
UNIT 3 NOTE-TAKING-II: USE OF TABLES AND GRAPHIC ORGANISERS

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3.0 OBJECTIVES

After reading this unit, you will be able to:

- develop skills in organizing notes in a variety of ways; and
- apply the knowledge of graphics while developing the notes.

3.1 INTRODUCTION

This is the second unit on Note-taking. In Unit 2 we discussed the taking of notes from reading material in terms of the following:

- i) reading with a purpose in mind so as to differentiate between paragraphs that contain essential information and those that do not.
- ii) the use of shortening devices such as the use of abbreviations and symbols which will save time and effort.
- iii) the ability to organise the material in terms of headings and subordinate points.

In this unit we shall continue our discussion on notes from reading material. We shall, however, concentrate on the organisation of notes in terms of tables, charts, and diagrams and other graphic organisers.

Graphic organisers are of value in developing/arranging ideas graphically. Major ideas are connected to supporting ideas and details by a systematic arrangement of lines, circles and arrows. Four types of graphic organizers have been found appropriate for content area subjects. These are:

- i) thematic map that shows the elements and details of theme materials;
- ii) the classification map that shows relationships among concepts;
- iii) the comparative-contrastive map that compares and contrasts two or more groups or events; and
- iv) the sequential episodic map that shows time-order.

3.2 ORGANIZATION OF NOTES : TABLES

We often have to take notes from passages which contain figures, numbers, contrasts (that is, differences between two things or persons), or different aspects of a single topic. It is then convenient to organise our notes in the form of lists or tables. This makes it easier to read and retain/remember the information later.

3.2.1 A Passage Giving Information in the Form of Figures

Your purpose in reading the following passage will be to find out the quantity of the different varieties of cooking oil used in the country and the regions where different kinds of oil are used.

Example 1

Edible oils are an important constituent of Indian diet. Besides being a source of energy, they add a special flavor to food and provide a lubricating action to body-tissues. In recent years, their associations with different human diseases and their adulteration have become a health problem for people.

A variety of cooking oil are commonly used in different parts of the country. The major sources are groundnut oil (14,00,000 tonnes), mustard oil (6,00,000 tonnes) and sesame and coconut oil (1,50,000 tonnes). Sunflower oil (1,00,000 tonns), safflower oil (25,000 tonnes) and soyabean oil (10,000 tonnes) have also become popular. Groundnut and sesame oil are common in the west coast and central India; coconut oil in the south; mustard oil in Bengal, Bihar and Orissa in the east, and Kashmir in the north. The annual per capita consumption of edible oil in the country was about 6 kg in 1984, which is lower than the world average of 11 kg and the average of 26 kg in developed countries. It is higher in the high socio-economic status group due to their use of fried preparations. It is however desirable that the daily intake of fat should not contribute more than 15%-20% calories in the diet.

(From *Science Reporter*, September 1987)

Check Your Progress 1

- 1) Why are edible oil an important part of any diet?
.....
.....
.....
- 2) Why have edible oil become a health problem in recent years?
.....
.....
.....
- 3) Which social group has a higher per capita consumption of edible oil in India?
Why?
.....
.....
- 4) The daily intake of fat in our diet should be:
 - a) less than 20%
 - b) more than 20%
 - c) around 40%

- 5) The passage above has a lot of figures. These figures can be understood better if they are arranged in a table as shown below. Read the passage carefully again, and fill in the gaps in the table. Do not forget to write the main heading and the subordinate headings where required.

Notes 1

Name of Oil		Regions where used
1) Groundnut oil		
2)	6,00,000 tonnes	
3) Sesame oil		west coast & central India
4) Coconut oil		
5)		
6)		
7)	10,000 tonnes	

3.2.2 A Passage Giving a Contrastive Description

When you have to take notes from a passage which points out the differences between two things, it is often most convenient to write the notes in the form of a table.

Example 2

Leukaemia

Read the following passage carefully and take down notes while you read it.

Leukaemia is any of the several types of cancer in which there exists a disorganised proliferation of white blood cells in the *bone marrow* (the tissue from which all blood cells originate). The production of red blood cells, platelets, and normal white blood cells is impaired as normal cells are crowded out from the marrow by the leukaemic cells (abnormal white cells). Other organs, such as the liver, spleen, lymph nodes, testes, or brain, may cease to function properly as they become infiltrated by the leukaemic cells. The number of leukaemic cells circulating in the blood may be high.

Leukaemias are classified into acute and chronic types. Acute leukaemia generally develops more rapidly than chronic leukaemia. They are also classified according to the type of white cell that is proliferating abnormally. If the abnormal cells are derived from lymphocytes or from lymphoblasts (immature precursors of lymphocytes), the leukaemia is called *lymphocytic* or *lymphoblastic* leukaemia, if the abnormal cells are derived from other types of white blood cells or their precursors, the leukaemia is known as myeloid, myeloblastic, or granulocytic leukaemia.

Each year over 5,000 new cases of leukaemia are diagnosed in the UK, and there about 3,500 deaths from this cause.

Acute Leukaemia is a type of leukaemia in which the white blood cells produced in excess within the bone marrow are immature cells called blasts. Untreated, acute leukaemia can be fatal within a few weeks to months. Treatment today can often prolong life and may even provide a complete cure.

About 2,500 cases of acute leukaemia are diagnosed annually in the UK. The two main types are acute lymphoblastic leukaemia (ALL) and acute myeloblastic leukaemia (AML). The incidence of ALL seems to be more in children. Both ALL and AML seem to result from a mutation in a single white cell altering its genetic structure. The cell undergoes an uncontrolled series of divisions until billions of copies of the abnormal cell are present in the bone marrow, blood, and other tissues.

There are a number of possible causes for the original mutation. One type of acute lymphoblastic leukaemia is thought to be caused by a virus similar to the one that causes AIDS. Exposure to certain chemicals (such as benzene and some anticancer drugs) and to atomic radiation or radioactive leaks from nuclear reactors can be a cause. Inherited factors may play a part; there is an increased incidence in people with certain genetic disorders and chromosomal abnormalities. People with certain other blood disorders, are also of increased risk.

