Std - VIII

BIOLOGY.

LEARN AND WRITE THE NOTES GIVEN BELOW OF CH - 1, 4.

FOR OFFICE USE

SCAN PAGES OF CH-1

Pg - 54, 55, 56, 57 and 58.

Ch-4

Pg - 65, 66, 67, 68 and 69.

ICSE BIOLOGY–8

CHAPTER 1. Transport of Food and Minerals in Plants

Check Point 1

1. xylem and phloem **2.** water **3.** diffusion; osmosis
4. active transport **5.** ascent of sap **6.** increases

Check Point 2

1. large **2.** proteins; nucleic **3.** Boron **4.** Micronutrients

TEST YOURSELF

A. 1. dilute; concentrated **2.** Xylem **3.** active transport **4.** leaves
5. xylem

B. 1. Active transport **2.** Transpiration pull **3.** Osmosis
4. Transpiration **5.** Ascent of sap **6.** Translocation

C. 1. Root hairs absorb water and minerals from soil.
2. Xylem vessels conduct water and minerals from roots through stem and branches to the tips of leaves against the force of gravity.
3. Phosphorus takes part in the formation of nucleic acids and nucleoproteins.

D. 1. Phloem; Phloem conducts prepared food from leaves to rest parts of plant, others take part in absorption of water and minerals from soil.
2. Translocation; It is transport of food, others are due to movement of water.
3. Copper; Copper is a micronutrient, others are macronutrients.

E. 1. Diffusion is the movement of molecules from their higher concentration (amount) to the region of lower concentration without using any energy.

Movement of solvent molecules (water) through a semipermeable membrane from the region of their higher concentration to the region of lower concentration is called **osmosis.**

2. Diffusion is the movement of molecules from their higher concentration (amount) to the region of lower concentration without using any energy, whereas **active transport** is transport of molecules and ions against concentration gradient by using energy.

3. Xylem transports water and minerals absorbed by the root, upward against the force of gravity, whereas phloem transports food manufactured by leaves to various parts of the plant.

4. The essential elements which are required in small quantity by plants are called **micronutrients.** They are iron, manganese, copper, boron, zinc, molybdenum, chlorine and nickel.

On the other hand, those elements which are required in large quantity are called **macronutrients.** They are carbon, hydrogen, nitrogen, oxygen, sulphur, phosphorus, calcium, potassium and magnesium.

F. 1. In unicellular plants, transport of materials take place by diffusion.

2. following are the adaptations in root hairs for absorption of water:

(a) They provide a large surface area for absorption.

(b) They are unicellular. Their semipermeable membrane allows water and minerals to enter the cell sap but does not allow to come out.

(c) Their cell sap has higher concentration of salt than the water in soil.

(d) They have a large vacuole which can absorb much water.

3. Experiment to show that water is absorbed by root hairs.

Take four test tubes and mark them A, B, C and D. Fill water in test tubes A, B and C up to about 3/4 level and only a little amount of water in test tube D. Fix a cork firmly over the mouth of test tube A and leave it. Take three small-sized young balsam plants with their roots intact. Wash the roots under tap water. Insert them in test tubes B, C and D in a manner that the roots get fully dipped in water in test tubes B and C but remain well above the water in test tube D. In test tube C, add few drops of red ink. Add a few drops of oil like mustard oil in test tubes B and C which would float on the surface and prevents any loss of water by evaporation. Mark the level of water in the four test tubes with a marker and leave the set-up for about 24 hours.

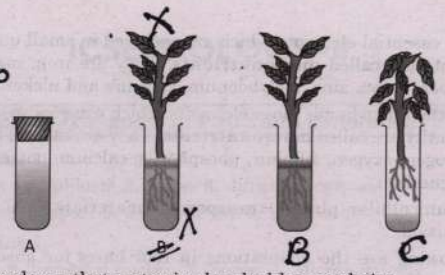
Note the change in the water level in test tubes as follows:

In test tube A: Water level remains unchanged. It is because there was no plant to absorb water and also it was corked. So, there is no loss of water.

