Expt. No. _____

Chapter -5 Separation of substances

TEXTBOOK QUESTIONS

Q.1 Why do we need to separate components of a mixture? Give two examples.

Ans → ① To separate the harmful substances from the mixture.

② To separate useful substances from the mixture.

③ To sort and classify the impurities ~~from the~~ of a mixture.

↳ Eg:- Separation of stones and dirt from rice and pulses.

② Separation of leaves from prepared tea

Q.2 What is winnowing? Where is it used?

Ans → The process of separating heavier and lighter components of a mixture by the

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No. _____

help of wind or blowing air is called winnowing. This method is commonly used by farmers to separate lighter husk from heavier seeds of grains.

Q.3 How will you separate husk or dirt particles from a given sample of pulses before cooking.

Ans → 1) In the mixture of pulses, husk and dirst particles, we pour some amount of water. The husk and dirt particles will get separated at the top layer of water and ~~so~~ the pulse will be separated from the mixture at the bottom. This process is called sedimentation

2) The water containing husk and dirt particles will be decanted into another container. This process is called decantation.

Q.4 What is sieving? Where is it used?

P.T.O

Teacher's Signature

Scanned by TapScanner

Ans → The process of separating larger particles from a mixture of smaller and larger particles with the help of a sieve is called sieving. It is commonly used to separate pebbles from fine grains of sand ~~of sand~~ at construction sites. It is also used to separate leaves from prepared tea.

Q.5 How will you separate sand and water from their mixture?

Ans → The mixture of sand and water can be separated by three methods -

(1) We led the mixture stand for half an hour. Sand will settle down at the bottom of the container because it is insoluble and heavier than water. This is called sedimentation.

(2) Decant the water from the upper portion of the container.

(3) Now the ~~spe~~ ~~separat~~ separated water

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

is filtered to remove excess sand grains and clear water is obtained.
This is called filtration.

~~Q.6 Is it possi~~

Q.6 Is it possible to separate sugar mixed with wheat flour? If yes, how will you do it?

Ans → It is possible to separate sugar mixed with wheat flour by the process of sieving. In the process we should take a sieve whose pores are bigger than the flour, but smaller than the sugar particles. While sieving the flour will be separated ~~bt~~ below the sieve and the sugar will be separated on the sieve.

Q.7 How would you separate clear water from a sample of muddy water? (Activity form).

P.T.O

Scanned by TapScanner

Expt. No. _____ Page No. _____

Aim → To obtain clear water from a sample of muddy water.

Materials required → Two beakers, filter paper, funnel, clamp stand, stirrer.

Method → ① First of all stir the mixture and allow it to settle down for an hour.

② Heavy mud particles will be separated at the bottom of the beaker. This is called sedimentation.

③ Now carefully pour the clear water into another beaker. This is called decantation.

④ The clear ~~ts~~ water may contain some amount of mud in it.

⑤ ~~Some~~. The decantated water is poured into the funnel having filter paper in it. This is called filtration.

Teacher's Signature

Scanned by TapScanner

Expt. No. _____ Page No. _____

Observation - 1) We observe maximum amount of mud in water. Muddy water is then separated by sedimentation.

2) Decantation separates clear water but still some amount of muddy particles are present in the mixture.

3) Through filtration clear sample of water can be obtained.

Conclusion - Through the above methods a clear sample of water can be obtained.

Q.8 Q.9 & Done in the book

Q.10 Lemonade is prepared by mixing lemon juice and sugar in water. You wish to add ice to cool it. Should you add ice to the lemonade before or after dissolving sugar? Which

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

case would it be possible to dissolve more sugar?

Ans → We should add ice to the lemonade after dissolving sugar. Sugar particles particles may take energy from the ice cubes to get cooled. If the ice cubes are added before-hand ice cubes may be dissolving in lemonade solution requiring more sugar. That is why ice cubes are added after dissolving sugar ~~in~~ and lemonade. It would be possible to dissolve more sugar in lemonade if we add ice cubes before dissolving the sugar because ice cubes ~~keep~~ melt in water to create more space to dissolve more sugar in it.

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

Extra Questions

Q.1 what so should be the size of the pore of the ~~sieve~~ sieve while separating the components of a mixture?

Ans → ① The size of the pore of the sieve depending upon the size of the impurities in the mixture.

② The pores should be largen than the useful components but smaller than the impurities in the mixture

Q.2 Give two situations where it is necessary to separate the mixture from its components.

(+) Ans → ① While harvesting crops grains have to be separated from their stalks:

② To separate leaves from prepared tea.

Scanned by TapScanner

Date

Expt. No. _____ Page No. _____

Q3 → What is saturated solution?

Ans → The saturated solution is the one in which no more solute can be dissolved.

Q4 → How can you ~~prepa~~ prepare saturated solution? (Activity Form)

Ans → Aim - To prepare saturated solution.

→ Materials required - Beaker, spoon, water, salt and stirrer.

Method (s) Take a beaker filled with water. Add salt in the beaker to the water.

→ Observation - A stage will come that no more salt can be dissolved. This is called saturated solution.

→ Conclusion - Through the above

Teacher's Signature _____

Scanned by TapScanner

method saturated solution can be prepared.

Q.5 Describe an activity to show that larger amount of salt can be dissolved through heating.

Aim - To show that larger amount of salt can be dissolved through heating.

→ Materials required - Beaker, tripod stand, water, salt, spoon, stirrer and burner.

Method (1) First we take water in the beaker.
(2) We mix salt in ~~the~~ it until salt can't be dissolved.
(3) After the saturated solution is prepared (stir the solution continuously) we add one more teaspoon of salt in it. This remains at the bottom of the beaker.

Teacher's Signature _____

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

(4) Now we keep the beaker on the tripod stand and warm the beaker with the burner.

Observation → We observed that while heating extra amount of salt can be dissolved.

Conclusion → Now we can conclude that extra ~~salt~~ amount of salt can be dissolved through heating.

Q.6 What is evaporation?

Ans → Evaporation is the process in which a liquid gets converted into its vapour on heating.

Q.7 What is condsation?

Ans → Condensation is a the process in which liquid. Vapour gets ~~co~~ converted into its liquid on cooling

Teacher's Signature

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

Q.8 How will you separate a mixture of grass, pebbles and sand?

(1) From a mixture of grass, pebbles and sand, grass can be separated by handpicking.

(2) Mixture of sand and pebbles can be taken on a sieve. whose pores are larger than sand but smaller than pebbles. Therefore pebbles will be separated on the sieve and sand will be separated below the sieve.

Q.9 How will you prepare common salt from marine water?

Ans → Marine water contains many salts dissolved in it. Marine water is allowed to stand in shallow pits. water gets heated by sunlight and evaporates and ~~salt~~ solid salt ~~is obtained~~ remains in the pit. Common salt is then obtained from the mixture of salts by further purification.

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

Q.10 what is threshing? what are the different methods of threshing? How is performed?

Ans → The process that is used to separate grains from their stalks is called as threshing. The different methods of threshing are -

(1) The stalks are beaten to free the grain seeds.

(2) Sometimes threshing is done with help of bullocks.

(3) Machines are also used to sepate grains from their stalks.

Q.11 ~~used to~~ Name the process used to separate - insoluble ~~salts~~ substance from their solution.

Ans → ① The processes used to separate insoluble substances from there solution are sedimentation decantation

Teacher's Signature _____

Scanned by TapScanner

Date _____

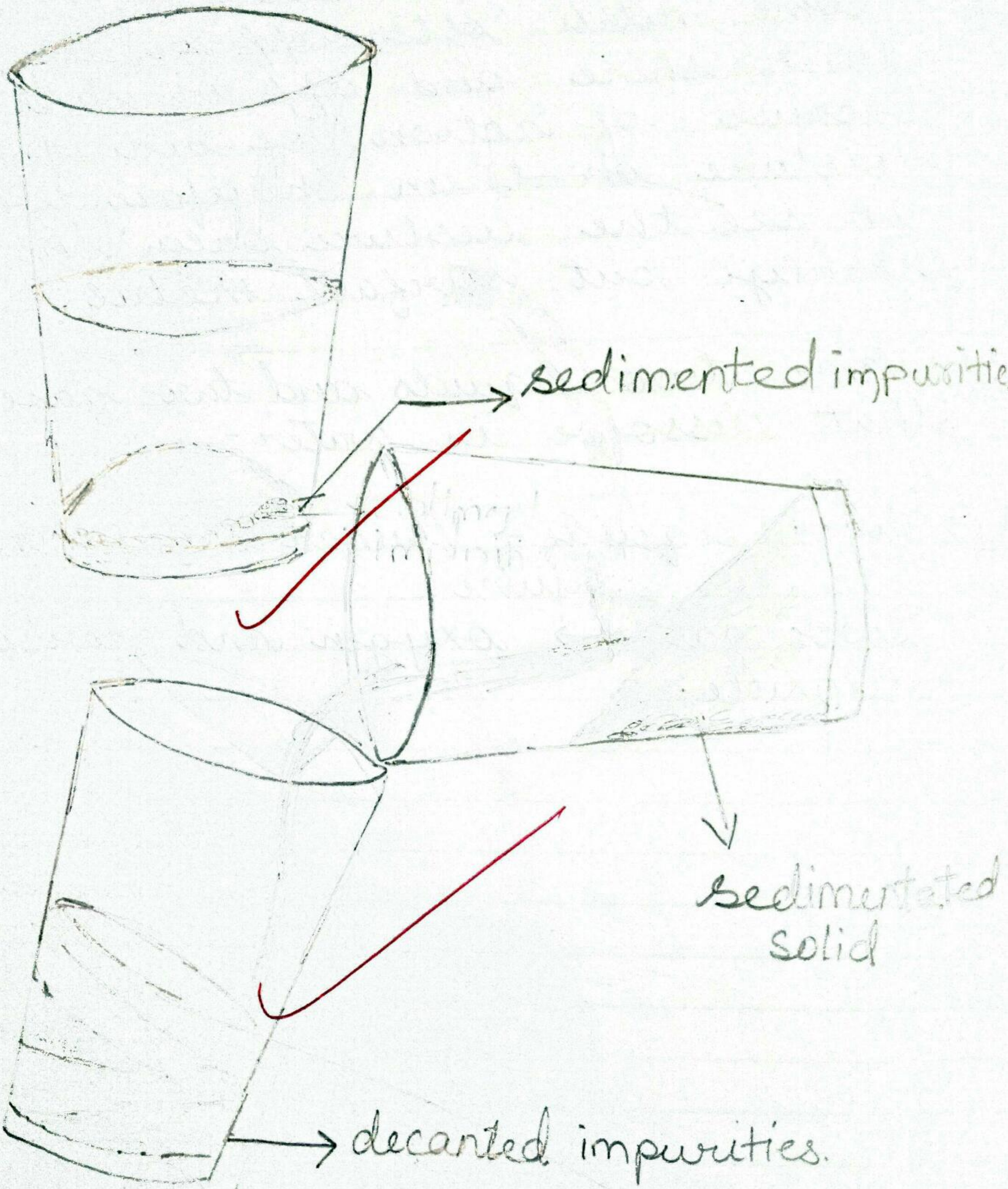
Expt. No. _____ Page No. _____

and filtration.

② Filtration is ~~a~~ ~~better~~ better the method to remove insoluble ~~substances~~ impurities from ~~which~~ their solution because it ensures 100% separation of insoluble impurities from their solution.

