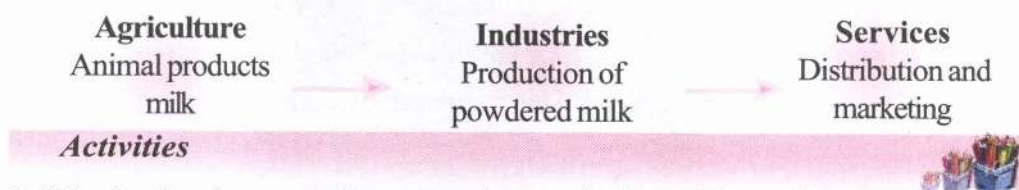


Fig 4.9 - Different sectors feeding the economic development of a country

It is possible to identify that in every country the production process shows that agriculture feeds industry and industries feed the service sectors.



1. "For the development of a country the contribution of the service sector is essential". Write three reasons to support this statement.
2. "Merely because the employment in the agricultural sector is high, it cannot be determined that it is a developed country." Give two reasons to prove this statement.
3. Give three reasons that have led to a higher percentage of employment in the service sector in Sri Lanka.
4. "Unemployment leads to a decrease of Per Capita Income in a country". Explain this with reference to two factors.



Student Exploration

Write a report selecting a few goods produced in your locality and examine how agriculture, industry and service sectors processes are inter-related in their production processes.





By now you may have studied maps that are compiled on various themes under the subject of Geography.

Take an atlas. You will notice that all the countries in the world are mapped on different themes. Observe these maps carefully. Every feature found on the surface of the Earth is represented by the use of colours and symbols in these maps.

Activity

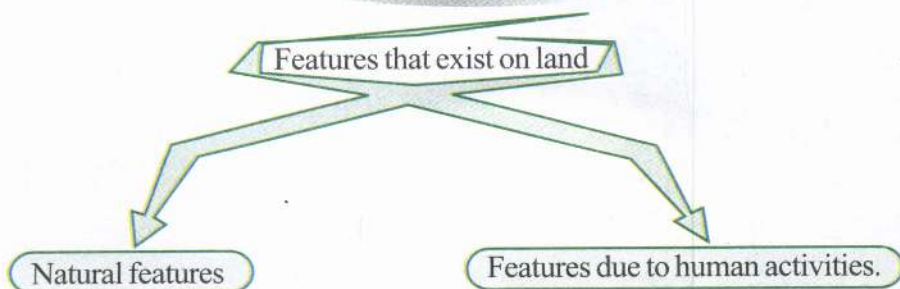


Name five themes which are shown on maps of Sri Lanka.

You have identified the basic characteristics of maps such as scale, direction and key in Grade Seven.

- A map depicts features which are seen on land.
- All maps are drawn to a scale in order to show the exact area.
- Various colours, letters and symbols are used to show different features of maps. The key helps to identify the features. With this you will be able to read the map.

Now let us understand topographical maps.



Maps drawn to a scale using colours, letters and symbols to depict natural features and features due to human activities are called topographical maps.

Activity



Construct a table to show the natural features and features due to human activities in your locality.

Natural features seen on land	Features due to human activities

Natural features seen on land, such as rivers, mountain ranges and plains, slopes are physical features.

Roads, buildings, tanks and cultivated lands which are the result of human activities are cultural features.

A map is very useful to get a clear understanding about landscape features. For this, the map should be read and understood. This lesson will give you the opportunity to study selected physical and cultural features included in the topographical maps of Sri Lanka.

The teacher divided the class into groups and distributed copies of a 1:50 000 scale map among them. In this map the conventional signs which are necessary to read and understand the map are indicated. The pupils are asked to study the map carefully. The pupils in each group presented the information they gathered by studying the map.

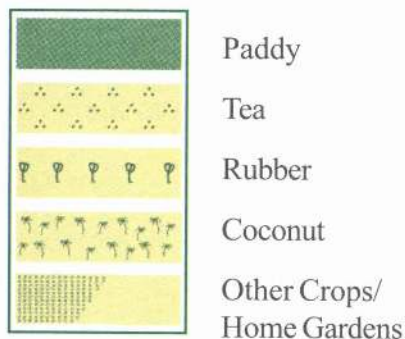
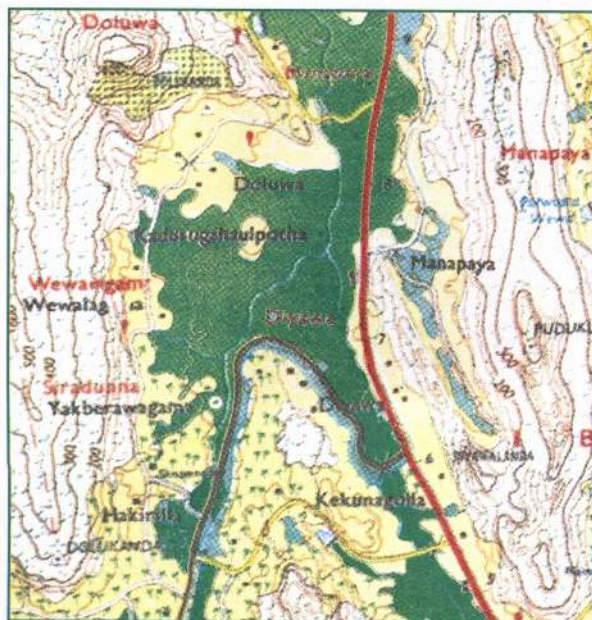