In test tube B: Water level falls because water was absorbed by the plant through the roots dipped in water.

In test tube B: Water gets into the plant through the roots and reaches the leaves as the path is seen due to red colour.

In test tube C: There was no change in water level because the roots were not dipped in water.



This shows that water is absorbed by root hairs.

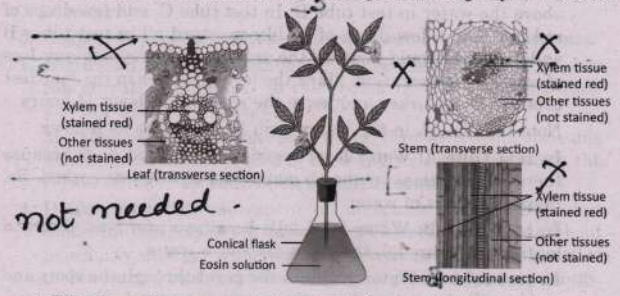
4. Experiment to demonstrate that ascent of sap takes place through xylem vessels:

Take a test tube and a beaker or conical flask filled with water. Put a few drops of eosin solution or red ink in it. Place a twig with white flowers in the conical flask. Leave the setup undisturbed for 2–3 hours.

Observe the colour of veins in flowers and leaves. Cut the stem of the twig lengthwise or vertically and observe what portion of the stem has become coloured. Cut widthwise or transverse section of this stem and one of the leaves. Mount on a clean slide and observe under a microscope.

- Only the xylem vessels are coloured in both the sections of the stem of twig.
- Veins in petals of flowers and that of leaves have become red.

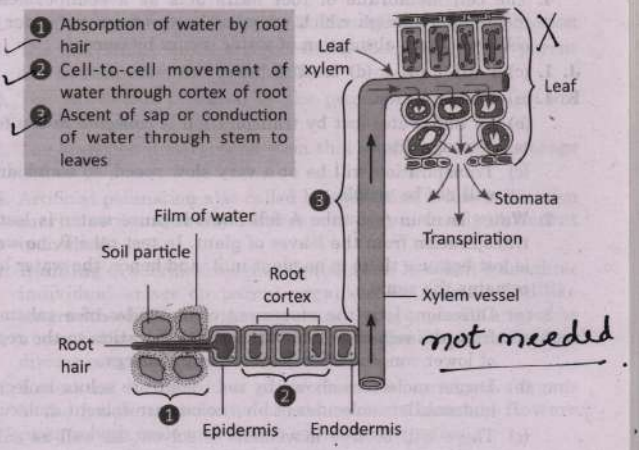
This shows that ascent of sap takes place through xylem vessels.



5. The upward movement of water and minerals from roots to top of plant through xylem vessels against the force of gravity is called ascent of sap.

6. Root pressure is the hydrostatic pressure which develops due to accumulation of minerals in the xylem of roots. It allows water to diffuse into xylem of roots from soil and forces water upward a few meters in the stem and leaves.

7. Events during transport of water from soil to leaves



8. The rate of transpiration is affected by following conditions:
   (a) Temperature of air increases transpiration.
   (b) Humidity decreases transpiration.
   (c) Wind speed increases the rate of transpiration.
   (d) Light causes stomata to open and thus, increases the rate of transpiration.

G. 1. False; Osmosis and diffusion are **different** phenomena.
2. False; Plants lose water by the process called **transpiration.**
3. False; Root hairs are **unicellular** structures.
4. True
5. True

H. 1.–(d) 2.–(c) 3.–(e) 4.–(b) 5.–(a)

I. 1. Water is lost through transpiration. This creates a pull on the water column in the xylem vessels and hence, more water is pulled upwards.