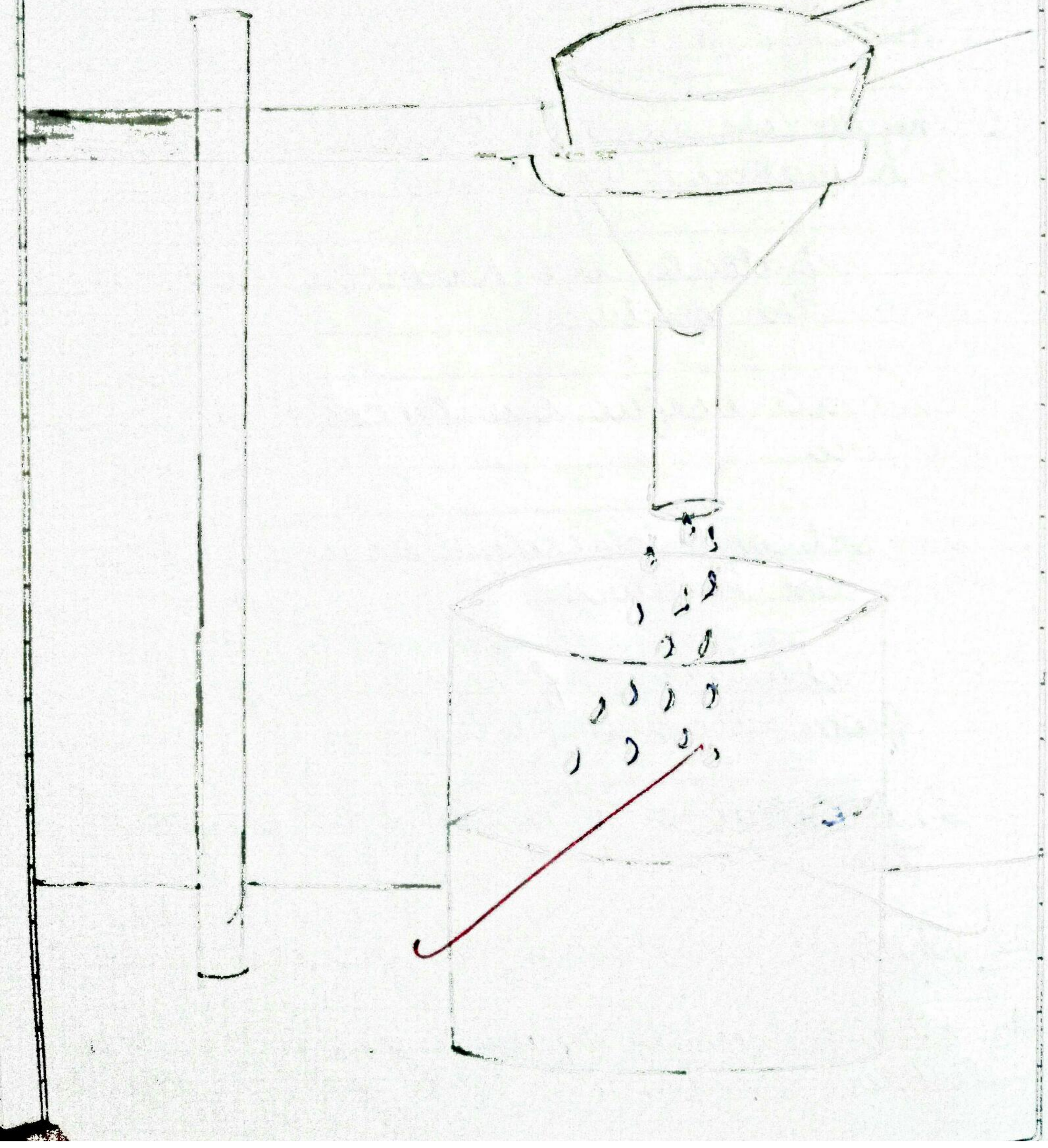
Scanned by TapScanner

SEDIMENTATION



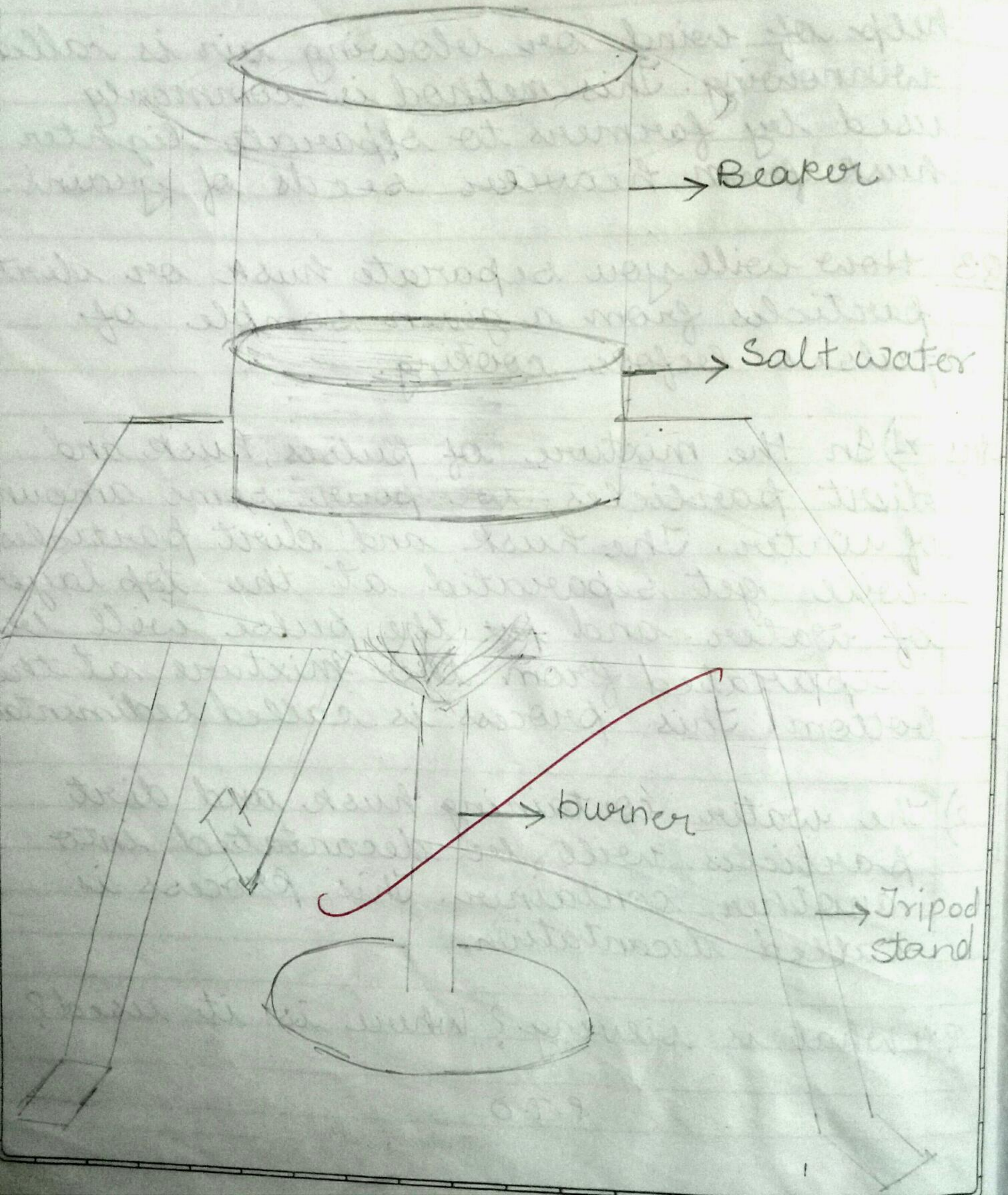
DECANTATION

FILTRATION USING A FILTER PAPER

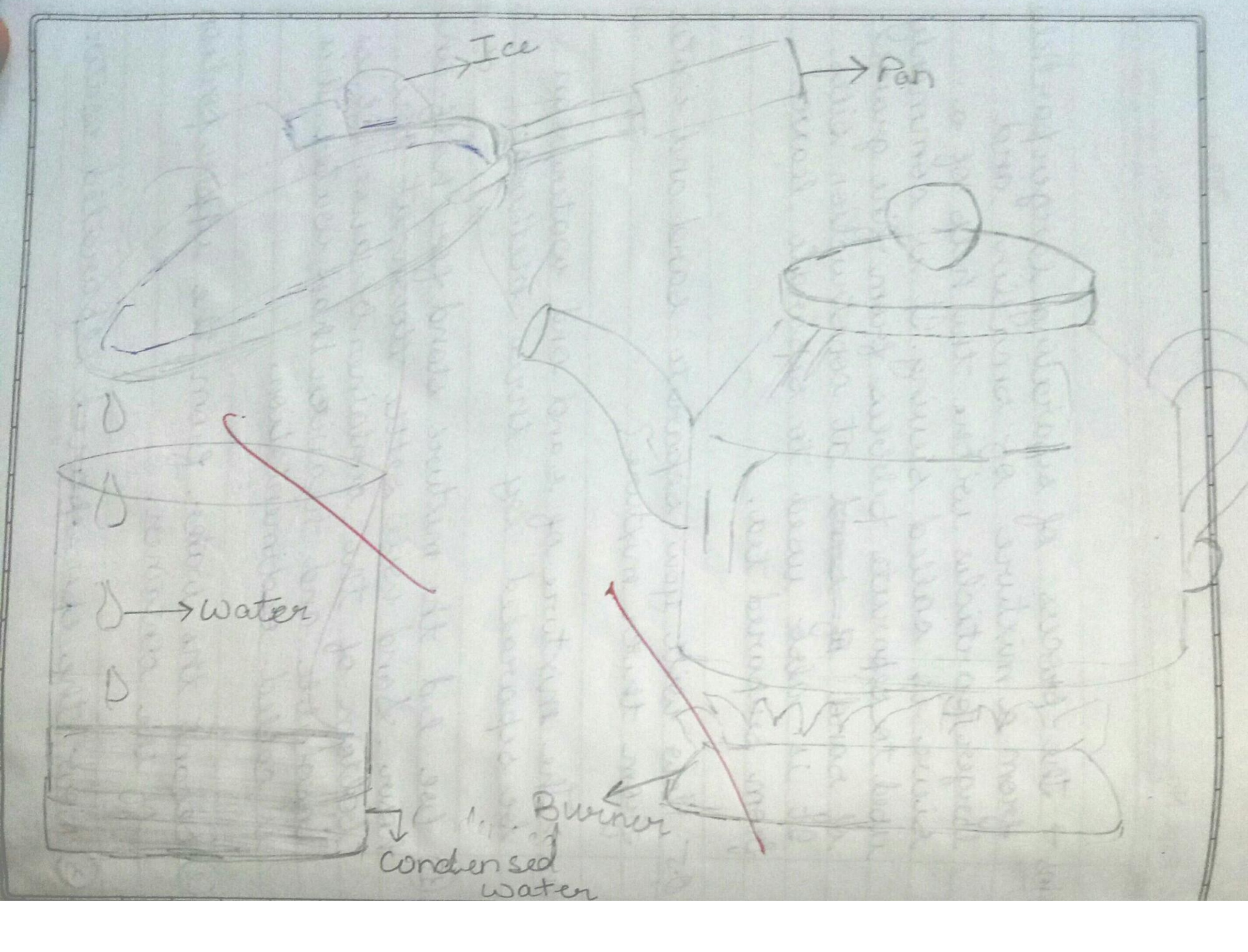


Scanned by TapScanner

HEATING A BEAKER CONTAINING SALT WATER.



Scanned by TapScanner



Scanned by TapScanner



Dissolving salt in water

Scanned by TapScanner

Expt. No. _____ Page No. _____

Ch-6 Changes around us

Text-Book Questions

Q.1 To walk through a waterlogged area, you usually shorten the length of your dress by folding it. Can this change be reversed?

Ans – Yes, it can be reversed if we unfold the dress.

Q.2 You accidently dropped your favourite toy and broke it. This is a change you did not want. Can this change be reversed?

Ans → Yes, it can be reversed by assembling parts with fevicol.

Q.3 Done in the textbook.

Q.4 A drawing sheet changes you draw a picture on it. Can you reverse this change?

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

Ans → Yes, this change can be reversed if we draw the draw the drawing with pencil (we can rub it). But if the colours are used in drawing it s cannot be reversed.

Q.5 Give examples to explain the difference between changes that can or cannot be reversed.

Can be reversed	Cannot be reversed
(1) Melting of ice can be reversed.	(1) Bursting of a balloon cannot be reversed.
(2) Drawing on a paper with pencil can be reversed.	(2) Changing milk into curd cannot be reversed.
(3) Evaporation of ~~salt~~ water into water vapour can be reversed.	(3) Changing of a baby into a man cannot be reversed.

Scanned by TapScanner

Expt. No. _____ Page No. _____

Q.6 A thick coating of a paste of Plaster of paris (POP) is applied over the bandage on a fracture bone. It becomes hard on drying to keep the fractured bone immobilised. Do you think the changes, which have occured in the ~~cement~~ POP, could be reversed?

Ans- It is an irreversible change.

Q.7 A bag of cement lying in the open gets wet due to rain during the night. The next day the sun shines brightly. Do you think the changes which have occured in the cement, could be reversed?

Ans - No, changes which have occured in the cement due to rain cannot be reversed. When the rain drops fall on the bag of cement it becomes wet and during sunshine the cement gets solidified. Hardened cement cannot be broken into powdered

Teacher's Signature _____

Scanned by TapScanner

cement.

Extra Questions

(1) What are the differences between reversible change and irreversible change?

Ans →

Reversible change	Irreversible change
(1) The change that can be reversed by changing few conditions is called a reversible change.	(1) The change that cannot be reversed by changing a few conditions is called as irreversible change.
(2) No new substances are formed in this change.	(2) New substance is is formed in this change.
(3) We can get back the original substance eg: change of water into ice. Melting of icecream.	(3) We cannot get back the original substance eg. Process of photo-synthesis, cooking of food.

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

Q.2 State wether the following changes are reversible or irreversible with reason.

Ans → (1) Sawing a piece of wood.
It is an irreversible change because pieces of wood cannot be changed into log of wood.

(2) Melting of ~~ice cream~~ ice candy
It is a reversible change because liquid ice candy ~~is~~ frozen can be frozen into ice candy (solid) again.

Q3 ~~Ans~~ 3) Dissolving salt in water
It is a reversible change because when we heat the salt water we can get back the salt again.

4) cooking of food
It is an irreversible change because cooked food cannot be changed into ingredients again.

Scanned by TapScanner

Expt. No. _____ Date _____

Page No. _____

5) Ripening of Mango
It is an irreversible change because ripened mango cannot be changed into raw mango.

6) Growth of a baby into young man
Irreversible change because a young man cannot be changed into a baby again.

7) Souring of milk - (Spoiling Of milk)
It Irreversible change because sowred milk cannot be change into fresh milk again.

8) Photosynthesis of a plant - Irreversible change because the prepared food by the leaf cannot be changed into raw-materials again.

9) Bursting of Balloon - Irreversible change because pieces of balloon cannot be changed into balloon again.

Teacher's Signature _____

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

Q.3 What are reversible and irreversible changes?

Ans → Reversible changes - Changes which can be reversed by changing few conditions are called reversible changes.
eg:- Melting of ice, dissolved salt ~~and~~ or sugar in water.

Irreversible changes - The changes which cannot be reversed by few conditions are called reversible changes.
Eg - Burning of matchstick, cooking of food,

Q.4 How ~~is~~ ~~a~~ the iron blade of the tool used for digging the ~~stool~~ soil is fixed in the wooden handle?

Ans → The iron blade of the tools used for digging the soil have a metallic ring in which the handle is fixed. To fix the handle the ring is heated. The ring becomes larger in size. Now the handle is fixed easily into the ring

Teacher's Signature _____

Scanned by TapScanner

When the ring cools down, it contracts and fixes tightly on to the handle.

Q.5 How is the iron rim fixed on wooden wheel of a cart? what kind of change is it?

Ans → The metal rim is made slightly smaller than the wooden wheel. On heating the metal rim expands and is fixed to the wheel. Then cold water is poured over the rim. The metal rim contracts and fixes tightly on the wheel. This is a reversible change because no new substance is formed and we are getting back the orignal shape of the rim.

Q.6 If we take some wax in a pan and heat it what happens? What kind of change is this?

Ans → If we take some wax in a pan and heat it, it will melt into liquid wax and again if we cool it, it would

Teacher's Signature _____

Scanned by TapScanner

Date

Expt. No. Page No.

be solidified into solid wax. In this change we are getting solid wax again ~~pe previously which~~ which was previously melted. Therefore it is a reversible change.

Q.7 What are the changes that appear ~~du~~ in a incense stick? Is it a reversible change? when it is burnt?

Ans → (1) The incense stick ~~burnt~~ burns to produce some materials like some gases and ashes.