Fig 5.2 - Conventional symbols

Map 5.1 - Metric Map (1:50 000 Topographical map)

- Tharindu - Teacher, the scale of the map is 1:50 000
- Malithi - Various colours and symbols are used to show different types of crops.
- Suraj - There are coconut trees in areas under coconut cultivation.
- Imran - Places of worship, schools and hospitals are shown by symbols.
- Sisitha - The symbols are drawn in red and black.
- Himath - Contour lines are drawn to show the height of land.
- Teacher - Very well, you can read and understand maps. Now it is clear to you that the physical features and cultural features we see on land are represented in maps.

Physical features

The height of the land is not the same everywhere. There are highlands, lowlands, plains and slopes. Contours are used to show these relief features. A contour line is drawn connecting places of equal height. Each contour line is given a value according to its height. They are drawn at equal intervals. In the 1:50 000 maps of Sri Lanka the contour interval is 20m. We can identify the nature of the land according to the pattern and distribution of contour lines.

The main contours are drawn as thick dark brown lines.

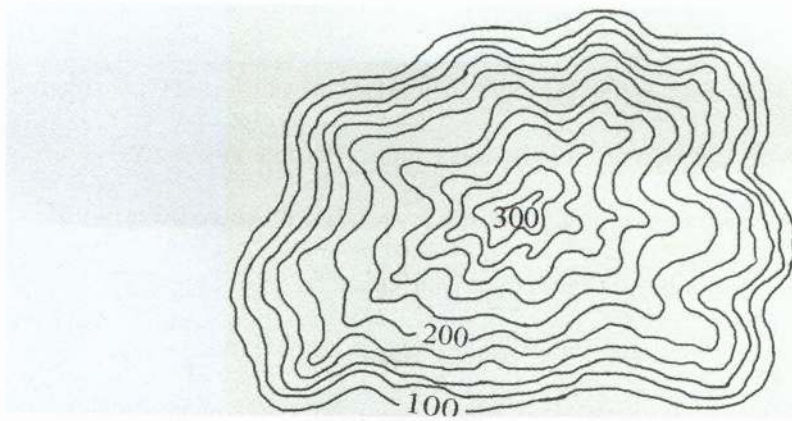
Eg - 100m 200m 300m

The intermediate contours between two main contours are drawn in a lighter brown shade. When reading maps it is essential to pay attention to the contour interval, their form and their distribution pattern.

Activities



1. Take a 1:50 000 Topographical Map of Sri Lanka,
2. Study its contour pattern carefully.
3. Draw two squares with a dimension of 5cm x 5cm each. From the map select two areas, one where the contour lines are close together and one where the contour lines are far apart and colour the contour lines in brown. Compare the difference in the arrangement of contours with the height of the land.
4. Using relevant colours copy the figure given below into your exercise book and indicate the heights of the contours.



Now let us study how various physical features are represented by contour lines.

Mountain Range

In Fig 5.3 a mountain range is mapped by contour lines. There is an elongated arrangement of contours with a few peaks on top. On land we see the height of a mountain range but not in a map. In a map the specific height is indicated along the contour lines.

A highland area with several peaks is called a mountain range.

Fig 5.3 shows a cross section of the mountain range drawn from A to B. By studying this cross section try to understand the three dimensional form of the mountain range.