The symptoms and signs of both types of acute leukaemia are caused by overcrowding of the bone marrow by blasts and by infiltration of organs by the abnormal cells. The overcrowding causes the marrow's failure to produce normal blood cells of all types. Bleeding gums, tenderness of the bones, frequent bruising, headaches, enlarged lymph nodes and repeated chest or throat infections, herpes zoster or skin and other infections are common.

The diagnosis of acute leukaemia is based on a bone marrow biopsy that confirms an abnormal number of blast cells. The blast cells are sometimes also seen in the blood.

Treatment includes giving the patient transfusions of blood and platelets, and the use of anticancer drugs to kill the leukaemia cells. These drugs tend to make the patient even more susceptible to infection, so powerful antibiotic drugs may also be given.

The course of drug treatment may last for many weeks. When there is no evidence of leukaemic cells in the blood or bone marrow, a state of remission is said to have been achieved. However, without repeated courses of treatment, the leukaemia often *relapses* (returns). For this reason, the use of drugs is usually continued for many weeks after remission. If the leukaemia relapses after the first remission, a bone marrow transplant may be considered. Increasingly, the practice is to offer bone marrow transplantation during the first remission to guard against relapse.

The outlook for people with acute lymphoblastic leukaemia is generally better than it is for acute myeloblastic leukaemia, and it is better for children than for adults.

Chronic Lymphocytic Leukaemia is a type of leukaemia caused by proliferation of mature-looking lymphocytes (a type of white blood cell that plays an important role in the body's immune system). Although incurable, the disease is not invariably fatal.

There are about 1200 new cases of chronic lymphocytic leukaemia diagnosed annually in the UK. Nearly all patients are over 50. The cause of the disorder is unknown.

Symptoms develop slowly, often over many years. Many cases are discovered by chance when a blood test is performed. In addition to features common to acute forms of leukaemia, symptoms and signs may include enlargement of the liver and spleen, persistent raised temperature, and night sweats.

Chronic lymphocytic leukaemia is diagnosed by finding large number of lymphocytes, all the same type, in the blood and on a bone marrow biopsy. The severity of the disease is assessed by the degree of liver and spleen enlargement, anaemia, and lack of platelet cells in the blood. In many cases, no treatment is required if the disease is mild. In more severe cases, anticancer drugs are given by mouth, sometimes combined with radiotherapy. Other measure include transfusions of blood and platelets, antibiotic drugs to combat infection, and immunoglobulin injections to boost the patient's immune system.

The progression of chronic lymphocytic leukaemia is slow. More than half of the patients survive for five years from the time of diagnosis. Eventually, death may result from overwhelming infection but many patients die from causes unrelated to their leukaemia.

(Adapted — From *Complete Family Health Encyclopedia*, The British Medical Association, 1996).

Check Your Progress 3

Read the passage again and answer the following questions. These questions help you understand the passage better.

1) Find the meaning of the following words from a dictionary and write them here:

a) Proliferate

.....

b) Infiltrate

.....

c) Precursors

.....

d) Mutation

.....

e) Susceptible

.....

2) a) What is Leukaemia?

.....

.....

b) Which organs are affected most by leukaemic cells?

.....

.....

3) Name the four main types of leukaemia mentioned in the passage.

a)

b)

c)

d)

4) What is the difference between the following:

a) Acute and chronic leukaemia

.....

.....

.....

b) Lymphoblastic leukaemia and myeloblastic leukaemia?

.....

.....

.....

.....

5) Complete the table contrasting acute lymphoblastic and chronic lymphoblastic leukaemia.

Notes 2

	Acute lymphoblastic Leukaemia	Chronic Lymphoblastic Leukaemia
Proliferation of Lymphocytes		Proliferation of mature looking lymphocytes
Incidence	More in children	
Causes		Unknown
Symptoms and signs		
Diagnosis	Based on bone marrow biopsy	
Treatment		

Read the completed table of question 5 again which contrast Acute Lymphoblastic Leukaemia and Chronic Lymphoblastic Leukaemia. Note that the table is arranged in such a way that you are able to find out at a glance, the basis on which the contrast is made.

viz. — the nature of lymphocytes, incidence, causes, symptoms and signs, diagnosis and treatment. This method of organisation helps you to present a clearer picture of the information, which will be useful to you when you have to revise your work later.

Also the basis of contrasts are more or less in the same order in which the information is presented in the passage. It is however, not necessary to do this. Often you may have to arrange the notes in an order different from what it is in the original text. This will probably happen if you wish to highlight some points.

3.2.3 A Passage Presenting Different Aspects of a Topic

When taking notes on different aspects of a single topic it is often helpful to write them out in the form of a list or table. It is then much easier to read and recall the information later.

Given below is a passage on **Bronchitis**

Make notes keeping in view the following points:

What is Bronchitis?

When does it happen?

What are the problems?

What is the treatment?

Bronchitis

Bronchitis is a distressing and often serious type of inflammation affecting the windpipes, or bronchial tubes, within the chest. In most cases it seems to follow some infection higher up in the nose and throat. The common cold is probably the most frequent cause of acute bronchitis.

In most cases of bronchitis the larynx, trachea, and bronchial tubes are acutely inflamed. The tissues are swollen because of irritation; large quantities of mucus are secreted and poured into the windpipes to protect the inflamed mucous membranes. Unless this thick, sticky material is removed, it may seal off several of the windpipes, causing *atelectasis* and even *pneumonia*.

During the acute stage of bronchitis there is usually a high fever and perhaps some difficulty in breathing. Almost constantly there is also a deep chest cough. There may also be considerable hoarseness, and some pain in the chest. Difficulty in breathing continues until the inflammation has died down, and the thick secretions have been removed.

Moist steam inhalations are beneficial in treating severe bronchitis. This treatment should be continued day and night during the more severe stages of the attack. Fomentation, or hot packs to the chest, will also help to relieve the cough. Penicillin or some other suitable antibiotic medicine should be given daily until the condition is brought under control. If there is extreme difficulty in breathing, it may be necessary for the doctor to perform a tracheotomy, so that the patient will have a airway through which to breathe.