(2) This change cannot be reversed because ashes and gases cannot ~~p~~reproduced incense stick again

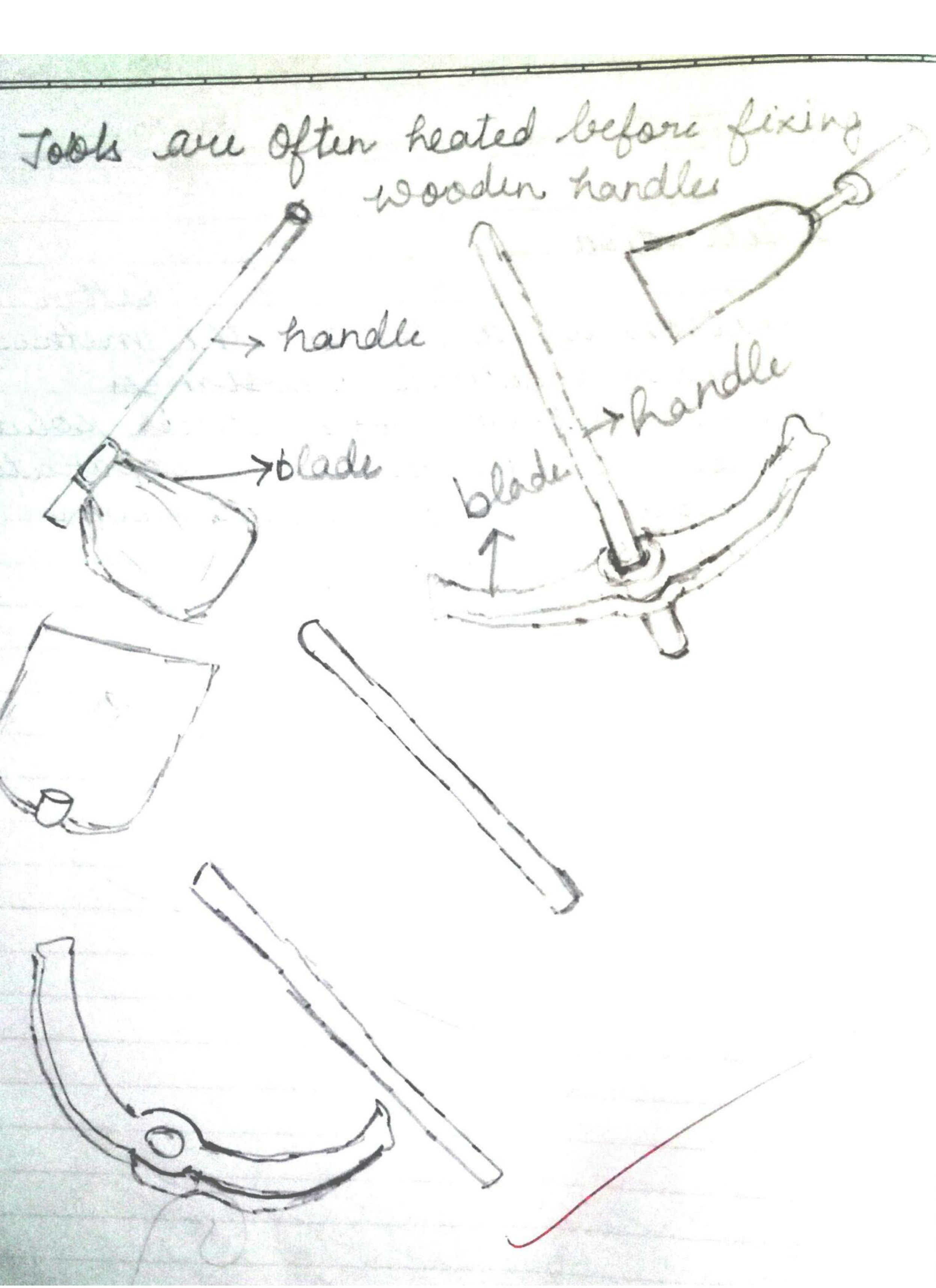
Q.8 How does a blacksmith change a piece of iron into different tools?

Ans → A piece of iron is heated till it becomes red hot. It then becomes soft and is beaten into a desired shape

Teacher's Signature

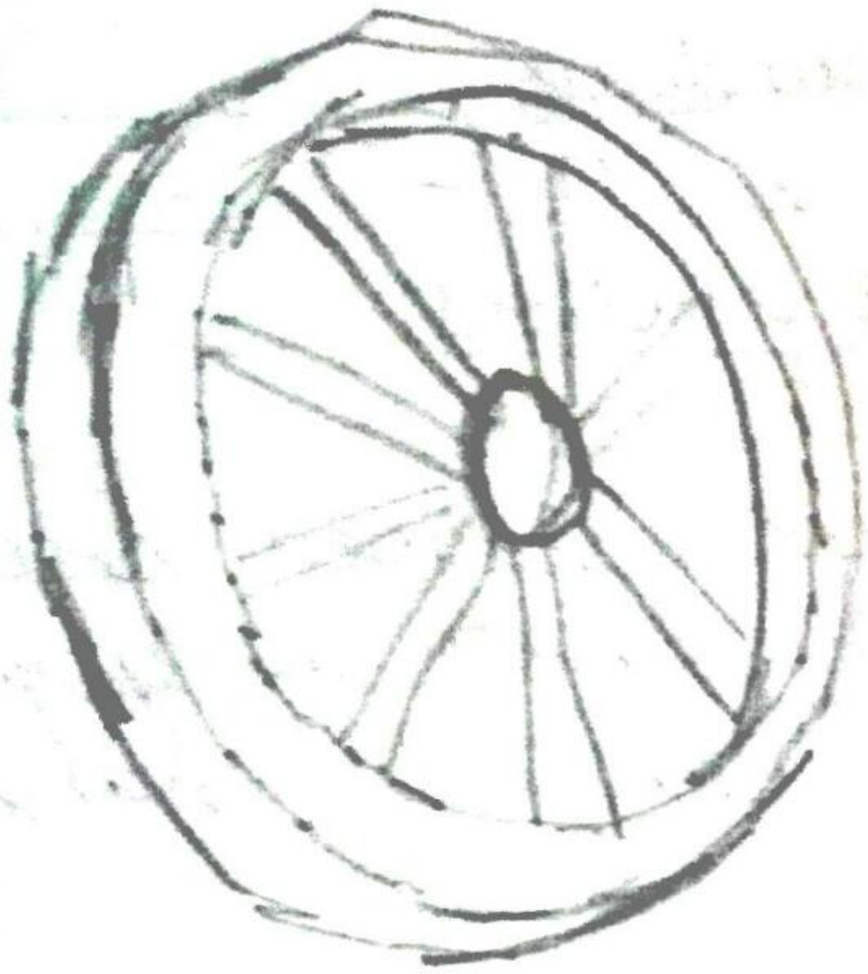
Scanned by TapScanner

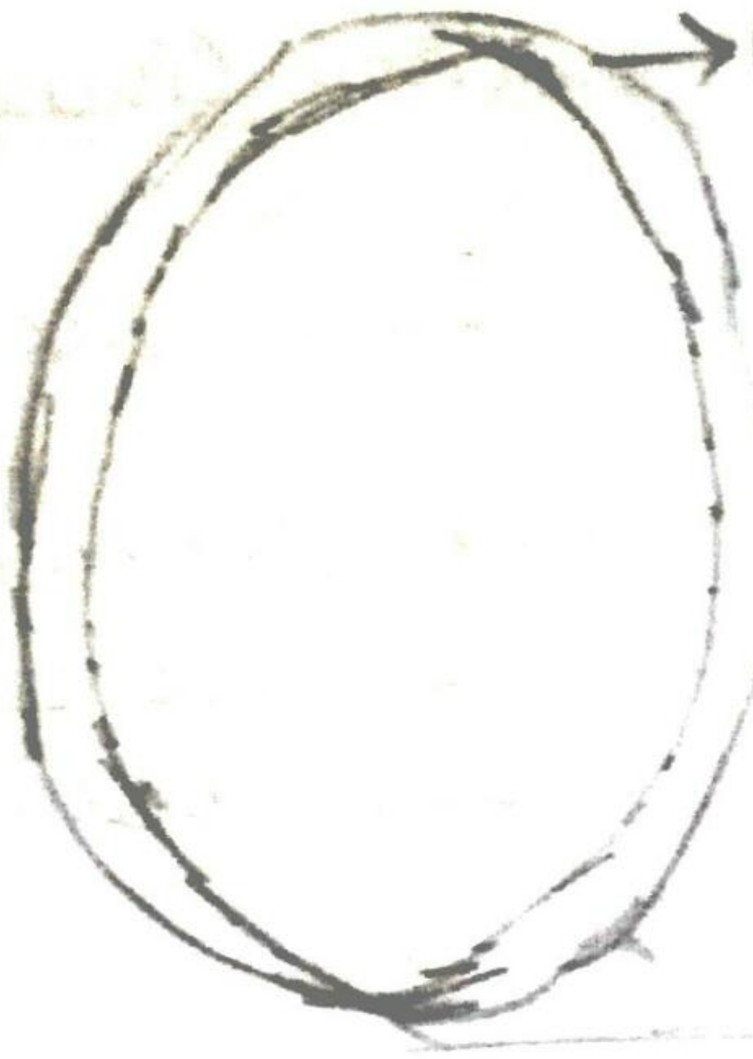
Tools are often heated before fixing wooden handles