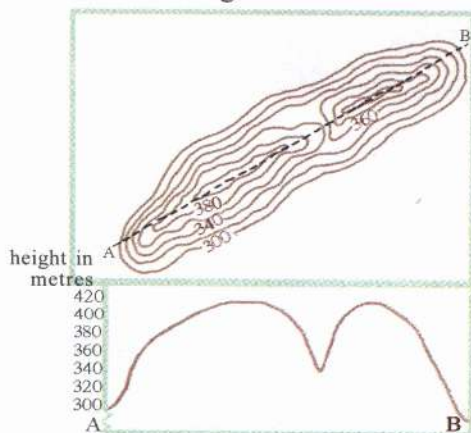


Fig 5.3 - Mountain Range and cross section

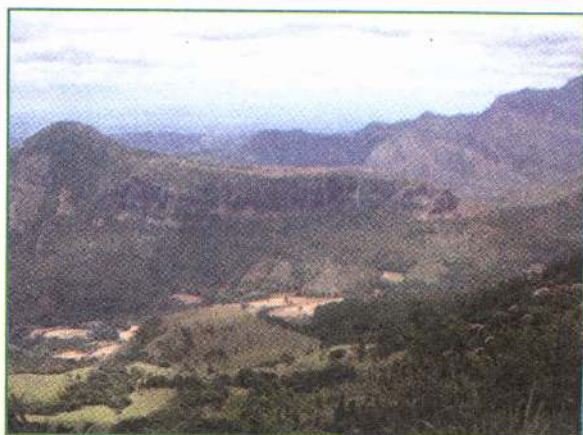


Fig 5.4 - A Mountain Range

Activities



1. Draw a rectangle (10cm x 8cm) and draw a mountain range in contours with two peaks within the rectangle. Use a brown colour pencil to draw the contours.
2. Draw contours from the 500m line to the 580m line with an interval of 20m.
3. Shade the area over 560m in height in brown.

Valley

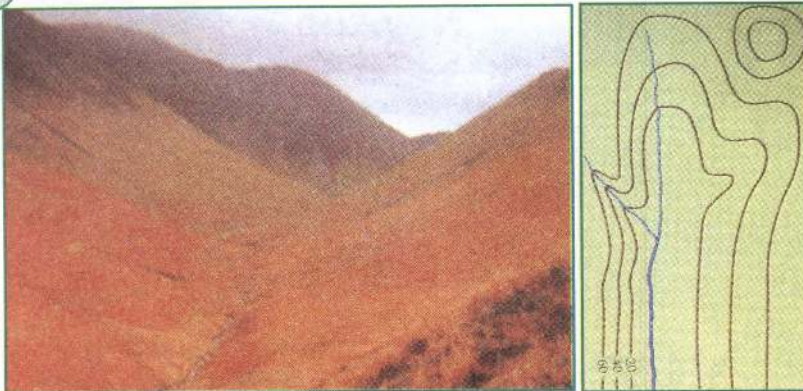


Fig - 5.5 - Valley

On land we also see areas of a lower elevation with higher land on either side sloping towards it. A lowland between two highland areas is called a valley. Sometimes there are rivers flowing along such valleys. Then it is called a river valley.

In a map, a valley can be identified by the arrangement of contours. A feature of a valley is that the contours are bent towards the highland area.



Fig 5.6 - A river flowing along a valley

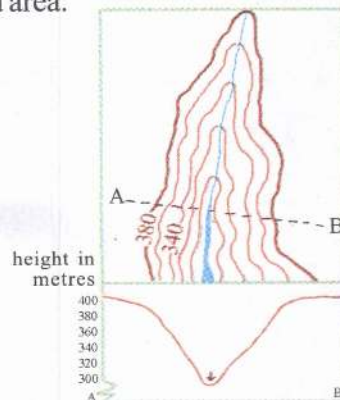


Fig 5.7 - valley and its cross-section

Through the cross section of the valley the highland areas on either side of it and the lowland areas in between can be identified.

Spur

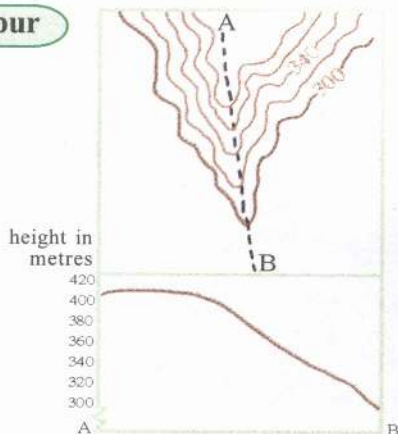


Fig 5.8 - Spur and its cross section

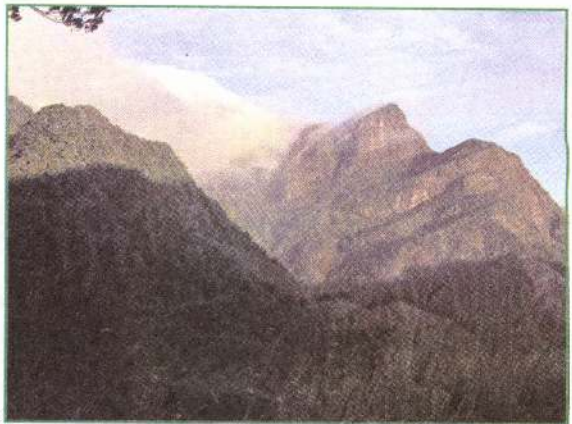


Fig 5.9 - Valley and Spur

A spur is shown by contours that protrude from the upland area to a lowland area. This feature stands in contrast to a valley. Sometimes a valley is located between two spurs.