(Adapted From *Power Guide to Health*, Oriented Watchmen Publishing House, India, 1979).

Check Your Progress 4

You have read the passage carefully and taken notes. Now arrange the notes that you have taken into a table. You may refer to Note 2 to help you arrange your notes. After you finish, compare your notes with the specimen answer given at the end of the unit.

Notes 3

3.3 ORGANIZATION OF NOTES : GRAPHIC ORGANIZERS

When the information in a paragraph can be presented visually, it is better to use a drawing, a flow chart or a tree diagram. This is especially true of scientific material, where it is simpler and clearer to express information in the form of a labeled diagram than by using words only. The diagram should present a mental picture of what you understand from the paragraph. This will make it easier for you to understand the information given in the paragraph.

3.3.1 Flow-charts

Example 3

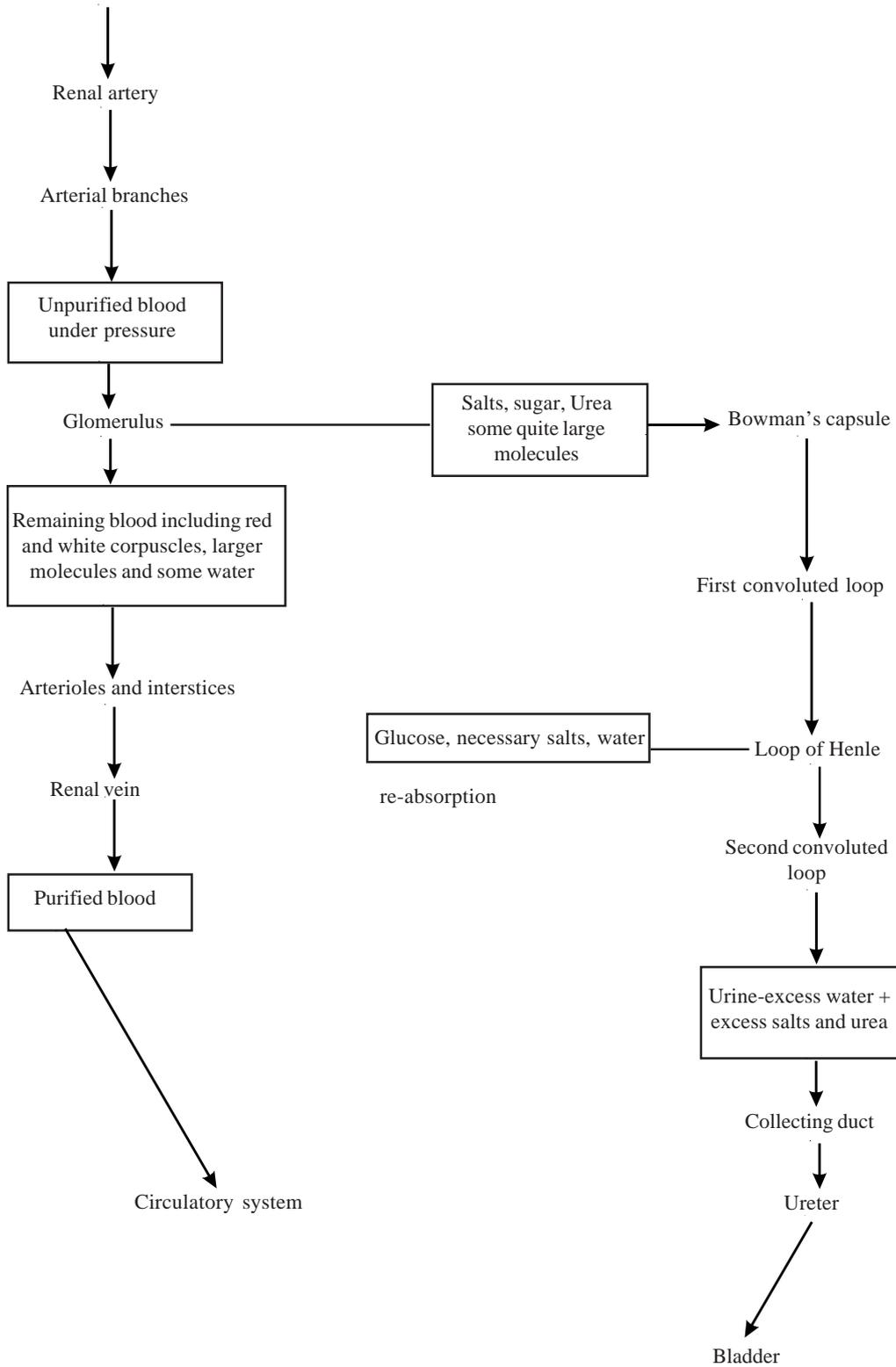
Your purpose in reading the passage below will be to learn about the fine structure of the kidneys.

- i) Underline those parts of the text that describe the changing composition of the solution as it passes through the kidney.
- ii) Underline the several fine structures of the kidney which are involved in these changes.
- iii) Draw up two parallel ordered lists, one column showing parts of the kidney and the other stating what happens in each of these parts.
- ii) Develop a flow diagram to show the action of the kidney.

The Fine Structure of the Kidneys

The kidney is composed of a vast number of tiny tubules held together by connective tissue. Each tubule has a cup called Bowman's capsule, whose wall is one cell thick. The capsule opens into a coiled tubule known as the first convoluted tubule. This lies in the cortex of the kidney. The tubule continues as the loop of Henle which occupies the medulla, returning to the cortex to become the second convoluted tubule. This second convoluted tubule connects with one of the collecting ducts which opens into the pelvis of

Flow diagram to show the action of kidneys



the kidney. The Bowman's capsule surrounds a knot of blood capillaries called the glomerulus.