2. The root pressure which develops inside the xylem of roots provides the initial push to the water molecules and holds the water column up.

3. Light causes stomata to open which in turn increases the rate of transpiration.

4. The cell membrane of root hairs acts as a semipermeable membrane through which water molecules from soil enter the cell sap. Thus, absorption of water occurs by osmosis.

J. **1.** (c) **2.** (d) **3.** (d) **4.** (d) **5.** (d) **6.** (c)

K. **1.** (a) Transpiration

(b) So that water lost by transpiration is collected in the form of water drops.

(c) Transpiration will be at a very slow speed, so water drops will not be visible.

2. Water level in test tube A fell down because water is lost by transpiration from the leaves of plant. In test tube B, no water is lost because there is no plant in it, and hence, the water level remains the same.

3. (a) Diffusion. It is the movement of molecules of a substance from the region of their higher concentration to the region of lower concentration without using energy.

(b) Larger molecules shown by red colour are solute molecules and smaller molecules of blue colour are solvent molecules.

(c) There will be free movement of solvent as well as solute molecules through the permeable membrane.

THINK ZONE

- We feel cool on standing under a tree because tree releases excess of water as water vapour into the atmosphere through stomata by the process of transpiration.
- Plants need mineral elements for their proper growth. As barren land lacks essential mineral elements, plants do not grow well in it.

CHAPTER 2. Reproduction in Plants

Check Point 1

1. two **2.** clones **3.** fragmentation **4.** unfavourable

Check Point 2

1. Tuber **2.** Bulb **3.** Leaf **4.** Explant

CHAPTER 4. Ecosystem

Check Point 1

1. True **2.** False **3.** True **4.** False **5.** True

Check Point 2

1. sun **2.** secondary **3.** food chain **4.** interconnected; food web **5.** pyramids

Check Point 3

1. lichen **2.** endo **3.** sun **4.** Humidity **5.** canopy

TEST YOURSELF

A. 1. abiotic **2.** green; photosynthetic bacteria **3.** decomposers **4.** recycling **5.** secondary

B. 1. Symbiosis **2.** Food chain **3.** Transformers **4.** Food chain **5.** Ecosystem **6.** Food chain **7.** Pyramid of number

C. 1. Parasitism is a negative interaction between organisms of two species in which one organism (usually smaller) lives on or within the body of another organism (larger one) and obtains food and shelter from it. The smaller organism is always benefitted and is called parasite, whereas the larger one which is always harmed or gets no benefit is called host.

2. Primary consumers are the animals which feed upon plants or plant products. They are called herbivores.

3. Scavengers are the animals which feed upon dead animals and left over food by the carnivores.

4. An ecosystem is a community of living organisms in a given area or in a habitat, interacting with each other and with their nonliving environment (weather, sun, water, soil, climate and atmosphere).

D. 1. Grass ⟶ Insects ⟶ Frog ⟶ Snake ⟶ Eagle

2. Grains ⟶ Rat ⟶ Owl

3. Grass ⟶ Goat ⟶ Lion

E. 1. An ecosystem is a community of living organisms in a given area or in a habitat, interacting with each other and with their nonliving environment. It is an open system which requires continuous input of energy and circulation of material for the sustenance between its biotic and abiotic components.

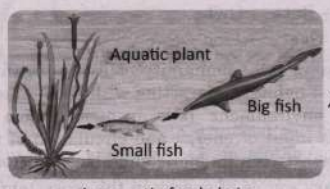
2. The primary source of energy in the ecosystem is the sun.