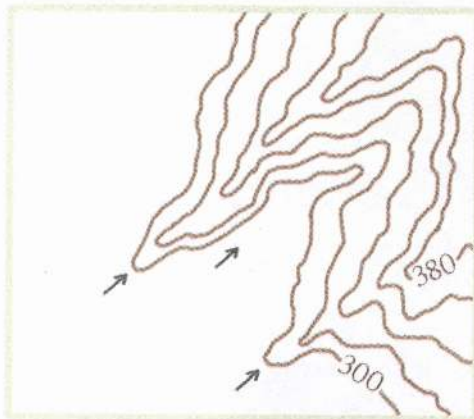


Fig 5.10- Valley and spur

Activities



1. A valley and a spur are shown by contour lines in Fig 5.10. Copy this Fig. into your exercise book using conventional colours.
2. Write the words valley and spur in the appropriate locations.
3. Draw a river along the valley in blue.

Conical hill

A hill which has the shape of a dagaba or cone is called a conical hill. Here the contour lines are drawn in a circular pattern.

Conical hills of this shape can be seen in lowland areas as well as in certain hilly ranges.

Activity



Draw a conical hill inside a square with dimensions of 5cm x 5cm.

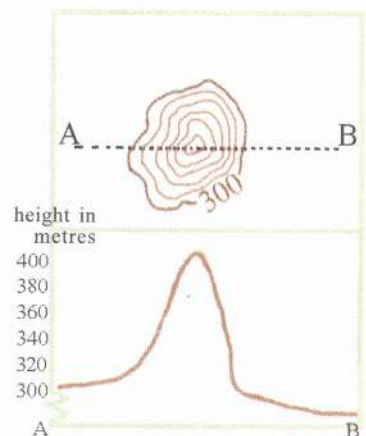


Fig 5.11 -Conical hill

Isolated hill

A hill that is separated and isolated from other physical features is an isolated hill. Sigiriya is an example for an isolated hill. Sometimes in an isolated hill too the contours are formed in a circular pattern. Yet every isolated hill is not a conical hill.

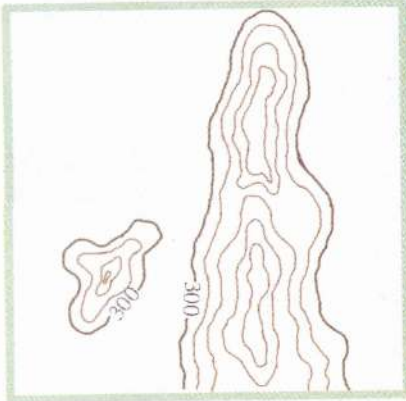


Fig 5.12 - Isolated hill

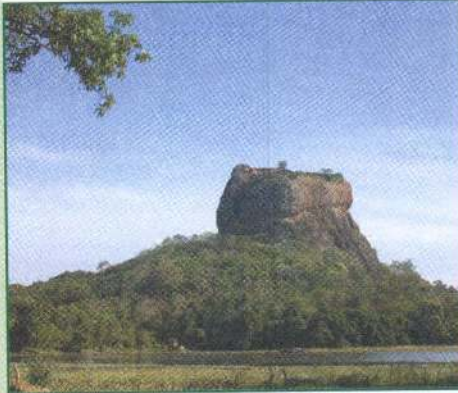


Fig 5.13 - Sigiriya

Steep slope

If the land slopes steeply from the peak towards the lower land it is called a steep slope. Here contours are located close to each other with a concentration of most of the contour lines over a short distance.

Gentle slope

If the land slopes gently towards the lowland area from the mountain peak it is called a gentle slope. In a gentle slope the contours are located far apart. A person walking over a gentle slope has to walk a long distance to cover 100m.

A steep slope, a gentle slope and the relevant cross sections are given in Fig. 5.15. Study this diagram to identify these physical features.