The Functioning of the Kidneys

The diameter of the branch of the renal artery entering the glomerulus is considerably greater than that of the branch leaving it. This imposes a considerable pressure on the contents of the capillaries of the glomerulus and results in the blood being filtered under pressure. Sugars, salts, urea and even quite large molecules like proteins pass through the

semi-permeable wall in solution into the cavity of the Bowman's capsule. The solution then passes through the first convoluted tubule into the loop of Henle, where much of the water and all of the glucose and other useful substances are reabsorbed. In this way, the composition of the blood is regulated. The urine then passes through the second convoluted tubule and the collecting duct into the pelvis of the kidney. Day and night, urine drips down the ureter into the bladder where it collects. The wall of the bladder is composed of muscular and elastic tissues. The urethra is kept closed by the contraction of the sphincter muscle at the neck. As urine accumulates in the bladder, the elastic walls are stretched until it contains about half a litre. Eventually, the sphincter muscle, which is a semi-voluntary muscle, relaxes and the muscle fibres in the bladder wall contract expelling the urine through the urethra.

Parts of the kidney	What happens here
Renal artery	Carries blood to the kidney
Bowman's capsule	Blood filtered under pressure
First convoluted tubule	Solution from Bowman's capsule passes through here
Loop of Henle	Some water, glucose and other useful substance reabsorbed
Second convoluted tubule	Solution from loop of Henle passes through here
Collecting duct	Urine passes through here on its way to the ureter
Ureter	Takes urine to the bladder
Bladder	Stores urine until it is released down the urethra
Renal vein	Takes filtered blood away

Source: Learning From the Written Word: Eric Linger (1984) Oliver & Boyd.

3.3.2 Diagrams

We have already said that a labelled diagram can help us to remember better the information that may be given in many paragraphs. The following exercise will help you to appreciate this point better.

Check Your Progress 5

- 1) Read the procedure for cataract surgery carefully. Write the steps of the surgery in a flowchart. You will find some sentences/words/phrases not important to be included in the flowchart. Compare your answer with the solution given at the end.

Procedure for Cataract Surgery

In a normal, healthy lens there is no interference with the passage of light-rays. Even with peripheral opacities, vision is not limited until the central zone is affected. Dense nuclear opacities, result in deteriorating vision and cannot be restored to transparency, hence the need for surgical replacement.

In preparation for surgery, measurements are taken of the cornea and of the length of the eye, in order to calculate the power of the lens implant needed to restore vision fully. The operation may be performed using general or local anaesthesia; there is no pain in either case. Instruments of remarkable delicacy and precision are used to carry out the procedure, usually with the help of microscope magnification.

Before the operation, drops are used to widen the pupil so that most of the front surface of the lens is exposed. An incision is made around the upper edge of the cornea using an instrument with a diamond tip.

A small quantity of a clear gel (sodium hyaluronate) is injected to maintain a space between the back of the cornea and the lens.

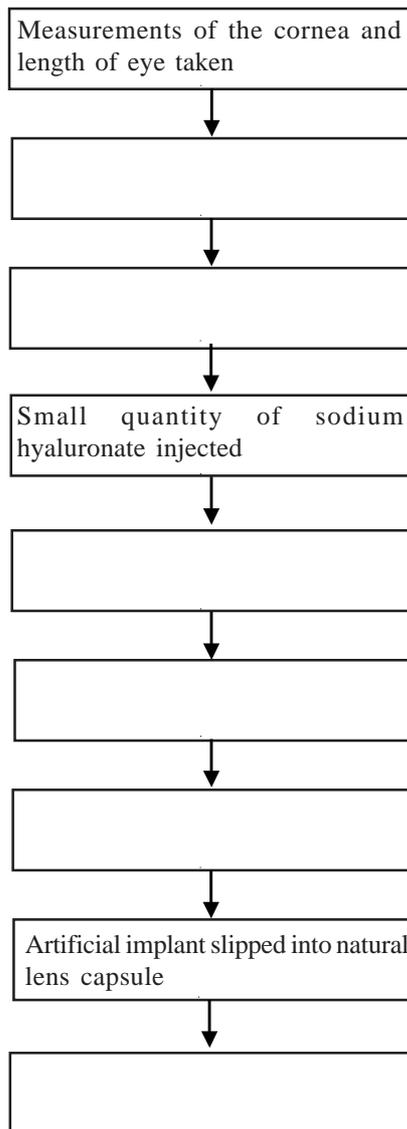
A large part of the centre of the front capsule of the lens is then removed and the hard nucleus of the lens carefully removed. The soft remaining parts of the lens are then cleared away, leaving the back of the capsule.

The artificial implant is slipped into the natural lens capsule, plastic loops hold it in place. The corneal incision is sewn up with fine nylon thread about half the diameter of a human hair.

(Adapted from *Complete Family Health Encyclopedia*, British Medical Associations, Dorling Kindersley 1996).

Notes 4

Procedure for cataract surgery



2) Read the paragraphs carefully and answer why certain procedures are important.

Procedure	Necessity
1) Measurement of the cornea and length of the eye taken	To calculate the power of the lens implant needed.
2) Drops used to widen the pupil.	
3) Small quantity of clear gel injected	

Structure of the Eyeball

The eyeballs lie in pads of fat within the orbits, bony eye sockets that provide protection from injury. Each eyeball is moved by six delicate muscles, the action of these muscles, for both eyes being coordinated by a nerve network in the brainstem.

The eyeball has a tough outer coat, the *sclera* (white of the eye). The front circular part of the outer coat, the *cornea*, is transparent and protrudes slightly. The cornea serves as the main “lens” of the eye and performs most of the focusing. Behind the cornea is a shallow chamber full of aqueous humour (watery fluid), at the back of which is the *iris* (coloured part) with its *pupil* (central hole) which appears black. Tiny muscles alter the size of the pupil with changes in light intensity to control the amount of light entering the eye.