3. Sunlight, temperature, pressure, humidity and wind are climatic factors of abiotic ecological component.
4. The association of deer and tiger is called predator-prey association.
5. Herbivorous consumers form the second trophic level in the food chain.
6. Plants are called producers because they produce food for themselves and for all other members of ecosystem by capturing the energy of the sun during photosynthesis and converting it into organic food.
7. Deer and rabbit are primary consumers.
8. Two types of food chains are terrestrial food chain and aquatic food chain:
   (a) In a terrestrial food chain,
   - Producers are green plants such as trees, grasses, herbs, etc.
   - Primary consumers are herbivores– Insects, rabbits, etc.
   - Secondary consumers are carnivores– Frog, cat, dog, fox, wolf, etc.
   - Tertiary consumers are carnivores– Snakes, etc.
   - Top consumers are also carnivores– Eagle, lion, etc.

Grass → Insect → Frog
↓
Eagle ← Snake

A terrestrial food chain

   (b) In an aquatic food chain,
   - Producers are aquatic plants–*Vollisnera*, *Hydrilla*, etc.
   - Primary consumers are herbivores–Small fishes
   - Secondary consumers are carnivores–Big fishes



An aquatic food chain

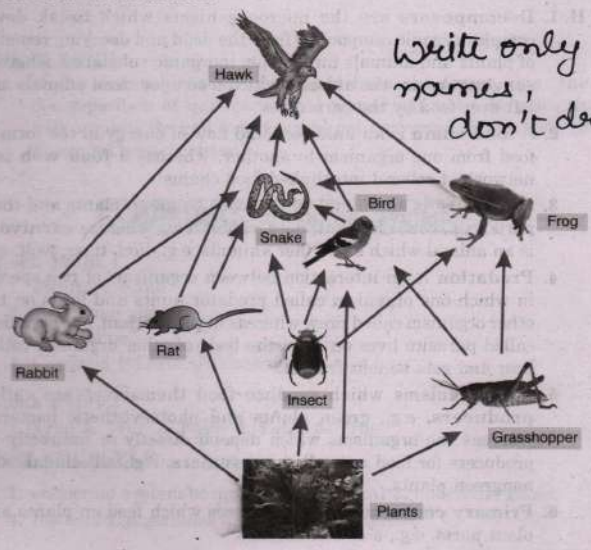
Plant → small fish → Big fish

9. Animals are called consumers because they cannot prepare their own food. They eat plants, plant products or other animals as food.

   Consumers are categorised on the basis of the type of food they eat.
   - Herbivores–Also called primary consumers, they feed on plants, e.g., deer, cow, etc.
   - Carnivores–Also called secondary consumers, they prey upon herbivorous animals, e.g., lion, tiger, wolf, etc.

     Carnivores that prey upon other carnivores are called tertiary consumers, e.g., snake.
   - Omnivores–They feed on both plants and animals, e.g., man, crow, bear, etc.
10. Decomposers break down the bodies of dead and decaying organisms and release nutrients into the environment. These nutrients are reused by the plants. In this way, they help in the recycling of nutrients in nature.
11. Food web in a forest

Write only names, don't draw.



12. Plants are essential for animals for following reasons:

(a) Animals obtain food from plants.

(b) Animals obtain oxygen from plants for respiration.

(c) Animals get shade and protection from trees.

(d) Plants clean our atmosphere by utilizing CO_2 and releasing oxygen.

(e) Plants help in recycling of matter by obtaining nutrients from dead and decaying matter and decaying excreta of animals.

F. 1. False; Conservation of forests **is required** to maintain balance in nature.

2. False; **Biotic** components include plants and animals.

3. True

4. False; Plants are **producers** because they **produce food by trapping solar energy.**

5. True

6. True

G. 1. (d) **2.** (a) **3.** (f) **4.** (e) **5.** (b) **6.** (c)

H. 1. Decomposers are the microorganisms which break down complex organic compounds from the dead and decaying remains of plants and animals into simple inorganic substance, whereas **scavengers** are the animals which feed upon dead animals and left over food by the carnivores.

2. A **food chain** is an unidirectional flow of energy in the form of food from one organism to another, whereas a **food web** is a network of several interlinked food chains.