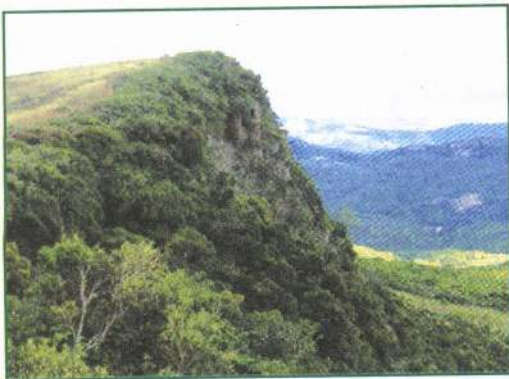


Fig 5.14 - The slope of a mountainous area

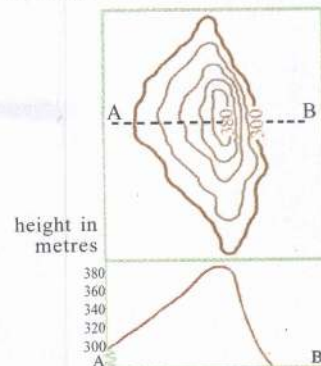


Fig 5.15 - Steep slope and Gentle slope

Some of the physical features seen in Sri Lanka are represented below using contours. By observing the contour patterns in a map showing physical features we can identify the different relief features separately.

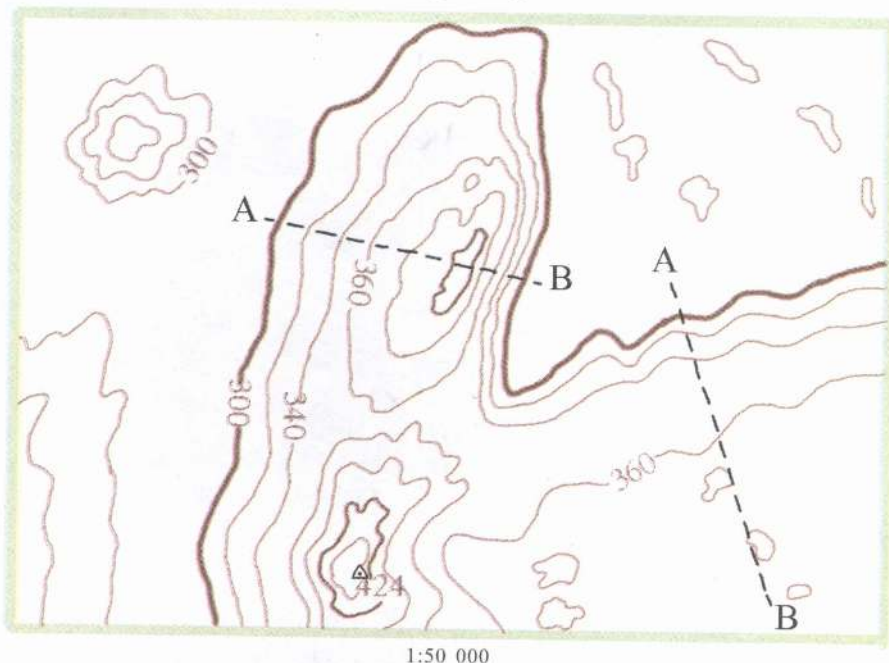


Fig 5.16 - A map showing relief features

Activities

1. Copy the given map. Observe it carefully to identify the relief features that you learnt.
Mark and name the following features on the map: steep slope, gentle slope, valley, spur, conical hill, mountain range.
2. With the help of your teacher construct this model in a three dimensional form. Use rigifoam or cardboard. The rigiform or cardboard can be pasted layer by layer to get the three dimensional effect.

In the 1:50 000 Topographical maps, various relief features can be identified according to the distribution and shape of the contours.

Cultural features

Man has built cultural features on the physical features. Therefore we can also identify the relationship between cultural features and physical features.

Cultural features are shown using different symbols and colours. To identify these we should know the conventional symbols used in topographical maps.

The teacher displayed a poster with the conventional symbols on the blackboard and focused attention on the administrative boundaries and vegetation contained in it.

Let us identify the symbols used for demarcating administrative boundaries, and their distribution.

Administrative boundaries

In the 1:50 000 maps the boundaries of various administrative divisions are shown.

Teacher - Dinithi, how many types of administrative boundaries are there?

Dinithi - There are four types of administrative boundaries.

Sanduni - I know them teacher. They are the Province, District, Divisional Secretariat area and Grama Niladhari Division.

Teacher - Very well. Now let us identify how the boundaries of administrative division are marked on the map.

Each administrative division boundary is marked by a different symbol.
All these boundaries are marked in red.

The largest administrative division in Sri Lanka is the Province. A Province is divided into Districts and within a District there are Divisional Secretariat areas. A Divisional Secretariat area is made up of Grama Niladhari Divisions.