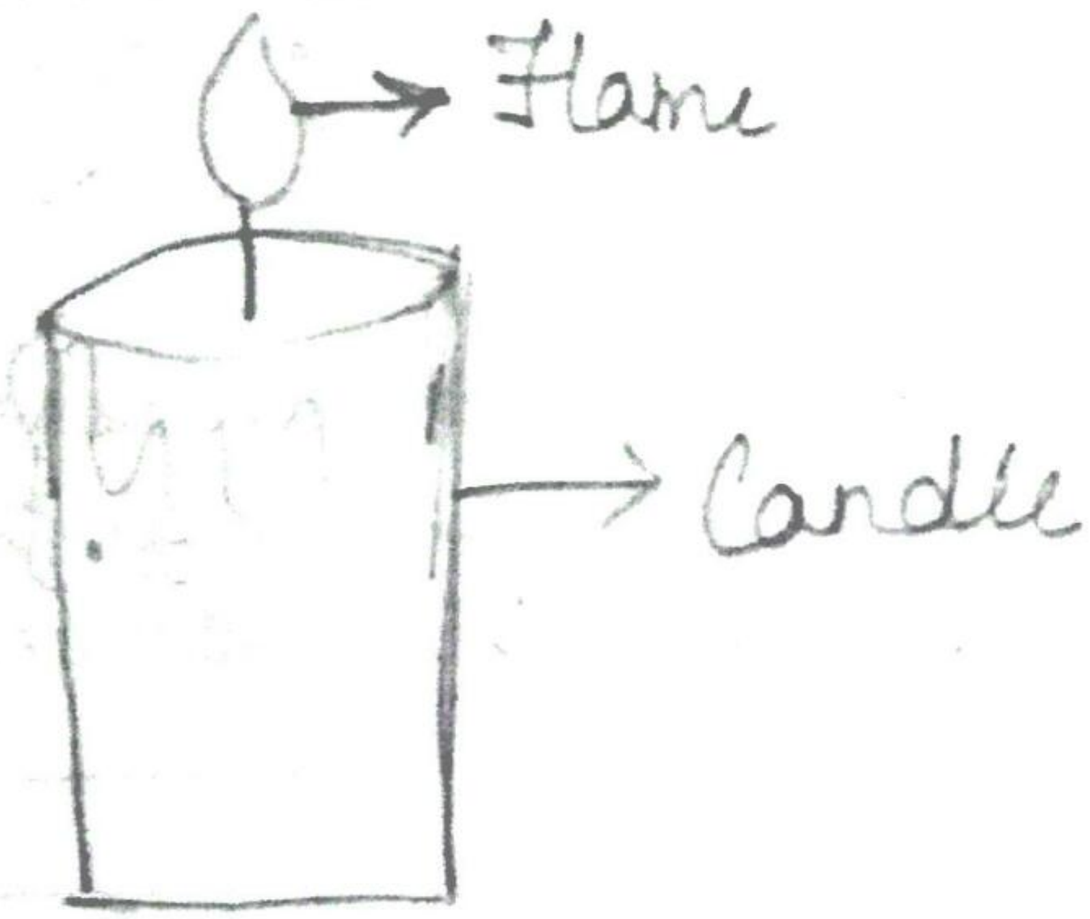


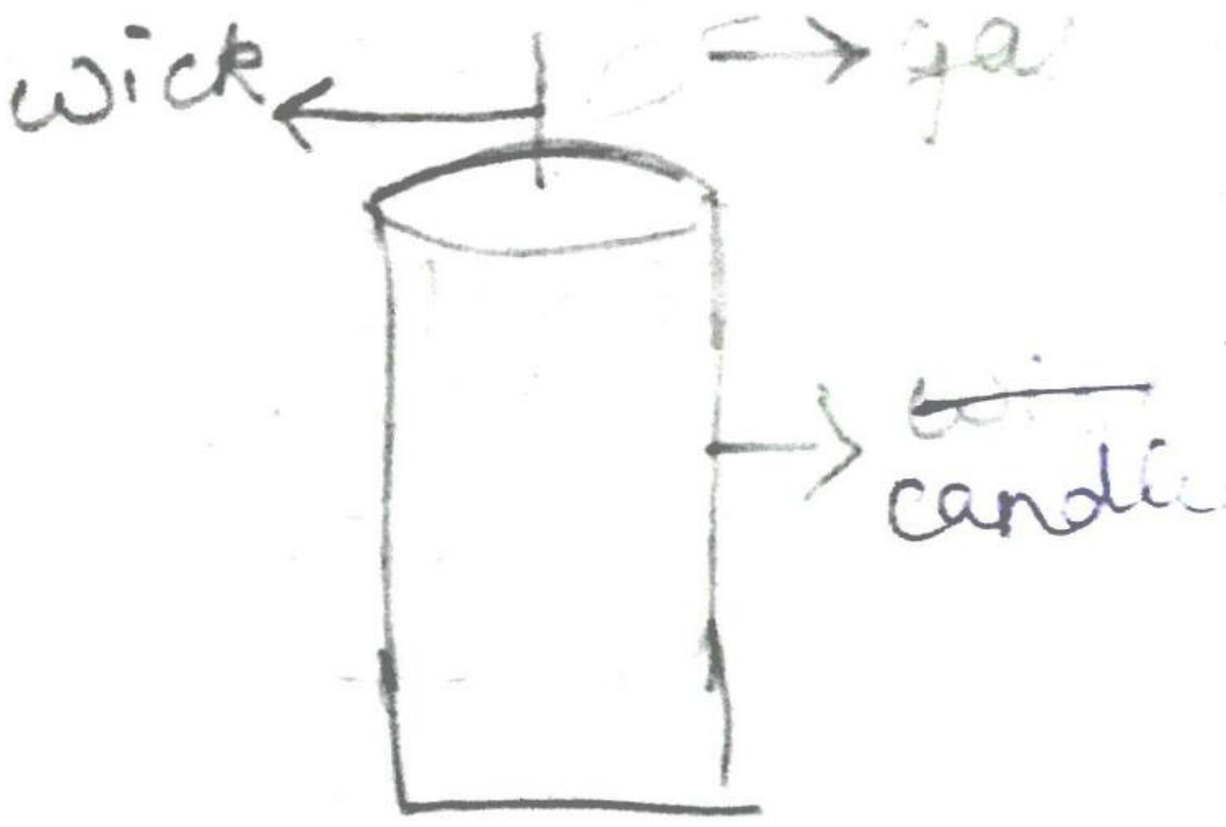
Scanned by TapScanner

Cart wheel with metal rim fixed



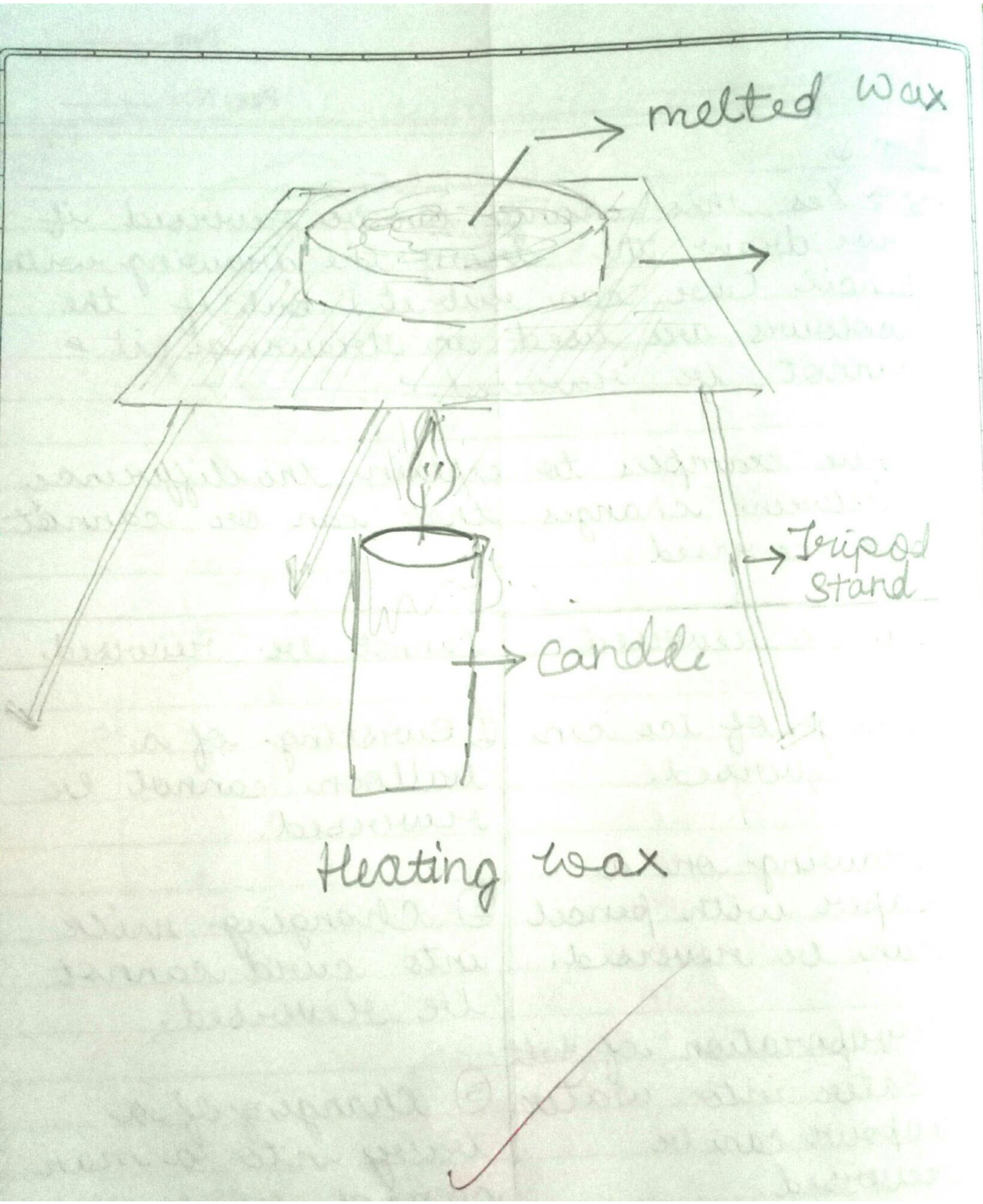






Burning of a candle

Scanned by TapScanner



Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

Ch-7 Getting to Know plants

Textbook Questions

Q.1 Corrected Statements :-

(a) Roots absorbs water and minerals from the soil.

(b) Stem conduct water to the leaves.

(c) Leaves hold the plant upright.

(d) The number of petals and sepals in a flower is not always equal.

(e) If the sepals of a flower are joined together, its petals are not always joined together.

(f) If the petals of a flower are joined together, then the pistil is ~~joined~~ not always joined together.

Q.2 Draw a leaf, taproot and flower, you have studied in for Table 7.3.

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

Q.3 Can you find a plant in your house or in your neighbourhood, which has a long but a weak stem? Write its name. In which category would you classify it?

Ans → Plants which have long but weak stem are money plant, grape wine and Pumpkin plant. They are classified into climbers and creepers.

Q.4 What is the function of a stem in a plant

Ans → ① Stem holds the branches of a plant, flowers, leaves, fruits and buds.

② Stem helps in the upward movement of water and minerals.

③ Stem helps in the upward and downward movement of prepared food.

④ Leaves of the stem ~~are~~ and other green parts produce food through the process of photosynthesis.

Teacher's Signature _____

Scanned by TapScanner

Q5 Which of the following leaves have reticulate venation?
Wheat, Tulsi, maize, grass, corriander (Dhania), China rose.

Ans → Wheat - Parallel Venation
Tulsi - Reticulate venation
Maize - Parallel venation
Grass - Parallel venation
Corriander (Dhania) - Reticulate venation
China Rose - Reticulate venation

Q.6 If a plant has ~~tuuep~~ fibrous root, What type of of venation do its leaves likely to have?

Ans → Parallel venation

Q.7 If a plant has leaves with reticulate venation, what kind of roots will it have?

Ans → Tap root system

Q.8 Is it possible to find wether a plant has

Teacher's Signature

Scanned by TapScanner

Expt. No. _____ Page No. _____

taproot or fibrous roots by looking at the impression of its leaf on a sheet of paper?

Ans → Yes, it is possible to recognize the root of the plant by looking at the ~~leaves~~ leaf impression. If the impression shows ~~not~~ net like structures of veins, ~~It will have taproot system. If the that~~ is reticulate venation then the plant will have tap root system. If the leaf impression shows parallel venation then it will have fibrous root.

Q.10 Done in the text book.

Q.11 Name the part of the plant which produces its food. Name the process.

Ans → Leaves, Photosynthesis.

Q.12 In which part of a flower, you are likely to find the ovary?

Ans → Pistil (Female part of the flower)

Teacher's Signature _____

Scanned by TapScanner

Q.13 Name two flowers, each with joined and separated sepals.

Ans → Joined sepals - Datura and petunia.
Separated sepals - China Rose, Rose

Extra Questions

Q1 What are the main functions of the following?
a) Root b) Stem c) leaves

Ans → (a) Functions of Roots

(1) It holds the plant firmly in the soil.
(2) It absorbs water and minerals from the soil.
(3) It can store food materials.

(b) Functions of Stem

(1) ~~Stem holds~~ Done under Q-4 (Text book Qus)

Teacher's Signature _____

Scanned by TapScanner

(c) Functions of leaves

(1) Leaves give out water vapour through the process of transpiration.

(2) Green leaves make their food by the process of photosynthesis using carbon dioxide and water with the help of sunlight.

Q.2 ~~Ear~~ How can you experimentally demonstrate the transportation in plants.

Aim - exiperimentally demonstrate the transportation in plants:

Materials Required - Two weeds, two pots and Water

Method - (1.) We select two weeds of the same kind.

(2.) We plant one in POTA

(3.) Then we cut off the root

Teacher's Signature

Scanned by TapScanner

Expt. No.

in other ~~wood~~ weed and plant it in POTB.

(4.) Water the plants and observe after a week.

Observation - The plant in POT B (without roots) is not healthy whereas the plant in Pot A is healthy after a week

Conclusion - This shows Water in POT A is transported by roots. Water cannot transported in POT B as there are no roots.

Q.3 What is parallel and reticulate venation? (Fig 7.10)

A. Parallel venation - In the leaves of grass and mostly in monocot plants the veins of the leaf show parallel venation. e.g. grasses.

Reticulate Venation - Mostly in the dicot plants the veins in the leaf form a net like structures on both sides of the

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____

leaf. Such a type of venation is called as reticulate venation.

Q.4 Draw a section of a flower and label the parts :- Fig 7.22

Q.5 Describe ~~the~~ an activity to show that leaves prepare food for the plants in the presence of sunlight. Fig 7.12

Aim → To prove that leaves prepare food for the plants in the prepence of sunlight.

Materials required → A leaf, spirit, beaker, test tube, burner water and iodine solution.

Method → 1) We put the green leaf in a test tube and pour spirit in it till the leaf gets drowned.

2) Fill half of the beaker with water

3) The test tube is warmed untill the ~~leaf~~ ~~untill~~ green colour of the

Teacher's Signature _____

Scanned by TapScanner

Date

Expt. No. Page No.

test
~~leaf~~ is removed and the leaf becomes colourless

4) Now the colourless leaf is taken out from the test tube and ~~kept~~ it in a petri kept

5) Put 2-3 drops of iodine solution on the colourless leaf and wait for some-time.

Observation - When the iodine solution is poured over the leaf it turns into blue-black colour.

Conclusion - We know that dark-red iodine solution changes to blue-black when it reacts with starch. In the presence of chlorophyl, sunlight, carbon dioxide and water leaves prepare food for the plant which remains as starch. The stored starch of the leaf changes Iodine into blue-black colour.

Q6 Write an activity to show stem conducts water. (Fig 7.6)

Teacher's Signature

Scanned by TapScanner

Expt. No. _____ Page No. _____

Aim → To show that stem conducts water.

Materials required - A herb, glass, water and red ink.

Method - 1.) Pour water to fill one third of the glass.

2. Add a few drops of red ink to the water of a

3.) Cut the base ~~of herb in a~~ herb and put it in the water in the glass

4.) Observe it next day.

Observation - When we cut the stem across we see that there is red colour inside the stem. We can observe the water moving up the stem.

Conclusion - The above activity shows that stem conducts water.

Q.7 Draw a leaf and label its parts. (Fig. 7.8, Done in C.W.)

Q.8 What are the two types of roots that are found

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No.

in plants.

Ans → Taproot and Fibrous root.

Q8 What are the differences between taproots and fibrous roots

	TAP ROOT		FIBROUS ROOT
1.	Plants with Tap root system have a main root with a number of branches called lateral roots.	1.	In plants with fibrous roots no main root is present and thin thread like roots develop from the lower portion of the plant.
2.	~~Pol~~ Plants with taproot system usually have leaves with reticulate venation.	2.	Plants with fibrous roots have leaves with parallel venation.
3.	Plants with taproot system usually have ~~dico~~ dicot ~~seeds~~.	3.	Plants with fibrous roots usually have monocot seeds.

Teacher's Signature

Scanned by TapScanner

Expt. No. Date

Page No.

Q.10 Name the male reproductive part of a flower. What are its parts? Draw a neatly labelled diadram. Fig 7.23

Ans → Stamen. It has two parts. They are anther and filament. Inside the anther pollen grains are present.

Q.11 Name the female ~~par~~ reproductive part of flower. Draw a neatly labelled diagram.

Ans → The female reproductive part of the ~~plant~~ flower is called pistil. The pistil contains style and ovary. ~~Inside the ovary ovules are~~ The lower swollen part of the pistil is called ovary. Inside the ovary ovules are present. Fig 7.24 and Fig 7.26

Q.12 How will you prove that plants release a lot of water in the air?
Write an activity to show the transpiration in plants. (Fig 7.11)

Aim → To prove that plants release a lot of water in the air.

Teacher's Signature

Scanned by TapScanner

Expt. No. _____ Page No. _____

Materials required - A herb, two polythene bags and a string.

Method - a) Take healthy plant and keep a leafy branch in the polythene bag and tie its mouth with a string.
Also tie an empty polythene bag and
b) Keep both of them in the sunlight.

Observation - After a few hours drops of water appear on the inner side of polythene bag with a leafy branch. But in the empty polythene bag there are no droplets of water.

Conclusion - Water comes out of the leaves in the form of water vapour and this is called as transpiration.

Q.13 What are herbs, shrubs and trees?