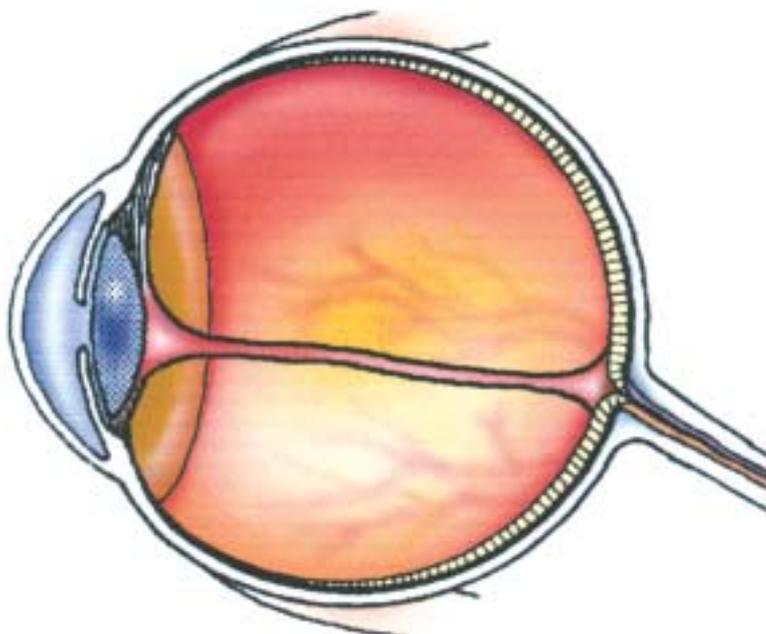
Immediately behind the iris, and in contact with it, is the crystalline *lens*, suspended by delicate fibres from a circular muscle ring called the *ciliary* body. Contraction of the ciliary body alters the shape of the lens; this provides the eye with some focusing power additional to that provided by the cornea. Behind the lens is the main cavity of the eyeball, filled with a clear gel (the vitreous humour).

On the inside of the back of the eye is the *retina*, a complex structure of nerve tissue on which the image formed by the cornea and the crystalline lens falls. The retina requires a constant supply of oxygen and glucose. To meet this need, a thin network of blood vessels, the *choroids plexus*, lies immediately under it. The choroids is continuous at the front with the ciliary body and the iris; these three parts constitute the uveal tract.

Check Your Progress 6

- 1) Read carefully the paragraphs on the structure of the eyeball and carefully label the different parts of the eyeball. Compare your answer with the diagram given at the end.

Notes 5



- 2) Make a table with two columns. Write parts of the eyeball in Column A and their functions in Column B.

Parts of Eyeball	Function of the Parts

3.3.3 Tree Diagrams

You already know that different kinds of passages lend themselves to different kinds of organisation when we make notes. Passages that have information of a classificatory nature for instance can be analysed by means of tree diagrams. Such diagrams are useful both in classifying the information and presenting it in the right order.

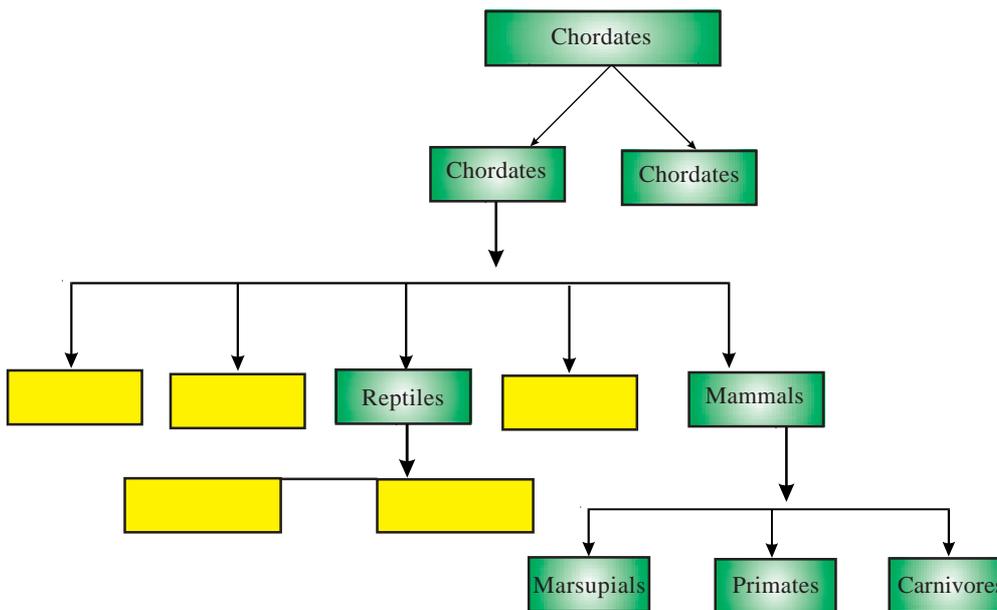
The passage below deals with different chordates. Read it carefully and note how the classification tree is organised.

Example 4

Chordates

The chordates are a large and highly diverse animal group, which comprises vertebrates or animals with backbones (often referred to as the higher chordates), as well as a group of animals which lack vertebrae but which resemble vertebrates in other important respects. These are referred to as protochordates or lower chordates. The vertebrates are divided into five classes: fishes, amphibians, reptiles, birds and mammals. Each of these five classes can be further subdivided into smaller groups: for example, mammals can be classified into 18 groups, known as orders. Examples of orders are marsupials (such as kangaroos), primates (including man and monkeys) and carnivores (including dogs and cats). The class of reptiles consists of five orders: examples of these are crocodilians (including crocodiles and alligators) and squamata, examples of which are snakes and lizards.

From: *Larousse Encyclopedia of Animal Life (Hamlyn)*



Check Your Progress 7

Read the passage and answer the questions that follow.

The Role of Transport in Commerce

The economic system of any country is largely dependent upon the efficiency of its transport system. Without the help of a good transport system, the expansion in national and international trade would never take place.

Broadly, the means of transport both for purposes of trade and social activity can be classified into three main divisions: land, water and air. We are, here, concerned with transport for trade. Of all the forms of transport, road transport has shown the greatest growth in recent years. Road transport is also used as a complementary means of transport. Road are indispensable links for carrying goods and people to and from railway stations, ports and airports.