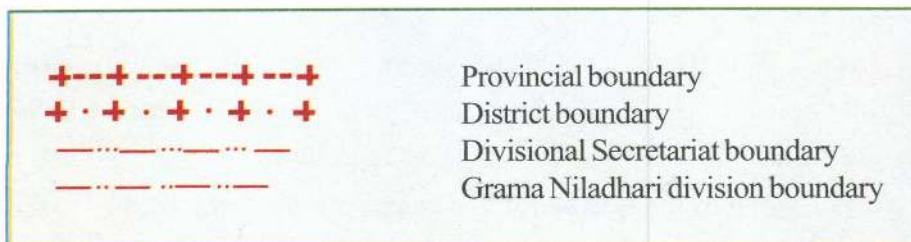


Fig 5.17 - Conventional symbols

Activities



1. Draw and name the symbols used in metric maps to show administrative division boundaries.
2. On a map of Sri Lanka mark and name the Provincial and District boundaries using appropriate symbols.
3. Using a 1:50 000 Topographical map identify the network of administrative boundaries.
4. Identify the physical features used in demarcating these administrative boundaries, and name them.

Trigonometrical station

In 1:50 000 maps you will notice a triangular symbol on the peak of a mountain. There is a dot at the centre of the triangle and the height is given in metres. Such places marked in maps are called Trigonometrical stations. The highest point of a mountain range is shown by this symbol and below the triangular symbol the actual height of the point is marked.

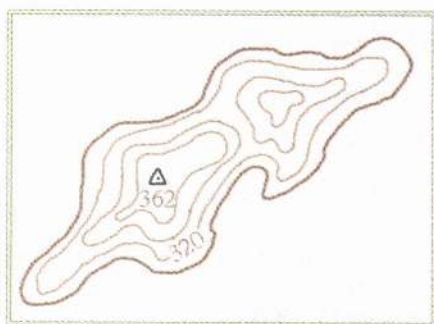


Fig 5.18 - Denoting the Trigonometrical Station on a mountain range

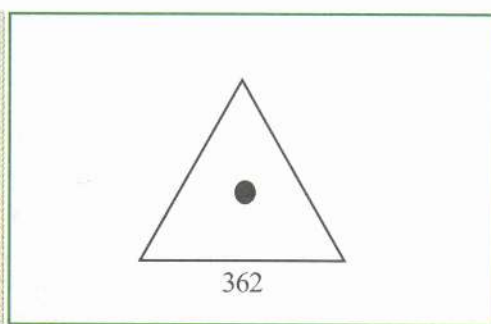


Fig 5.19 - Denoting the trigonometrical station

Distribution of crops

In the 1:50 000 Topographical maps the symbols and colours used to show the distribution of crops are indicated in the column denoting vegetation. Yellow and green are the colours used for the symbols denoting crops.

When we study maps it is clear that crops are indicated according to relief.

These crops are grown in highlands, slopes, lowlands and river valleys. River valleys are used mostly for paddy cultivation, coastal plains for coconut, highlands for tea, rubber and other crops.



For free distribution


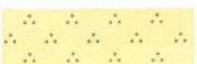
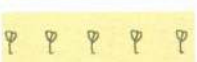
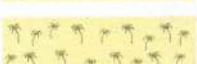
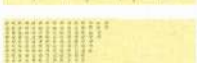
	Paddy
	Tea
	Rubber
	Coconut
	Other crops/ Home gardens

Fig. 5.20 - Use of Conventional symbols

Activities

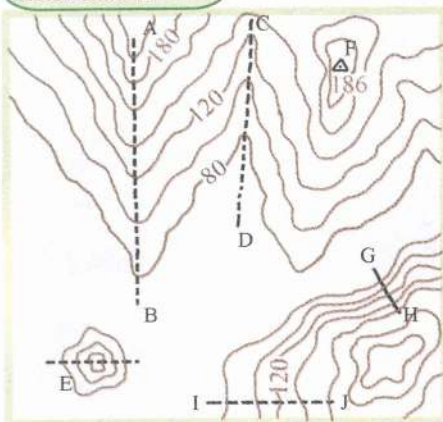


1. Draw and name the conventional symbols for paddy, tea, rubber, coconut and other crops.
2. Take a map of Sri Lanka with District boundaries. Take two Districts each where predominantly paddy, tea, rubber and coconut are grown and indicate the distribution of these crops using the relevant symbols. Provide a key for the map.

When studying the cultural features represented in the 1:50 000 maps, it is based, to a great extent, on the physical landscape of the region.