Ans → a) Herb - Plants with green and tender stem are called herbs. They are usually short and may not have many branches. eg. Tulsi

b) Shrubs - Some plants have the stem branching out

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Date _____

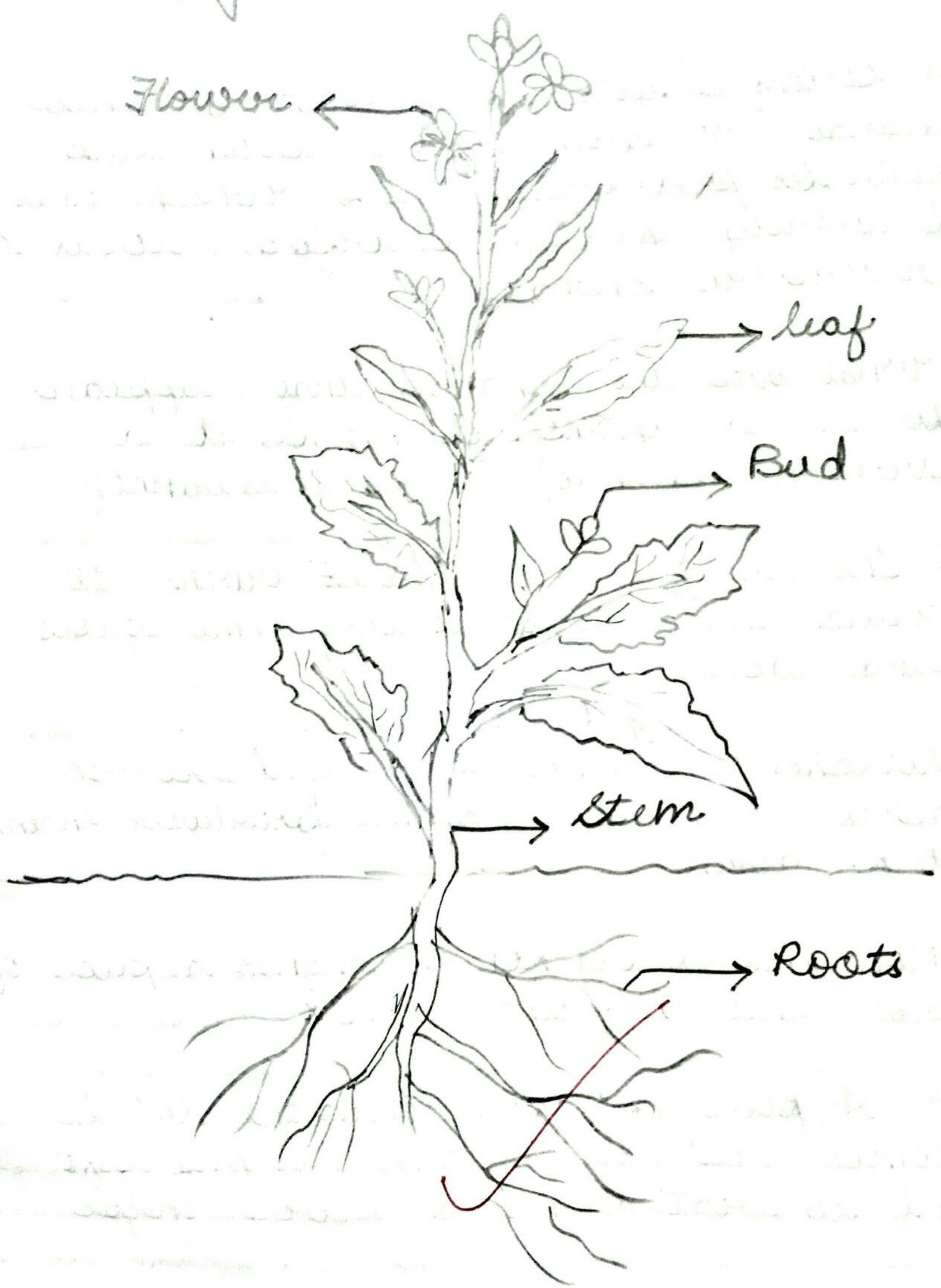
Page No. _____

near the base. The stem is hard but not very thick. Such plants are called shrubs. E.g. - Rose

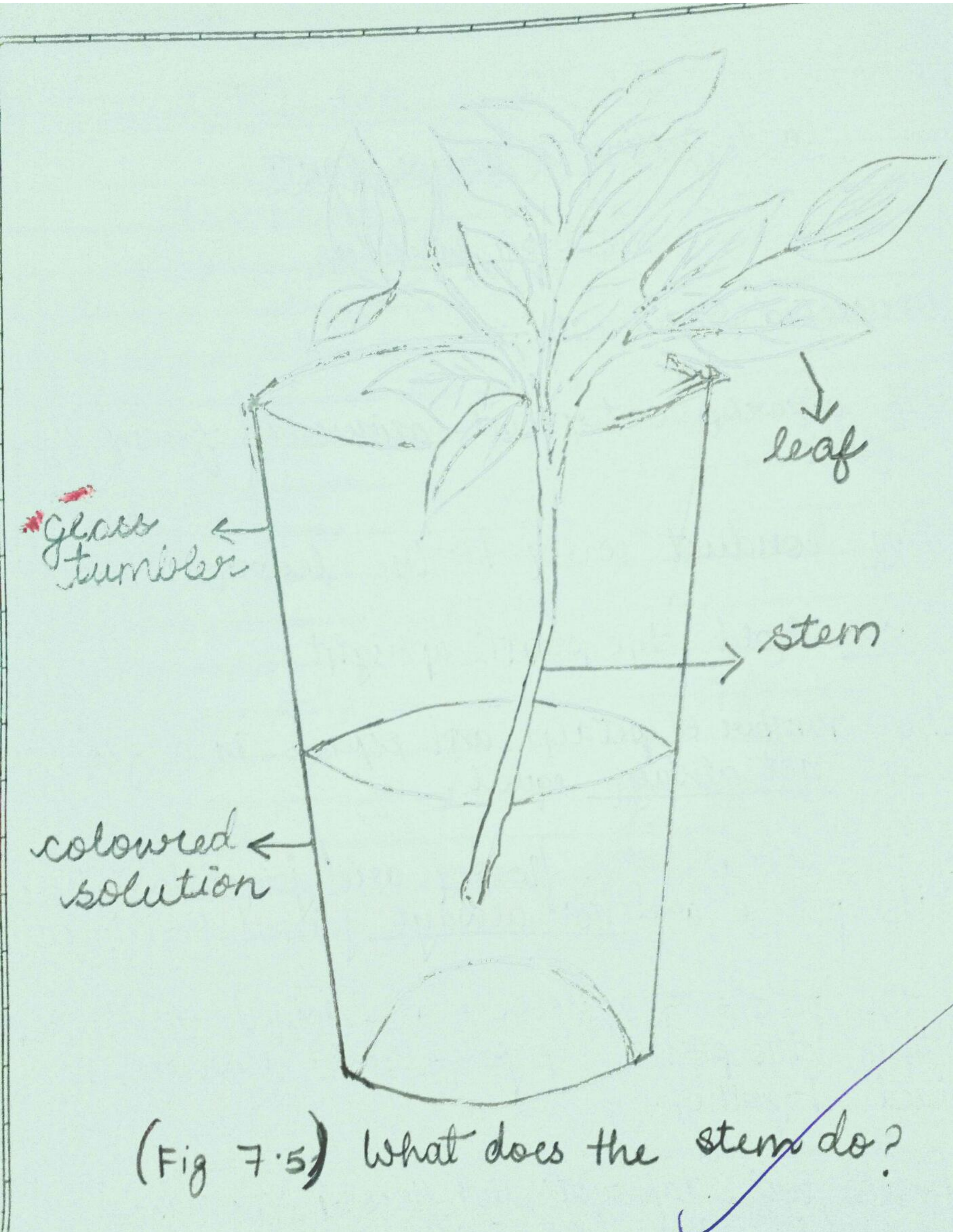
c) Trees - Some plants are very tall and have hard and thick stem. The stems have branches in the upper part much above the ground. Such plants are called trees.

Scanned by TapScanner

(Fig 1.1) PARTS OF A PLANT

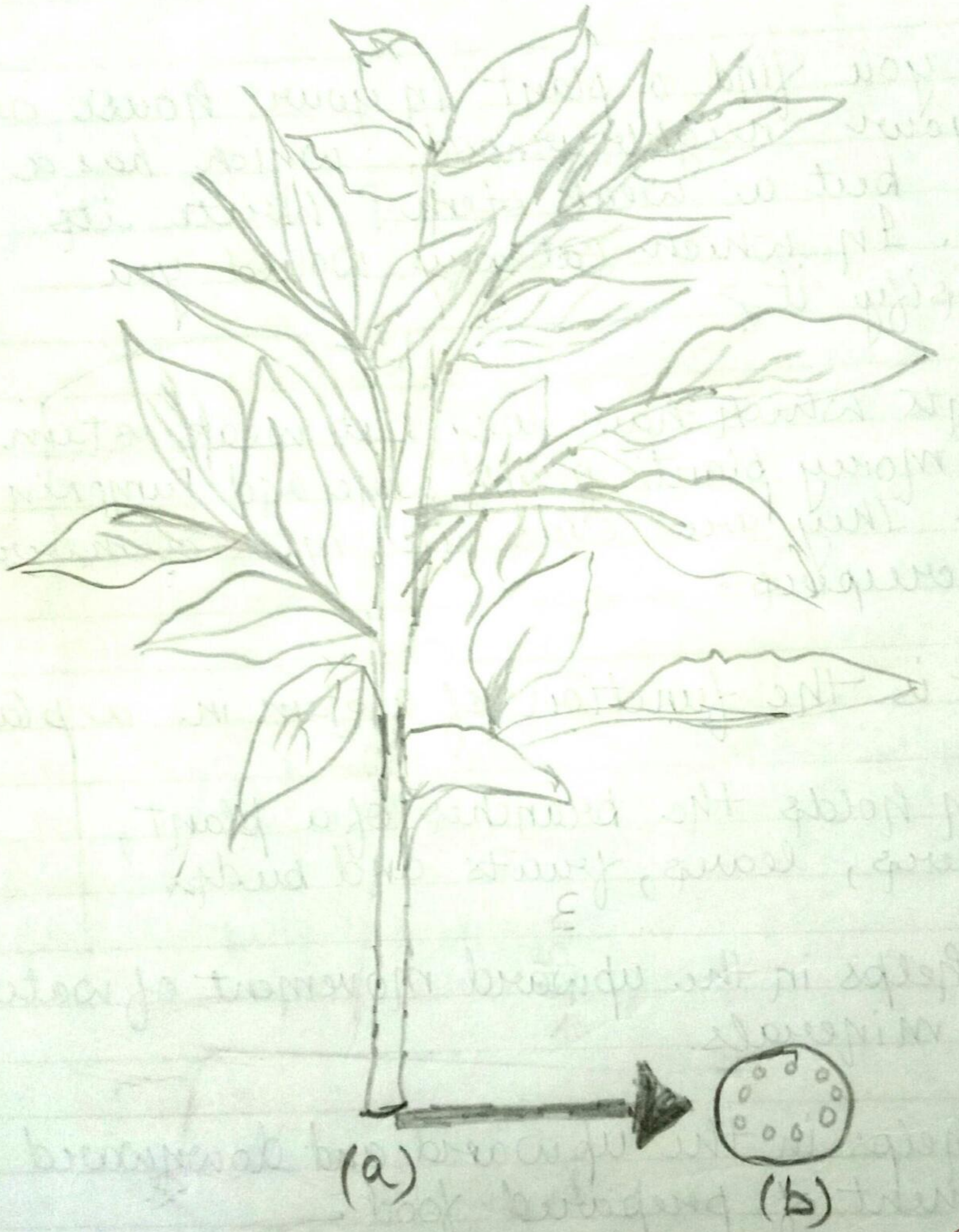


Scanned by TapScanner



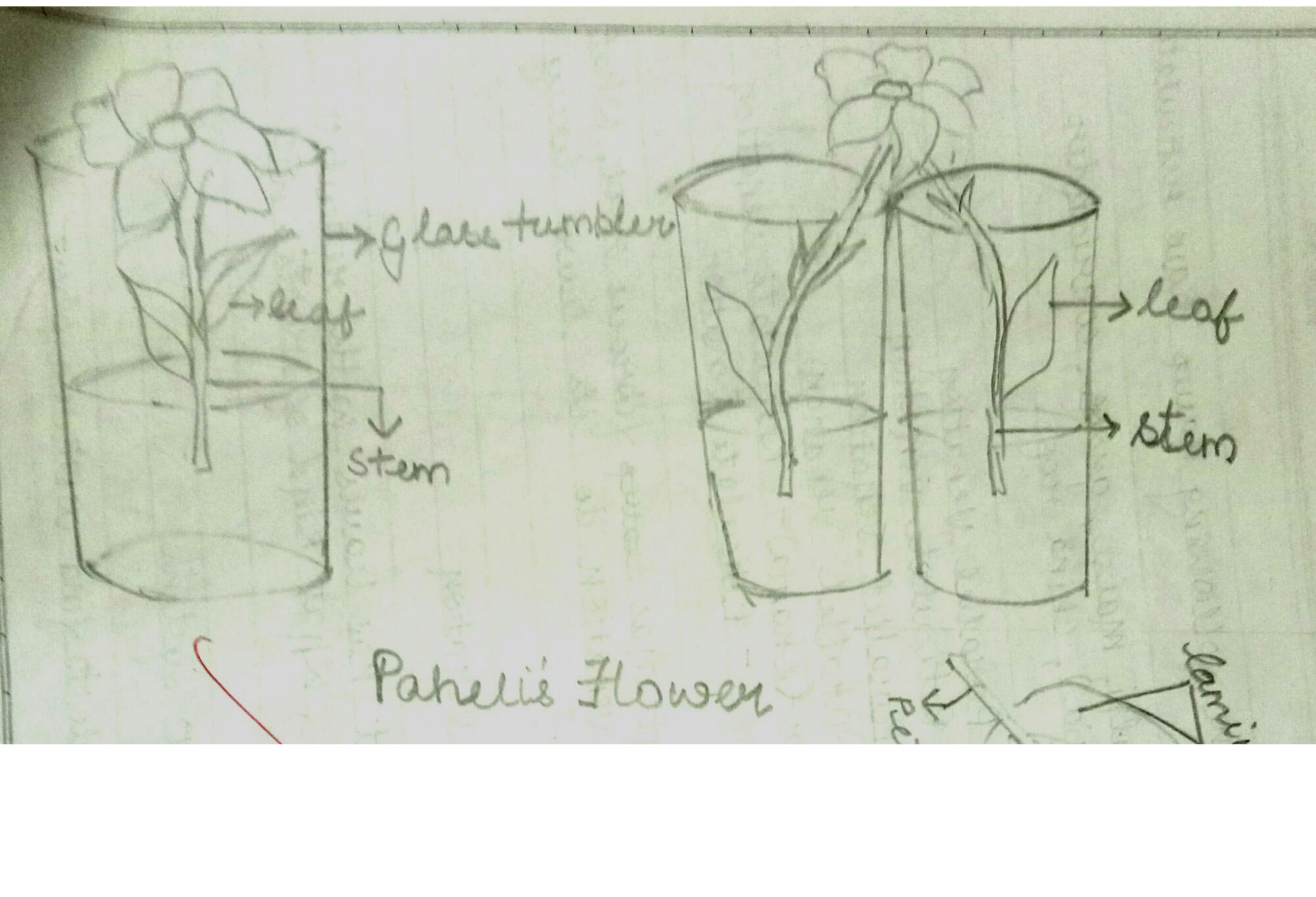
(Fig 7.5) What does the stem do?