Transport by road may be both vehicular and non-vehicular. Non-vehicular transportation includes both animal and man. Animals such as horse, mules and yaks are frequently used for carrying goods and passengers in hilly areas. Camel is the only means of transport in desert areas. Man is also sometimes used to carry goods. In hilly areas, porters and coolies carry goods on their backs and heads. This type of transport is generally used when animals, carts or vehicles cannot be used. Vehicular transport in developing countries includes the ancient bullock carts, as well as the modern automobiles. The invention of the automobiles has been of great significance to modern industry and commerce because of their high speed and low cost per kilometer.

The introduction of the railways has been vital in the growth of industrialization. Railways are useful in carrying heavy and bulky goods over long distances. They are especially favored because, unlike other modes of transport, they are unaffected by weather conditions.

Water transport is one of the oldest forms of cargo transport. Though it is slow, it is the cheapest form of transport. Water transport includes inland transport and ocean transport. Inland waterways are rivers and canals. While rivers are “naturally” created, canals are artificial waterways. Inland waterways are not always reliable. Sometimes rivers change their course abruptly, which may cause dislocation of traffic. In times of drought they may run dry.

Ocean or sea transport is very important for the growth of foreign trade of any country, especially as it is cheaper than air transport. It is particularly useful for carrying bulky goods over long distances, especially when time is not the essential factor.

The greatest advantage of air transport is that it has reduced the time and distance barrier to a great extent. However, air transport is the costliest means of transport because of the high cost of planes, their operation and maintenance. It is generally used rather sparingly for carrying light freight.

- 1) In what way is road transport ‘a complementary means of transport for other types of transport’?

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.....

- 2) When is man used as a means of transporting goods?

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.....

- 3) What types of vehicles do you think are included in the word ‘automobiles’?

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.....
.....
.....

- 4) Fill in the gaps below:

..... i) is one of the oldest forms of transport. It is also ii) than any means of transport. Water transport included both iii) and iv)transport.

5) What are some of the disadvantages of inland waterways as a means of transport?

.....

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.....

.....

6) What is the advantage and disadvantage of air transport?

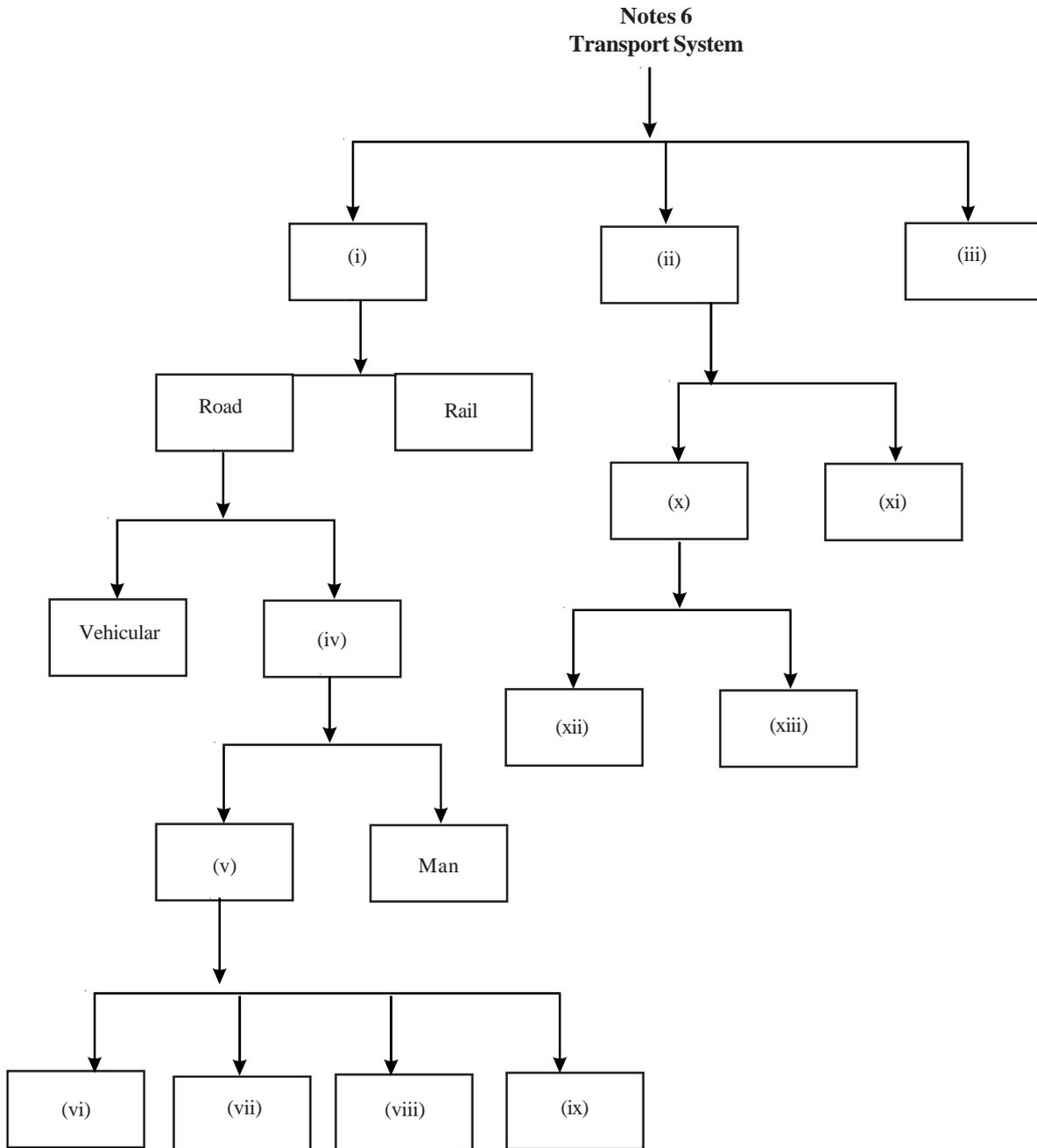
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7) Read the passage on transport again. Then organise your notes in the form of a tree diagram. Some help is provided for you.