For map reading, the colours and symbols used in maps should be correctly identified. To get a further understanding regarding the physical and cultural features represented in the topographical maps of Sri Lanka, do the following exercises.

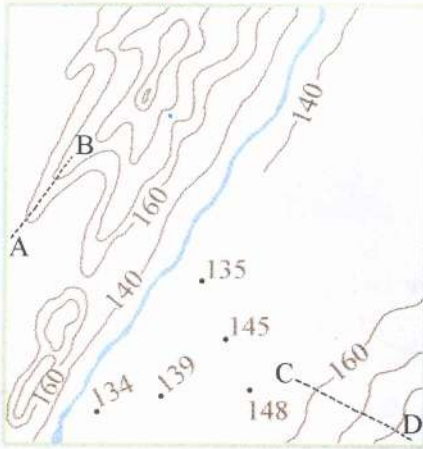
Exercise 1



Select the correct answer, from the answers given within the brackets.

1. A-B (valley/ spur/ gap)
2. C-D (valley/ spur/ gap)
3. E (mountain range/ conical hill/ lowland)
4. G-H (gentle slope, steep slope)
5. I-J (steep slope, gentle slope)
6. F (spot height, trigonometrical station, slope)

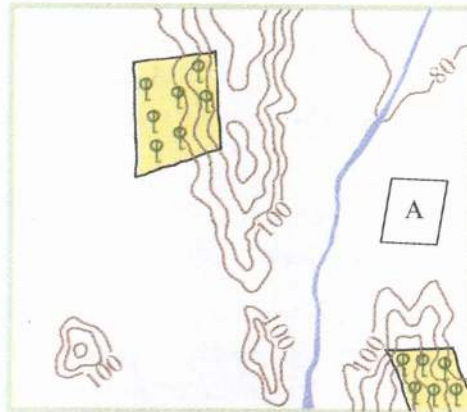
Exercise 2



Copy the map using conventional signs, symbols and colours where relevant.

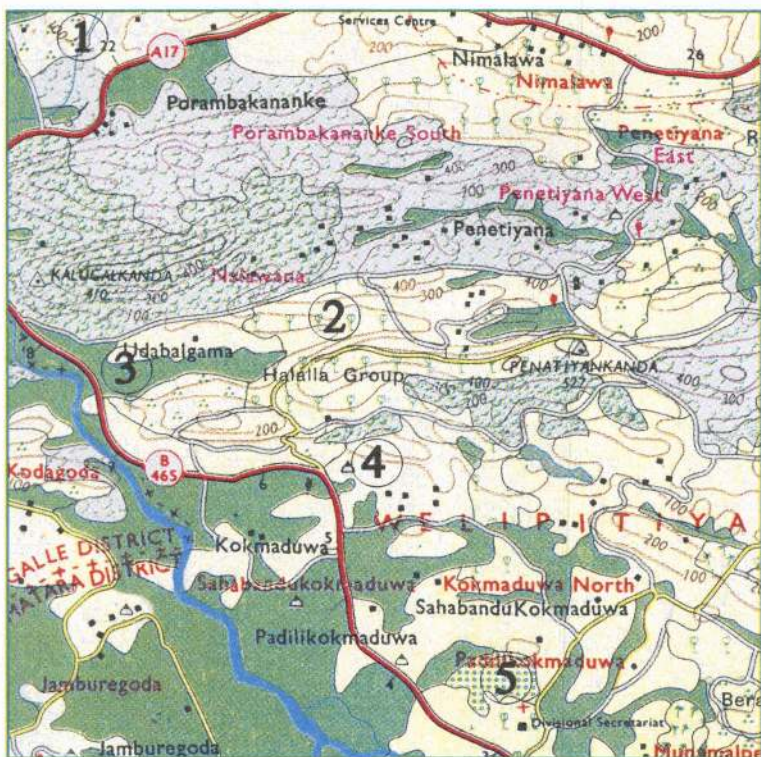
1. Shade the areas over 200m in brown.
2. Name the relief features marked A-B and C-D.
3. Use the conventional colour and draw the 140m contour.
4. Show the paddy cultivated areas on either side of the river.
5. Mark an area with coconut cultivation and two areas of home gardens, close to the eastern boundary.

Exercise 3



1. Copy the map.
2. Find the contour lines where the height is not given. Indicate the height with the 20m contour interval.
3. Shade areas over 140m in brown.
4. Show the trigometrical station 165 m in height.
5. Name these features selecting suitable locations, valley, spur, steep slope, gentle slope, isolated hill, mountain range.
6. What is the crop grown over the hill slopes ?
7. Show a paddy field in the area marked "A"

Exercise 4



1. Name the crops grown in the areas indicated by the numbers.
2. Find out whether there are administrative boundaries on the map and name them.
3. Name the other relief features that you notice in this map.