Scanned by TapScanner



(7.6) (a) Water moves up the stem
(b) Enlarged view of open end of stem

Scanned by TapScanner



Pothos Flower

Scanned by TapScanner

veins

lamina

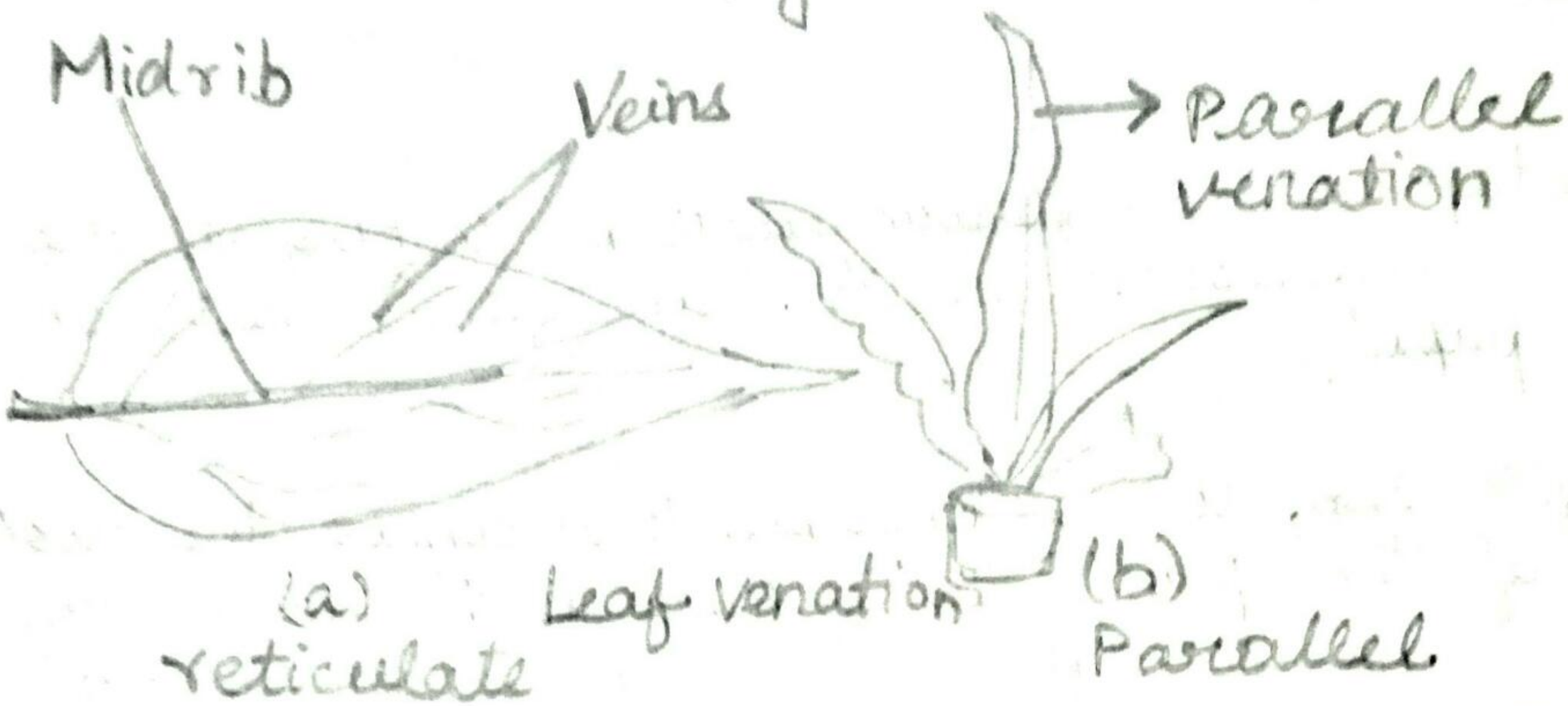
mid-
rib

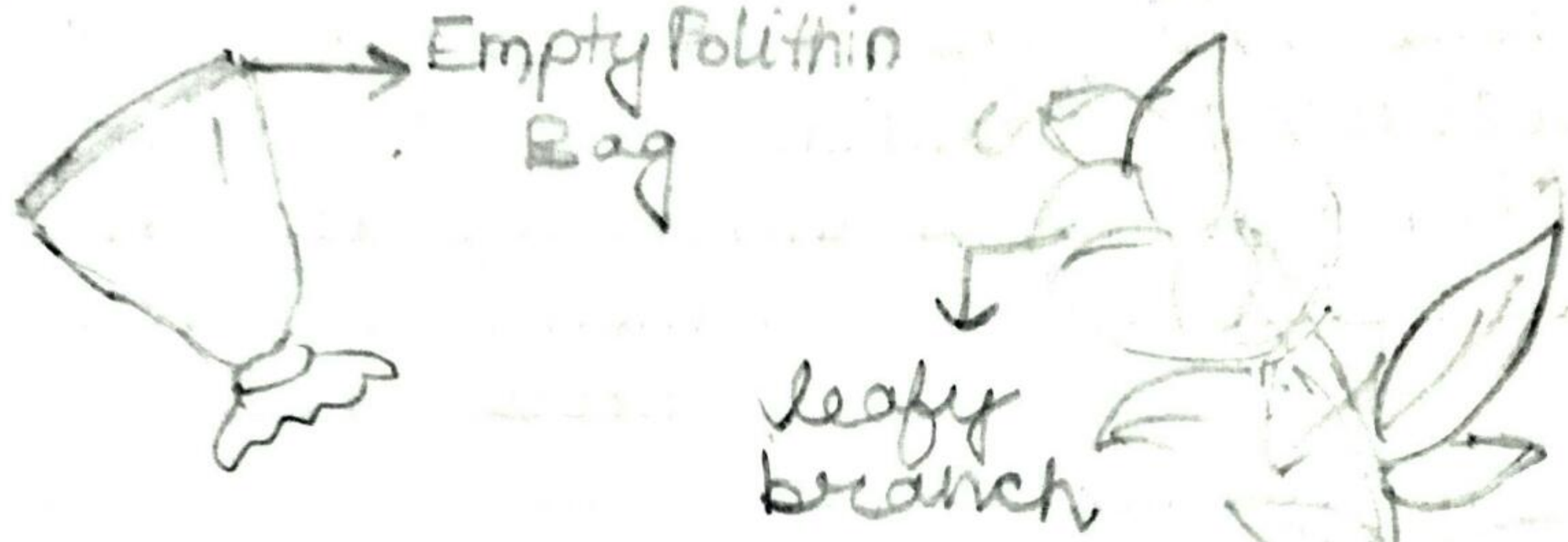
petiole

A leaf

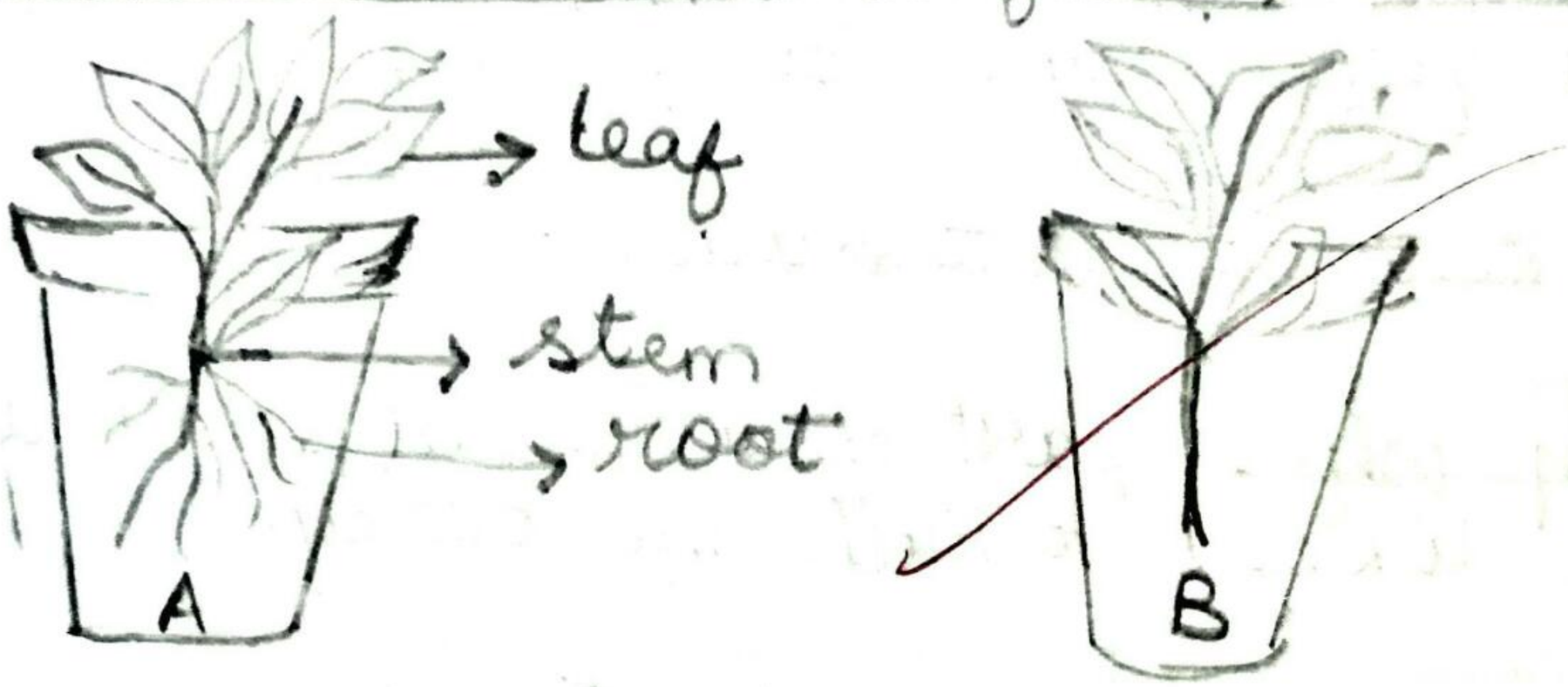
Scanned by TapScanner

Fig 1.10





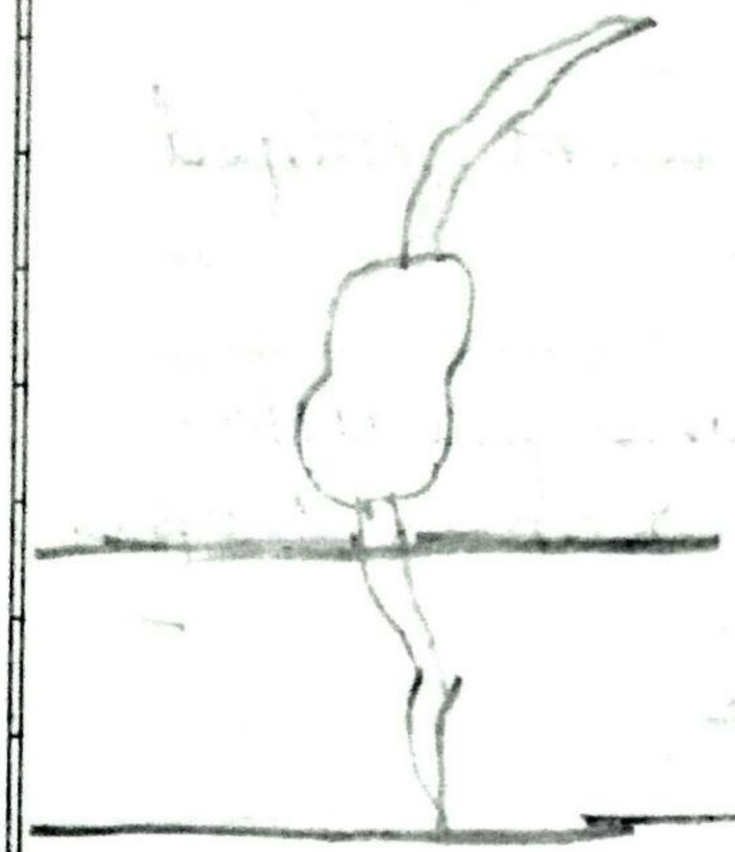
(Fig. 7.11) What does the leaf do?