3.3.4 Other Diagrams

Besides flow charts and tree diagrams, there are other kinds of diagrams as well which are used to summarize the written material. Descriptive passages on scientific topics or passages which show processes can sometimes lend themselves to such diagrams. You must realize that this is not a common note-taking technique. Only when you feel that a diagram will help you understand and memorize a piece of information better, it is wise to use it. Read the passage below on ‘the Atmosphere’ carefully and take notes as you read along.

Example 5

The Atmosphere

Although we cannot see it, taste it, or smell it, the air that surrounds the earth is vital for life. It provides the gases needed for human, animal and plant life. Of these gases, oxygen makes up about 21 percent and nitrogen about 78 per cent of the volume of dry air. Other gases, such as argon, carbon dioxide, hydrogen, neon, krypton and xenon, comprise the remaining one per cent. The amount of water vapour and its variation in amount and distribution is of great importance in weather changes. The atmosphere has no definite upper limits, but gradually thins until it becomes imperceptible. However, the atmosphere has three well-defined layers. The layer of air next to the earth, which extends upwards for about ten miles, is known as the troposphere. Most of the air and water vapour are in the troposphere. It is the warmest part of the atmosphere because most of the solar radiation is absorbed by the earth’s surface, which warms the air immediately surrounding it. The temperature decreases by about 11.2°C for every mile as one travels upwards through the troposphere. Most of the features that govern our weather, including most clouds and wind systems, occur in the troposphere. Strong winds moving at more than 160 kms an hour are located at the upper levels of the troposphere. These are known as JET STREAMS and are important to pilots of jet aircrafts who fly in this zone.

Above the troposphere to a height of about 50 miles is a zone called stratosphere. The stratosphere is separated from the troposphere by a zone of uniform temperature called the tropopause. Within the lower portions of the stratosphere is a layer of ozone gases which filters out most of the ultraviolet rays from the sun. If this zone was not there, the full blast of the sun’s ultraviolet light would burn our skins, blind our eyes, and eventually result in our destruction. Within the stratosphere, the temperature and atmospheric composition are relatively uniform.

The ionosphere extends to a height of 300 miles above the earth. The air, here, is extremely rarefied. It is called the ionosphere because it consists of electrically charged particles called ions, thrown from the sun. The northern lights (aurora borealis) originate within this highly charged portion of the atmosphere. Its effect upon weather conditions, if any, is as yet unknown.

(Adapted from *Caxon Atlas of the Earth*)

Check Your Progress 8

- 1) Read the passage again and state whether the following statements are true (T) or false (F).
 - a) The major gases in the atmosphere are nitrogen and oxygen. ()
 - b) The distribution of gases in the atmosphere is of vital importance for changes in the weather. ()
 - c) The warmest part of the atmosphere is the stratosphere. ()
 - d) Features that affect weather conditions are found in the troposphere. ()
 - e) In the tropopause, the temperature is relatively stable. ()

- f) If the ozone layer is destroyed or damaged, gradually all life on earth will be destroyed. ()
- g) The air in the ionosphere is extremely thick. ()

2) Fill in the gaps with suitable words/phrases.

The atmosphere is a region of gases i) the earth. It is divided into ii) layers. The iii) is called the troposphere. It extends upwards iv) The v) is called the stratosphere and it extends to a height vi) The presence of vii) in the viii) of the stratosphere prevents the ix) of life. x) the stratosphere is the xi)

3) Make a diagram of the different layers of the atmosphere and write the salient features of the different layers.

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3.4 LET US SUM UP

In the first unit on note-taking we described the technique of note-taking in terms of the organisation of notes into headings and subordinate points. In this unit we have discussed the organisation of notes in the form of tables, charts and diagrams. We have also suggested that different kinds of material lend themselves to different techniques of note-taking.

3.5 KEY WORDS

Contrastive	:	Showing the differences between two things
Diagram	:	A graphical representation of a process, system etc.
Figures	:	Numbers
Flowchart	:	A diagram showing the stages of a process
Table	:	A list of facts, numbers, etc., systematically arranged, especially in columns

3.6 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

- 1) Because they are a source of energy, add flavour to food, and provide a lubricating action to body tissues.

- 2) Mainly because they are often adulterated and have in recent years also been associated with some diseases.
- 3) The group that has a higher socio-economic status. This group uses more fried preparations
- 4) a)
- 5) **Edible Oil**

Name of oil	Quantity	Regions where used
1) Groundnut oil	14,00,000 tonnes	West coast & Central India
2) Mustard oil	6,00,000 tonnes	Bengal, Bihar, Orissa, Kashmir
3) Sesame oil	1,50,000 tonnes	West coast & Central India
4) Coconut oil	1,50,000 tonnes	Southern India
5) Sunflower oil	1,00,000 tonnes	
6) Safflower oil	25,000 tonnes	No particular regions
7) Soyabean oil	10,000 tonnes	No particular region

Check Your Progress 3

- 1)
 - a) Proliferate—rapid increase
 - b) Infiltrate—penetrate
 - c) Precursors—predecessor, something that happened or existed before something else.
 - d) Mutation—a change in the genetic structure of an animal or plant, very important change
 - e) Susceptible—likely to be infected
- 2)
 - a) Leukaemia is a type of cancer in which there is an abnormal increase of white blood cells in the bone marrow.
 - b) Liver, spleen, lymph nodes, testes or brain
- 3)
 - a) Acute Lymphoblastic Leukaemia
 - b) Acute myeloblastic Leukaemia
 - c) Chronic Lymphocytic Leukaemia
 - d) Chronic myeloid Leukaemia
- 4)
 - a) Acute Leukaemia develops more rapidly than chronic leukaemia
 - b) This classification is according to the type of white cell that proliferate abnormally. If the abnormal cells are derived from lymphocytes or lymphoblasts it is called lymphoblastic leukaemia. If the abnormal cells are derived from other types of white blood cells or their precursors, the leukaemia is called myeloid or myeloblastic.