3. Herbivore is an animal which feeds on green plants and their parts, e.g., cow, elephant, deer, rabbit, etc., whereas **carnivore** is an animal which eats other animals, e.g., lion, tiger, wolf, etc.

4. Predation is an interaction between organisms of two species in which one organism called predator hunts and feeds on the other organism called prey, whereas in **parasitism,** one organism called parasite lives on or in the body of other organism called host and gets benefit from it.

5. The organisms which produce food themselves are called **producers,** e.g., green plants and photosynthetic bacteria, whereas the organisms which depend directly or indirectly on producers for food are called **consumers,** e.g., all animals and nongreen plants.

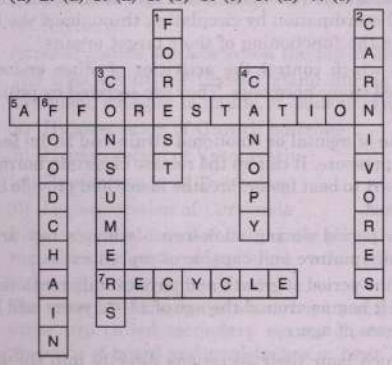
6. Primary consumers are herbivores which feed on plants and plant parts, e.g., a cow eats grass.

Secondary consumers are the carnivores which feed on herbivores, e.g., a frog eats an insect.

Tertiary consumers are the carnivores which prey upon secondary consumers, e.g., a snake eats a frog.

I. 1. (d) **2.** (d) **3.** (a) **4.** (b) **5.** (c) **6.** (a) **7.** (c)

J.



THINK ZONE

If the decomposers are destroyed from the forest, then the decomposition of waste and dead matter will not take place. It will accumulate and forest would get converted into a heap of dead and waste matter.

CHAPTER 5. Endocrine System

Check Point 1

1. Pituitary gland
2. Endocrine glands
3. Adrenaline
4. Corticoid (=Cortical) hormones

Check Point 2

1. True **2.** True **3.** False **4.** False **5.** True

TEST YOURSELF

A. 1. endocrine system/hormones **2.** chemical **3.** endocrine glands **4.** Islets of Langerhans **5.** pituitary **6.** thyroid

Subject-Computer

For Std V to VIII

- Kindly read the chapters according to the syllabus and solve exercise and do the revision.
- You can download the mobile app from Google App store that provides the solved excercises.
- To download the App type IT Planet W and then Class Eg. IT Planet W class V
- The chapters will be explained in the class later.

ENG-I.

Name.....

Class.....Section.....Roll No.....

Subject.....Date.....

SUBJECT- ENGLISH LANGUAGE CLASS - VIII

1. Learn Chapter - 16 (Regular and irregular verbs)

2. Revise the rules of Chapter 14 (Active and Passive Voice) and solve exercise 1.

3. Revise the format of informal letters and write the following in your Eng - I NOTE BOOK.

a. Write a letter to your friend requesting him/her to spend some days with you during vacation.

b. Write a letter to your father advising him to take some safety precautions during these days. (refer to Corona Virus).

Name.....

Class.....Section.....Roll No.....

Subject.....Date.....

SUBJECT - ENGLISH LITERATURE Class- VIII

1. Read Ch- 3 (full)

2. Find difficult words and look into their meanings from dictionary of the chapters - 4, 5.

3. Read 1-4 chapters of Oliver Twist and underline difficult words and find their meanings.

4. Learn and write the question answers of The Lake Isle of Innisfree.

Solution

Page NO-14

C. Answer these questions.

Ans1- The poet wishes to build a small cabin of clay and wattles, grow rows of beans, make a hive for the honeybees and live alone in the glade.

Ans2- The poet imagines a peaceful life in Innisfree. He believes Innisfree will provide him all the beauty of nature - the sound of flying linnets, a glade full of buzzing bees, bright sun ~~filled~~ filling the sky with a purple glow, crickets singing and lake water gently striking the shore.