Activity



Select a part of a 1:50 000 topographical map. Write two sentences each about its physical features and cultural features.

Competency	Level Competency	Contents	Time
Acts with an understanding of components, characteristics and processes of the physical and human landscape.	<p>8.1.1 Examines with reference to information that the sustenance of living beings and things depends on the Earth's location and motion in the solar system.</p> <p>8.1.2 Explores the Earth's location and motion in the solar system.</p> <p>8.1.3 Examines how the Earth's constant movement causes night and day and affects human activity.</p>	<ul style="list-style-type: none"> • Introduction to Solar System and the plane Earth. • Solar System <ul style="list-style-type: none"> The Sun Planets Satellites • Earth's structure, Earth's rotation and revolution; day night phenomena and seasonal variation. 	12
Acts with an understanding of the interaction of physical and human process and its influence on the physical and human environment.	<p>8.2.1 Differentiates the characteristics of the physical and human landscape in the South Asian Region.</p> <p>8.2.2 Investigates the distinctiveness of the physical landscape of the South Asian Region.</p> <p>8.2.3 Investigates the diversity of human landscape in the countries of the South Asian Region.</p>	<ul style="list-style-type: none"> • Main characteristics of the South Asian Countries. <ul style="list-style-type: none"> - Regional identity - Countries (SAARC) - Physical landscape - Major physical features - Climate - Natural resources - Human landscape • Diversity of people • Cultural heritage • Human activities 	15

Competency	Level Competency	Contents	Time
Acts with an understanding as to how the interacting physical and human processes influence the physical and human environment.	8.3.1 Examines with reference to selected themes from countries of the South Asian region, how the interaction of the physical and human landscape influences human life patterns.	<ul style="list-style-type: none"> • Interrelationship of the physical and human landscape of South Asia. - Energy resources of rural India - Tourist industry of the Maldives Islands. - Tribal population of the Himalayas. - Rural industries of Pakistan. - Iron-ore mining in India - Jute industry of Bangladesh 	12
Uses the holistic approach to understand and clarify the physical and human landscape.	8.4.1 Compares the level of development of Sri Lanka, with other countries of South Asia.	<ul style="list-style-type: none"> • Compares the level of development of Sri Lanka with reference to following criteria. - Health - Literacy - Employment level - Per capita income 	12
Uses Topographical techniques to analyze, interpret and present data and information.	8.5.1 Draws and interprets the conventional signs used in topographical maps of Sri Lanka.	<ul style="list-style-type: none"> • Conventional signs used in topographical maps of Sri Lanka to depict - Physical features (Mountain range, Valley, Spur, Conical hill, Isolated hill, Steep slope, Gentle slope) - Cultural features (Administrative boundaries (Province, District, D.S. Division, G.N. Division, crops (Tea, Rubber, Coconut)etc. 	09

This book is a gift from the Government to the young generation of our country. Please use it carefully so that it could be passed on to your brothers and sisters in the coming years.

Name of the school _____

Year	Name of the student who is using the book	Class	Signature of the class teacher
2013			
2014			
2015			

அபி வேலு பிக மவகனே டுர்வோ
பிக நிவசெகி வெசெனா
பிக பாவநி பிக ருநிர்ய வே
அப கய துல டுபனா

பிவ்விதி அபி வேலு சோடூர் சோடூர்னோ
பிக லேச பிதி வகெனா
பிவந் வன அப மெம நிவசே
சோடீன சிபிய டுநு வே

சுமம ம மெந் கர்வனா துனோகி
வேலே சுமநி டுமகி
ரந் மிநி மூநு நோ வ பிய ம ய சுபனா
கிசு கல நோம டீரனா

அநன்த சுமரகோன்

ஒரு தாய் மக்கள் நாமாவோம்
ஒன்றே நாம் வாழ மில்லம்
நன்றே உடலில் ஓடும்
ஒன்றே நம் குருதி நிறம்

அதனால் சகோதரர் நாமாவோம்
ஒன்றாய் வாழும் வளரும் நாம்
நன்றாய் இல் இல்லினிலே
நலமே வாழ்தல் வேண்டுமன்றோ

யாவரும் அன்பு கருணையுடன்
ஒற்றுமை சிறக்க வாழ்ந்திருதல்
பொன்னம் மணியும் முத்தாமலல - அதுவே
யான்று மழியாச் செல்வமன்றோ

அநனந்த சமாரக்கோன்
கவிதையின் பேயரப்பு