5)

	ALL	CLL
Proliferation of Lymphocytes	Proliferation of immature cells called blasts	Proliferation of mature looking lymphocytes
Incidence	More in children	More in adults above fifty.
Causes	Mutation is single cell. Original mutation can be caused by virus, exposure to chemicals, radioactivity, chromosomal abnormality	Unknown
Symptoms and signs	Overcrowding of bone marrow by blasts, infiltration of organs by abnormal cells.	Overcrowding of bone marrow, enlargement of liver and spleen. anaemia, persistent raised temperature, night sweats.
Diagnosis	Based on bone marrow biopsy	Presence of large number of lymphocytes in blood and bone marrow.
Treatment	Blood transfusion, anticancer drugs	Anticancer drugs, radiotherapy

Check Your Progress 4

Bronchitis — Serious inflammation of the bronchial tubes

Cause — Common cold

Problems — Fever, difficulty in breathing, chest cough, hoarseness, pain in the chest, difficulty in breathing

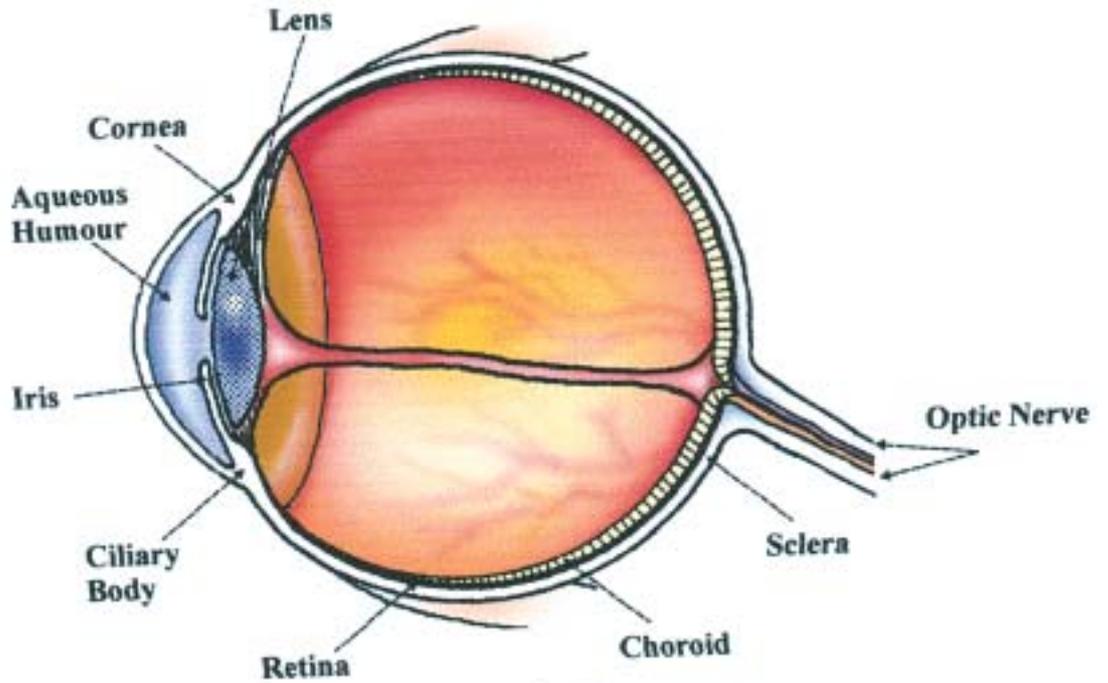
Treatment — Steam inhalation, fomentation, penicillin or other antibiotics.

Check Your Progress 5

- 1) Procedure for cataract surgery
 - a) Measurement of cornea and length of eye taken
 - b) Drops used to widen pupil to expose front surface of lens
 - c) Incision made around the upper edge of the cornea
 - d) Small quantity of clear gel injected
 - e) Large part of centre of front capsule of lens round
 - f) Hard nucleus of the lens removed.
 - g) Soft remaining parts cleared away
 - h) Artificial implant slipped into natural lens capsule
 - i) Corneal incision sewn up
- 2) Necessity
 - 2) To expose most of the front surface of the pupil
 - 3) To maintain space between the back of the cornea and the lens

Check Your Progress 6

1)



Structure of the Eyeball (Labelled Diagram)

Parts of the Eyeball	Functions of the Parts
Sclera	tough outer coat protecting the eyeball.
Cornea	helps in focusing light rays
Pupil	controls the amount of light entering the eye
Ciliary body	alters the shape of the lens
Retina	image formed by cornea and crystalline lens falls here.

Check Your Progress 7

- 1) Roads are important links for carrying goods and people to and from railway stations, ports and airports.
- 2) When other forms of transport, such as animals, carts or vehicles, cannot be used. This generally happens in hilly areas, where porters and coolies carry goods on their backs or heads.
- 3) cars, vans, buses, trucks
- 4)
 - i) water transport
 - ii) cheaper
 - iii) inland
 - iv) ocean
- 5) Inland waterways are not always reliable. For example, rivers may change their course abruptly, which may cause dislocation of traffic. In times of drought, they may become dry.

- 6) The advantage is that we can save time, and goods can be sent to places much faster. The disadvantage is that it is the costliest means of transport, because of the high cost of planes, their operation and maintenance.
- 7) i) land
 ii) water
 iii) air
 iv) non-vehicular
 v) animal
 vi) horses
 vii) mules
 viii) yaks
 ix) camels
 x) inland
 xi) ocean
 xii) rivers
 xiii) canals

Check Your Progress 8

- 1) a) T
 b) F
 c) F
 d) T
 e) T
 f) T
 g) F
- 2) i) surrounding
 ii) three
 iii) layer of air next to the earth
 iv) for about-10 miles
 v) next layer
 vi) of about 50 miles
 vii) ozone gases
 viii) lower portions
 ix) destruction
 x) Above
 xi) ionosphere

3) Layers of the Atmosphere