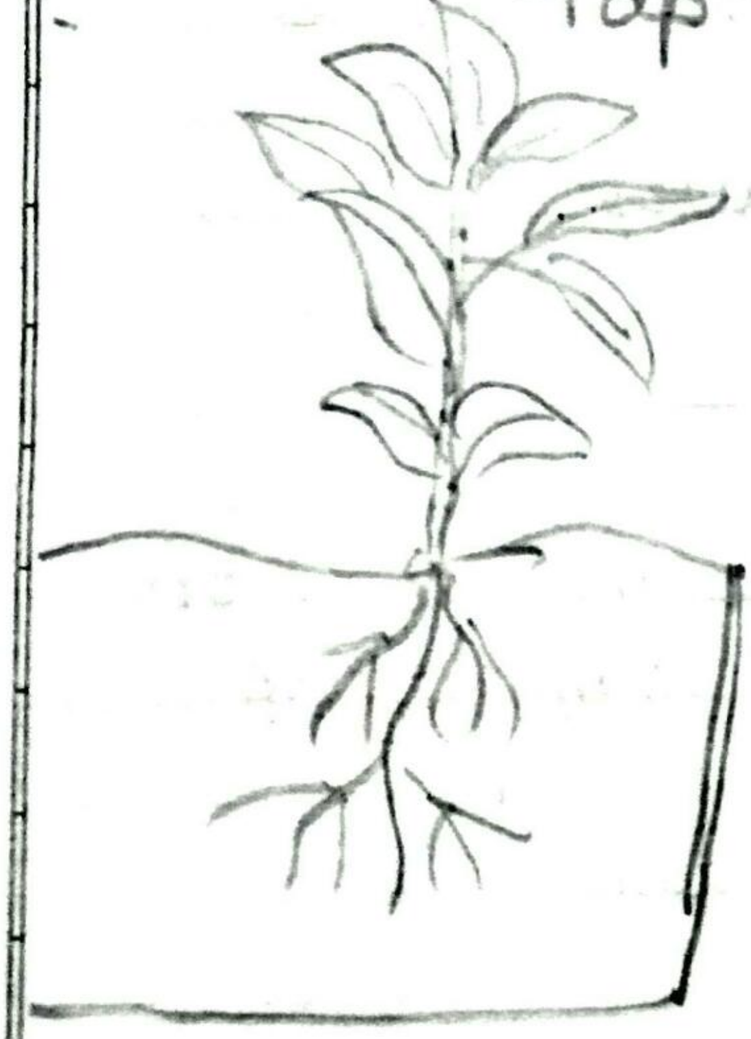
(Fig 7.14) (a) weeds with roots
(b) without roots

Scanned by TapScanner

Roots of Monocot seeds



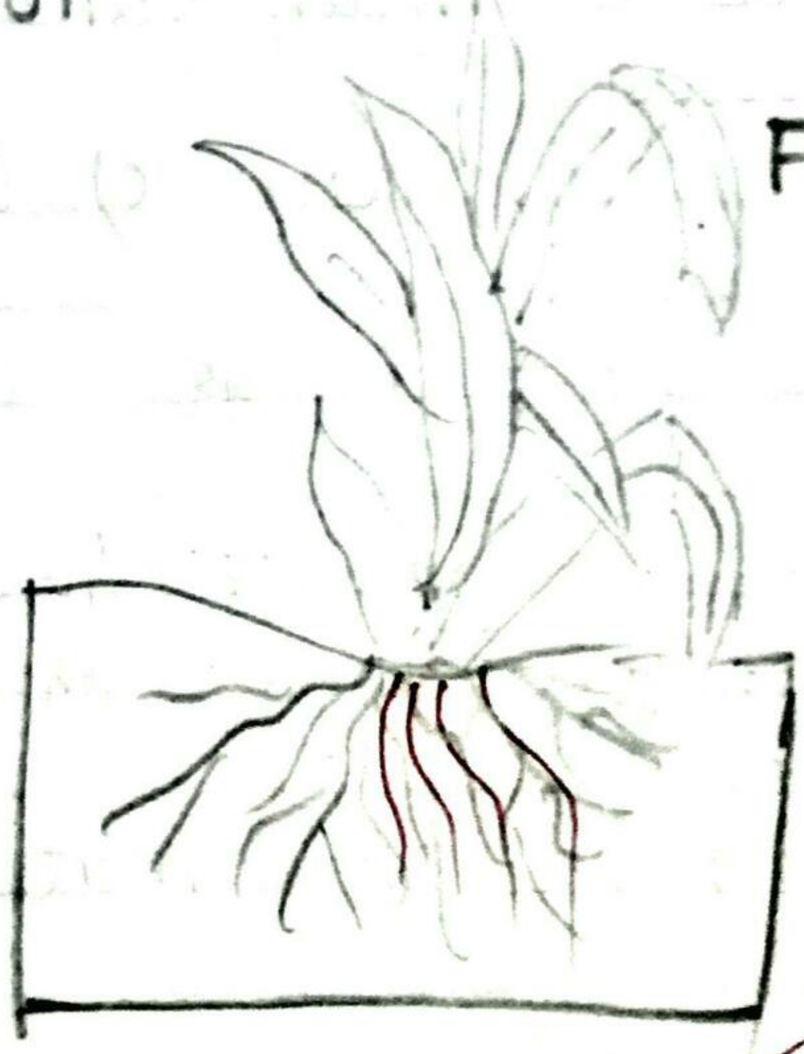
Top root



Roots of Dicot seeds



Fibrous root



(Fig 7.17)