Ans3- The poet wants to go to Innisfree to enjoy a calm and peaceful life in the company of nature.

Ans 4- We can say that the Isle of Innisfree has a deep influence on the poet's mind and heart because he hears the lake water lapping the shore even while standing on the roadways and pavements in his city.

Ans 5- Yes, we can say that the poet lives in a city because he says, 'While I stand on the roadway, or on the pavements grey', which refers to concrete paths of the city.

Std - VIII

Answer key of lesson-9

Name..... GEOGRAPHY .....

Class.....Section.....Roll No.....

Subject..... Date.....

Page no - 148

1. Tick the right option -

(i) a (ii) c (iii) a (iv) b (v) b

2. Fill in the blanks

(i) Western Disturbances (ii) season

(iii) land to water bodies or high pressure to low pressure.

(iv) Mediterranean sea (v) Gir forest

(vi) ecosystems (vii) 1973

(viii) Endangered , extinct

3. Answer in one word.

(i) Tropical cyclone (ii) mango showers

(iii) Fauna (iv) Kali Baisakhi

(v) Mangrove / Tidal / Littoral

4. Match the following -

a - iii , b - iv , c - i , d - ii

e - v

5. Give reasons for the following.

(i) The Himalayas act as a barrier for India because it protects us from the cold winds blowing from Siberia and it also intercept the moisture laden monsoon winds and force them to cause rain in India.

(ii) Northwest India is under the influence

of Western Disturbances during winter, which cause rainfall.

iv) Chennai lies on the leeward side of western ghats where as mangalore lies on the windward side so mangalore receives more rainfall than Chennai. Since Chennai lies on eastern coast so it receives rainfall from south west monsoon, Retreating monsoon and North east monsoon, so duration of rainy months are more. Mangalore lies on western coast so it receives rainfall only from south west monsoon so duration of rainy months are less.

(v) Jaisalmer lies to the west of Aravalis which are parallel to the south west monsoon winds. So Aravalis are not able to obstruct these winds and force them to cause rainfall.

(vi) Due to hunting of animals by greedy hunters for commercial purposes and due to deforestation many species are in the danger of becoming extinct.

6) Answer the following questions in brief.

A (i) The hot dry season, The rainy season, The retreating monsoon and The cold season

A (ii) (a) They are land and sea breeze on a large scale.

(b) They are orographic in nature.

Name.....

Class.....Section.....Roll No.....

Subject.....Date.....

A iii) a) The hot season has dry weather and excessive heat.

b) The sun shines overhead at the Tropic of Cancer.

A iv) The north east monsoon winds blow over Bay of Bengal and collect enough moisture. When they strike eastern coast they cause heavy rainfall.

A v) Rainshadow area is the leeward slope of the mountain which receives very little rainfall.

A vi) Vegetation of a place depends upon rainfall. For example areas receiving rainfall of more than 200cm have Tropical evergreen forests where as areas getting rainfall of less than 25 cm have Desert vegetation

A vii) Deciduous forests are found in the areas of average temperature of 27°C and average rainfall between 150 to 200 cm.
Characteristics - (i) These forests shed their leaves for 6-8 weeks.
(ii) They yield valuable timber.

A viii) A national park is a large area where several ecosystems exist freely. It preserves natural vegetation, wild life and natural beauty.
Where as sanctuary is the area where endangered species are given a special care.

A ix) Forests help in maintaining ecological balance, prevent soil erosion and provide many important products, so it is necessary to conserve forests.

A x) Forests provide shelter for wild animals and birds where they interact with one another. so forests help in conserving our wildlife and ecobalance in nature.

A xi) It is necessary to conserve our wildlife resources to maintain the ecological balance.

[The lesson will be explained after the reopening of school. meanwhile learn the exercises & Q/Ans]
Thanks for the co-operation.

CLASS - EIGHTH (VIII)
SUB - HINDI

HINDI - I रचना प्रसून भाग - 6

(याद करो)

लेख :- 1. रंगों का त्योहार : होली (Pg. No - 165-166)
2. भारत की राजधानी दिल्ली (Pg. No - 166-167)

पत्र :- 1. बीमारी के कारण अवकाश हेतु विद्यालय के प्रधानाचार्य जी को प्रार्थना-पत्र। (Pg. No - 141)

2. मित्र को जन्मदिन पर बधाई देने के लिए पत्र।
(Pg. No - 144-145)

HINDI - II (भाषा - भारती भाग - 8)

पाठ - 3 मेरे बचपन के दिन
पाठ - 4 तीर्थयात्रा

पाठ - (2, 3, 4) सभी पाठों के शब्दार्थ और मौखिक प्रश्न-उत्तर याद करो।

सभी पाठों के पुस्तक अभ्यास कार्य learn and write on book.

सभी पाठों के लघु औरदीर्घउत्तरीय प्रश्नउत्तर learn and write on note book.

FOR OFFICE USE :-

PLEASE SCAN FOLLOWING PAGE No - 27, 28, 29
PAGE No - 35, 36, 37, 38

ASHA DHAWAN
20-3-2020

1) क्योंकि वे अपने परिवार में कई पीढ़ियों के बाद पैदा हुई थीं।
2) हिंदी के अतिरिक्त फ़ारसी और उर्दू जानते थे।
3) जब सुभद्रा कुमारी को लेखिका के बारे में यह पता चला कि वे भी लिखती हैं तब दोनों की मित्रता हो गई।
4. कि गांधीजी ने लेखिका से कटोरा ले लिया लेकिन उनकी कविता नहीं सुनी।
5. जवारा के नवाब की बेगम साहिबा

अभ्यास Exercise

पाठ को जानें (Know the Lesson)

◆ मौखिक विश्लेषण कीजिए– (Oral analysis)

1. लेखिका के पैदा होने पर उनकी खातिर क्यों हुई ? इसलिए
2. लेखिका के बाबा कौन-कौन सी भाषाएँ जानते थे ?
3. लेखिका की मित्रता सुभद्रा कुमारी से कैसे हुई ?
4. आनंद भवन में गांधी जी से मिलने पर लेखिका को किस बात का दुख हुआ ? इस
5. लेखिका के छोटे भाई को 'मनमोहन' नाम किसके द्वारा दिया गया था ?

◆ बहुविकल्पीय प्रश्न (MCQs)

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. लेखिका के परिवार की कुल-देवी थीं–
   (i) काली माँ ☐ (ii) चामुंडा माँ ☐
   (iii) दुर्गा माँ ☑ (iv) वैष्णो माँ ☐
2. लेखिका को चाँदी का कटोरा किसलिए मिला ?
   (i) कविता सुनाने पर ☑ (ii) गाना सुनाने पर ☐
   (iii) तबला बजाने पर ☐ (iv) भाषण देने पर ☐
3. लेखिका ने चाँदी का कटोरा किसको दे दिया था ?
   (i) सुभद्रा कुमारी को ☐ (ii) माँ को ☐ (iii) पिता जी को ☐ (iv) गांधी जी को ☑
4. जवारा के नवाब की बेगम साहिबा को लेखिका क्या कहकर पुकारती थीं ?
   (i) चाची जी ☐ (ii) ताई साहिबा ☑ (iii) बुआ जी ☐ (iv) भाभी साहिबा ☐

◆ लघु उत्तरीय प्रश्न– (Short answer-type questions)

1. लेखिका के परिवार में लगभग कितने वर्ष तक कोई लड़की नहीं थी ?
   200 वर्ष तक
2. लेखिका की माता जी ने पहले-पहल लेखिका को क्या पढ़ना सिखाया ?
   पंचतंत्र
3. लेखिका क्रास्थवेट गर्ल्स कॉलेज में किस दर्जे में भर्ती हुई ?
   पाँचवें दर्जे

4. सुभद्रा कुमारी को लेखिका के कवयित्री होने का पता कैसे चला ?