Scanned by TapScanner

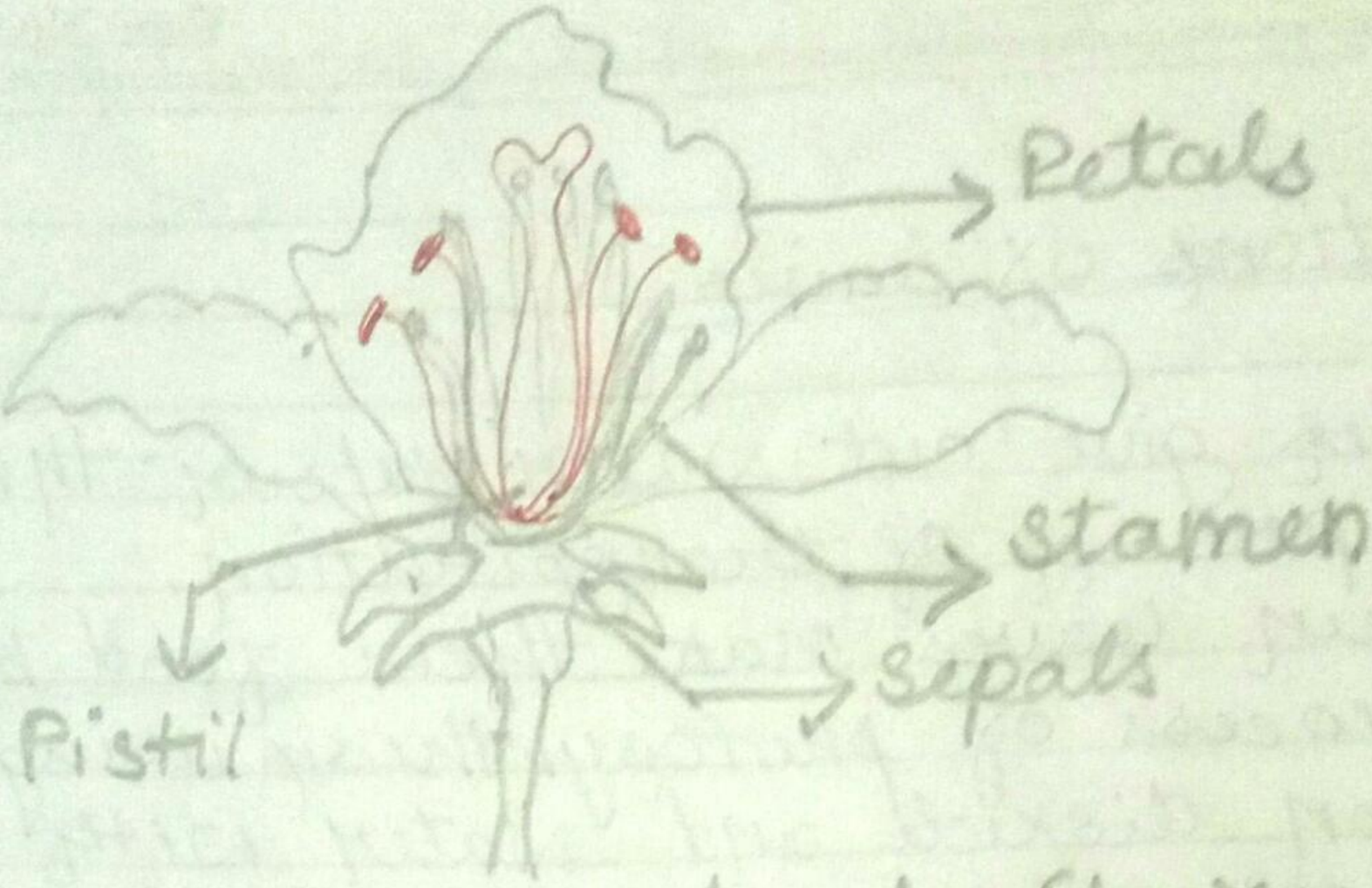


Fig 7.22 Parts of a flower

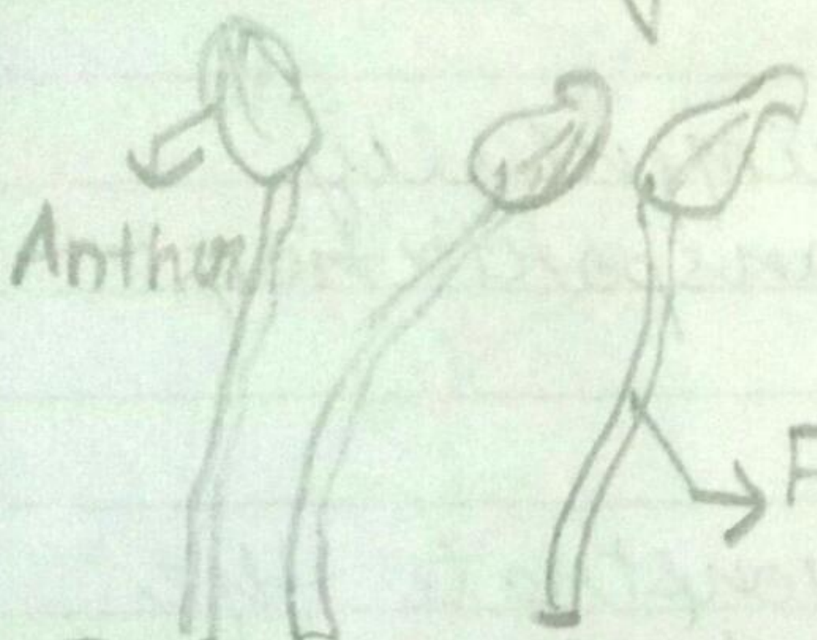


Fig 7.23 Parts of a stamen

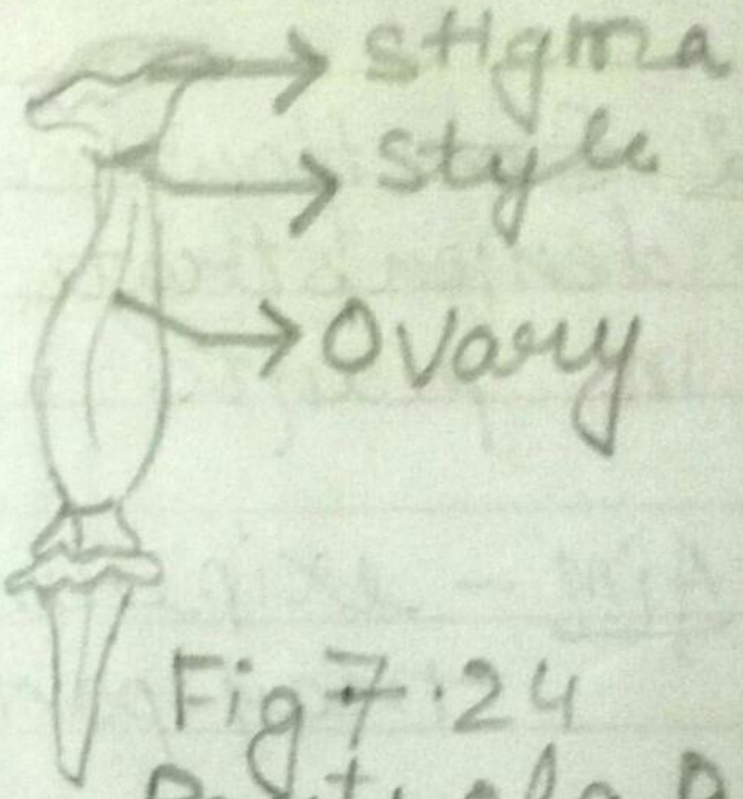


Fig 7.24 Parts of a Pistil

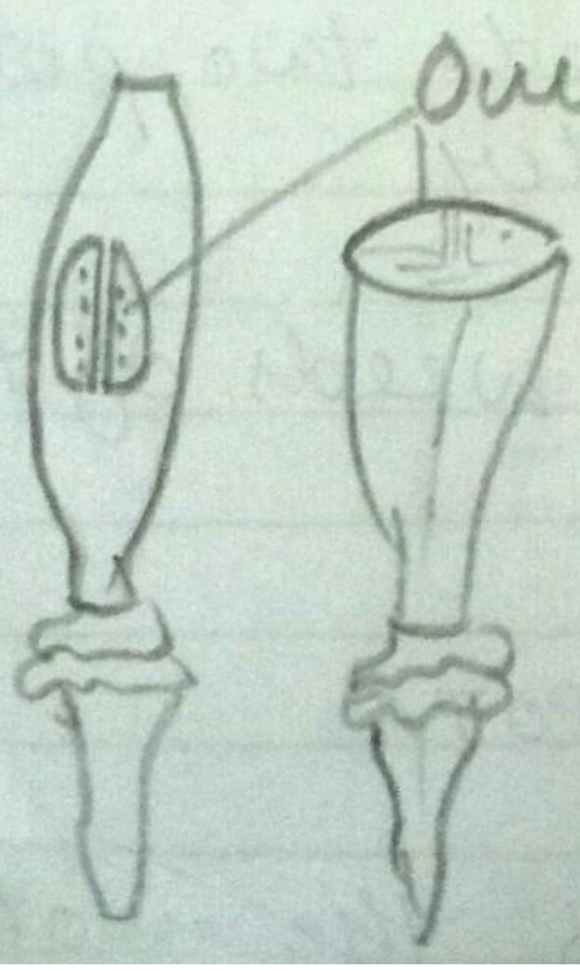
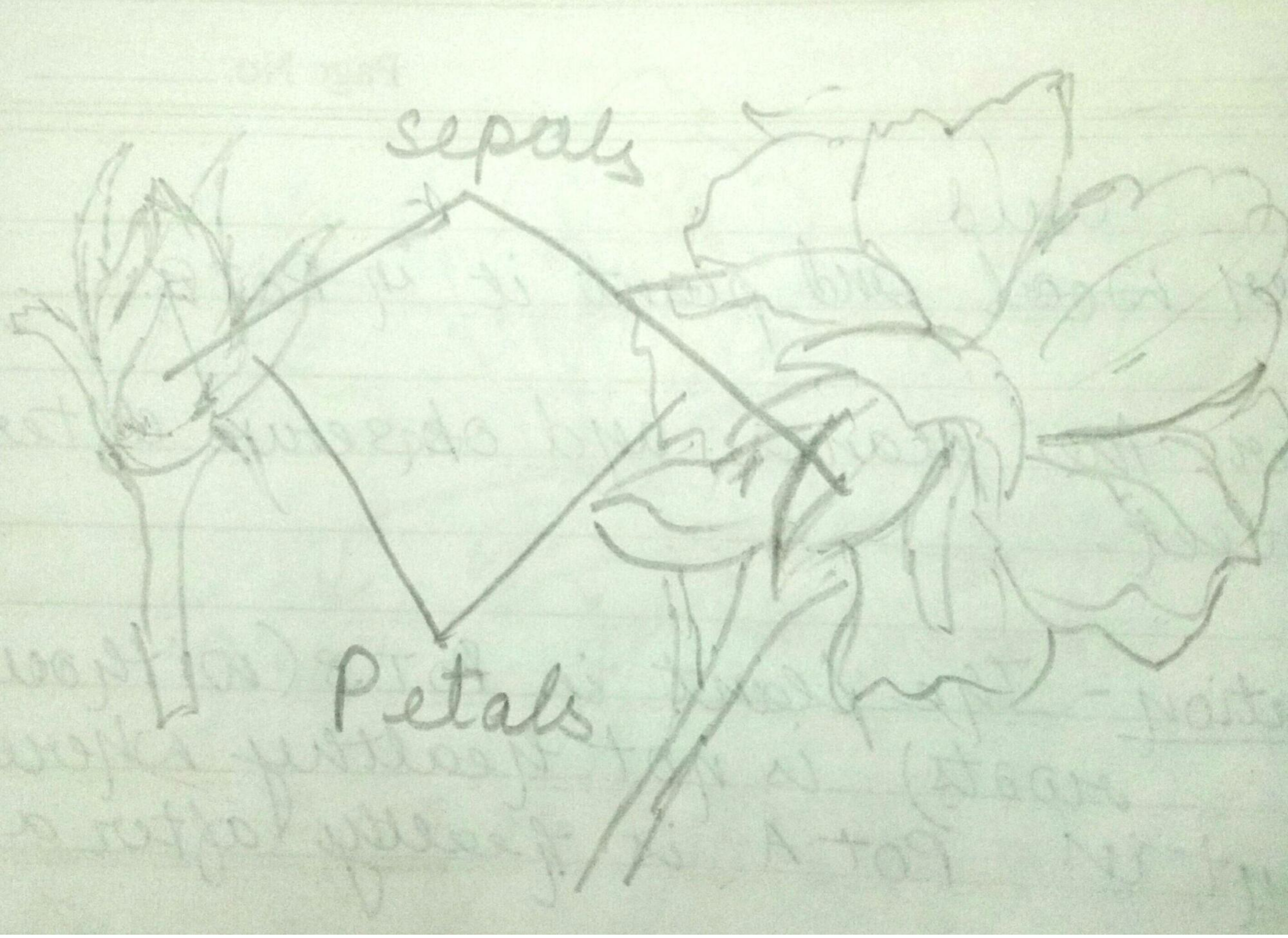


Fig 7.26 Inner structure of an ovary
(a) longitudinal cut
(b) transverse cut

Scanned by TapScanner



Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

Chapter-8 Body Movements

Text Book Questions

Que-1- Fill in the blanks:

(a) Joints of the bones help in the movement of the body.

(b) A combination of bones and cartilages forms the skeleton of the body.

(c) The bones at the elbow are joined by a hinge joint.

(d) The contraction of the muscles pulls the bones during movement.

Que-2 - Indicate True (T) and False (F)

(a) The movement and locomotion of all animals is exactly the same. ~~(True)~~. (False)

(b) The cartilages are harder than bones. (False)

Teacher's Signature _____

Scanned by TapScanner

(c) The finger bones don't have joints. (False)

(d) The fore arm has two bones. (True)

(e) Cockroaches have an outer skeleton. (True)

Q·3 Done in the book.

Q·4 (a) What is a ball and socket joint.

Ans → A ball and socket joint is a type of joint in which the rounded end of the bone can be fit exactly into the cavity of another bone. This type of joint is present between the hips and upper legs and between the shoulder and upper arm. It allows movements in all directions.

Q·4(b) Which part of skull bones are movable?

Ans → The lower jaw of the skull bone is movable.

Q·4(c) Why can our elbow not move backwards?

Ans → Our elbows have a hinge joint. This joint allow

Teacher's Signature _____

Scanned by TapScanner

back and forth movement of the bones. Thus our elbow can't move backwards.

EXTRA QUESTIONS

Que 1 What are the main functions of a human skeleton?

Ans → 1.) It gives proper shape to our body.
2.) It forms the framework of the body on which our muscles and skin are arranged.
3.) It supports our body to stand upright.
4.) It protects the vital organs of the body like brain, heart, lungs, kidneys etc.
5.) It helps in body movements.

Que-2 What are the functions of spine?

Ans → 1.) It keeps the body upright.
2.) It protects the spinal cord.
3.) It forms the main supporting bone in the skeletal system of our body.

Que-3 - What are functions of ribs?

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No. _____

Ans → 1.) Rib joins the chest bones and the back-bone to form a cage like structure called as rib-cage.
2.) It protects the internal organs like pair of lungs and heart.

Que-4 What is a joint?

Ans → The place where two bones meet is called a joint. The different types of joints and their location are :-
1.) Ball and socket joint - Shoulder & hip
2.) Pivot joint - neck
3.) Hinge joint - Elbow and knee
4.) Fixed joint - skull and upper jaw.

Que-5 Why are atleast two muscles are needed to move a bone and joint in one direction?

Ans → Muscles always work in pairs. When one of them contracts the bone is pulled in that direction. To move the bone in the opposite direction the related muscles contract to pull the bones towards its original portion

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No. _____

while the first relaxes. Muscles can only pull but not push. Thus two muscles work together to move a bone and a joint.

Que-6 Explain the structure of ball and socket joint. Give two example of such joint in the human body what kind of movement such a joint allows?

Ans → ~~Ball and socket joint is present between the shoulder~~ Ball and socket joint is a type of joint in which the rounded end of the bone can be fit exactly into the cavity of another bone. This type is present between the shoulder and the upper arm and in between the hips and the upper legs. It allows movement in all directions.

Que-7 How do fish move?

Ans → Fishes have a streamlined body. The head and tale of the fish tapers at both ends. The middle portion is wide. The shape of the body helps them to swim and float in the water easily.

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No. _____

The skeleton of the fish is covered with strong muscles. During swimming muscles make the front part of the body curve to one side and the tail part swings towards the opposite side. The fish forms a curve and then quickly the body and the tail curve to the other side. This makes a jerk and pushes the body forward. A series of such jerks make the fish swim. This is helped by the fins of the tail. Fish also have other fins on their body which mainly help to keep the balance of the body and to keep the direction while swimming.

Q.8 How do snakes move?

Ans → Snakes have a long backbone. They have many thin muscles. They are connected to each other even though they are far from one another. Muscles also interconnect the backbone, ribs and skin. The snakes body curves into many loops. Each loop of the snake gives it a forward push ~~the~~ by pressing against the ground. Since its long body makes many loops and each loop

Teacher's Signature _____

Scanned by TapScanner

Expt. No. _____ Page No. _____

give it this push, the snake moves forward very fast and not in a straight line.

Q.9 Give three adaptations in a bird that help them fly.

Ans → (1) Their bones are hollow and light.
(2) The bones of the hind limbs are typical for walking and perching.
(3) The bony parts of the forelimbs are modified as wings.
(4) The shoulder bones are strong and the breast-bones are modified to hold muscles of flight which are used to move the wings up and down.

Q.10 How does an earthworm fix parts of its body to the ground?

Ans → The body of an earthworm is made up of many rings joined to~~gether~~ end to end. ~~During movement~~ An earthworm does not have bones. It has muscles which help to extend and shorten the body. During movement, the earthworm first extends the front part of the body, keeping the rear portion fixed

Teacher's Signature _____

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

to the ground. Then it fixes the front end and releases the rear end. It then shortens the body and pulls the rear end forward. This makes it move forward by a small distance. Repeating such muscle expansions and contractions, the earthworm can move through soil. Its body secretes a slimy substance to help the movement. Under its body, it has a large number of tiny bristles (hair like structures) projecting out. The bristles help ~~to~~ get a good grip on the ground.

Q.11 Cockroaches can walk and climb as well as fly in the air which part of their body helps them to climb and, walk and fly?

Ans → Cocroaches walk and climb as well as fly in the air. They have three pairs of legs. These help in walking. The body is covered with a hard outer skeleton. This outer skeleton is made of different units joined together and that permits movement. There are two pairs of wings attached to the breast. The cocroaches have distinct muscles - those near the legs move the legs for

Teacher's Signature _____

Scanned by TapScanner

Date _____

Expt. No. _____ Page No. _____

walking. The breast muscles move the wings when the cockroach flies.

Q.12 Write a short note on pelvic bones.

Ans → Pelvic bones are situated in the hip of our body. They enclose the lower portion of our body below the stomach. Leg bones are attached with the pelvic regions where the pelvic bone is present. This is the part we sit on.

Q.13 Write a short note on cartilages.

Ans → ~~Writi~~ There are some additional part of the skeleton which are not hard as bones and can be bent. These flexible structures are called as cartilages. Cartilages are present in ears, nose and in between the vertebrates of the backbone.

Q.14 Write a short note on Hinge joint.

Ans → ~~Some~~ Hinge joints are present in the knees and elbows. This type of joint acts like a Hinge and allows the back and the forth movements

Teacher's Signature _____

Scanned by TapScanner

of the bones joined together by these joint.

Q.15 write a short note on fixed joint.

Ans → Some joints between the bones in our head and upper jaw are different from others. These bones cannot be moved at these joint. Such joint are called fixed joint.

Scanned by TapScanner

A ball and socket joint (Fig 8.3)

(Fig 8.5)
Hinge joints of the knee

(Fig 8.8)
Bone of hand

Scanned by TapScanner

SKELETON



Scanned by TapScanner

The rib cage



(Fig 8.9)

The backbone



(Fig 8.10)



Shoulder bones
(fig 8.11)

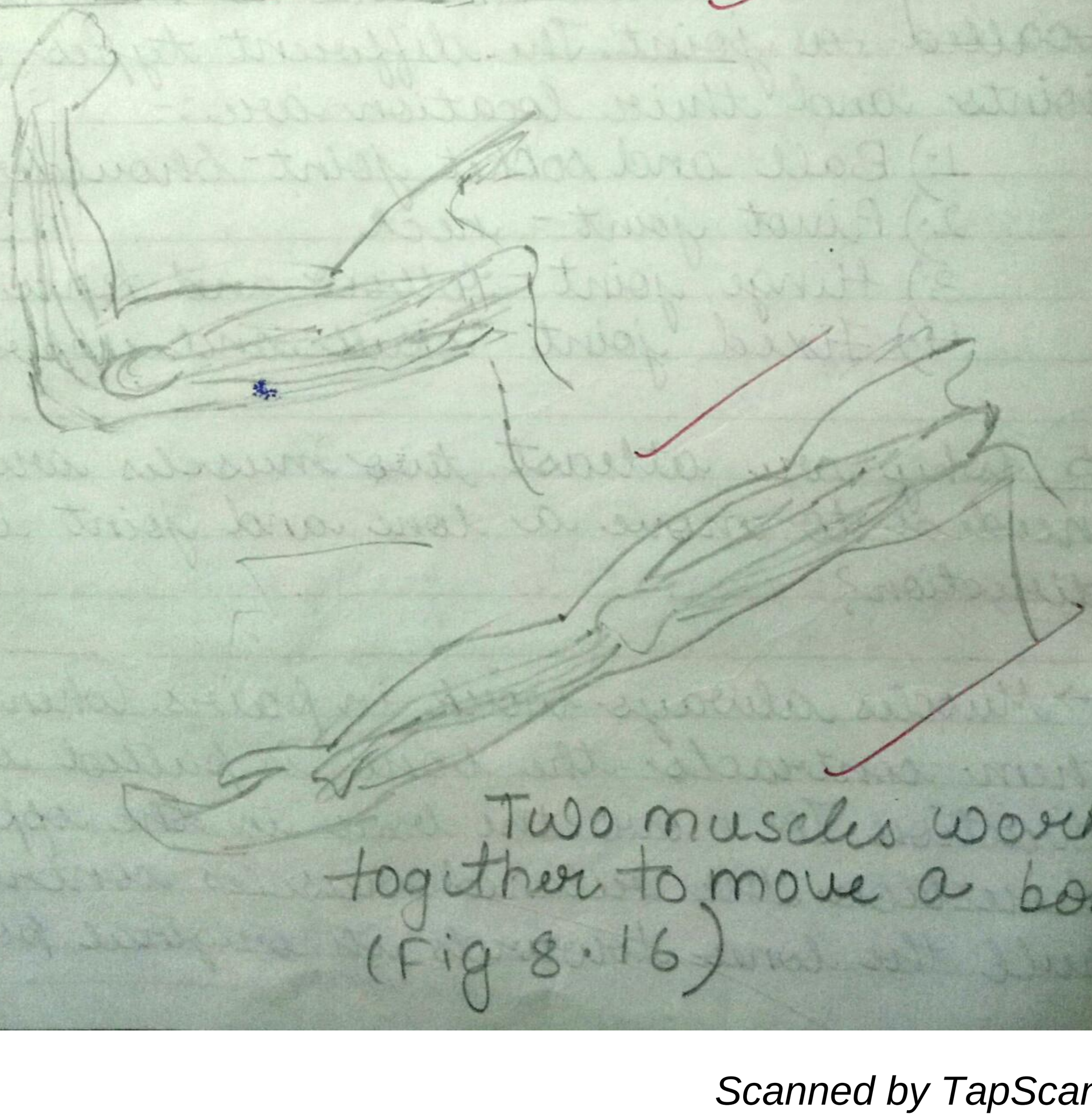
Scanned by TapScanner

Pelvic bones
(Fig 8.12)





The skull (fig 8.13)



Two muscles work together to move a bone.
(Fig 8.16)

Scanned by TapScanner