सुभद्रा कुमारी ने जब लेखिका की डेस्क की किताबों की तलाशी ली तो उसमें से लेखिका द्वारा लिखी कविताओं का ढेर निकल पड़ा, जिसे देखकर सुभद्रा कुमारी को उनके कवयित्री होने का पता चला।

5. सुभद्रा कुमारी किस भाषा में कविता लिखती थीं ?

खड़ी बोली में

◆ **दीर्घ उत्तरीय प्रश्न**– (Long answer-type questions)

1. लेखिका के परिवार में किस-किस भाषा के जानकार थे ?

लेखिका के परिवार में उनके बाबा फ़ारसी और उर्दू जानते थे, पिता जी अंग्रेज़ी और लेखिका की माँ हिंदी व संस्कृत जानती थीं।

2. लेखिका व नवाब साहब के परिवार के मध्य कैसे संबंध थे ?

लेखिका नवाब साहब के बेटे को राखी बाँधती थीं। उनके परिवार के बच्चों के जन्मदिन नवाब साहब के घर और उनके बच्चों के जन्मदिन लेखिका के घर मनाए जाते थे। लेखिका के भाई का नाम भी नवाब साहब की पत्नी ने दिया था। आगे चलकर उनके भाई का नाम वही रहा। इस प्रकार हम कह सकते हैं कि उनके पारिवारिक संबंध बहुत अच्छे थे।

अब भाषा की बात (About the Language)

◆ **निम्नलिखित शब्दों का संधि-विच्छेद कीजिए**– (Disjoin the following sandhi-words.)

छात्रावास	छात्र + आवास	वातावरण	वात + आवरण
सत्याग्रह	सत्य + आग्रह	काव्यांश	काव्य + अंश
स्वाधीन	स्व + अधीन		

◆ **निम्नलिखित शब्दों के विलोम शब्द लिखिए**– (Write antonyms of the following words.)

विद्वान	मूर्ख	आकर्षण	विकर्षण
शत्रुता	मित्रता	दंड	पुरस्कार
शांति	अशांति		

◆ **निम्नलिखित शब्दों से उपसर्ग/प्रत्यय अलग कीजिए और मूल शब्द बताइए**– (Separate prefix/suffix and write root words.)

	उपसर्ग	मूलशब्द	प्रत्यय
निराहारी	निर्	आहार	ई
सांप्रदायिक	–	संप्रदाय	इक
अप्रसन्नता	अ	प्रसन्न	ता
अपनापन	–	अपना	पन

किनारीदार – किनारा ई, दार

परिस्थिति – परि स्थिति –

◆ **बहुविकल्पीय प्रश्न** (MCQs)

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. 'कुल-देवी' शब्द का उचित सामासिक विग्रह है–

(i) कुल और देवी ☐ (ii) कुल की देवी ☑

(iii) कुल में देवी ☐ (iv) कुल से देवी ☐

2. 'पंछी' का तत्सम रूप है–

(i) पंख ☐ (ii) पंखी ☐ (iii) पक्षी ☑ (iv) पक्ष ☐

3. 'अपराधी' का समानार्थी शब्द है–

(i) चोर ☐ (ii) झूठा ☐ (iii) क्रोधी ☐ (iv) दोषी ☑

4. निम्नलिखित में एकवचन शब्द है–

(i) लड़कियाँ ☐ (ii) किताबें ☐ (iii) साथिन ☑ (iv) बहनें ☐

रचनात्मक गतिविधियाँ
Creative Activities

◆ **बचपन पर केंद्रित मैक्सिम गोर्की की रचना 'मेरा बचपन' पुस्तकालय से लेकर पढ़िए।**
(Do take the composition **'मेरा बचपन'** written by Maxim Gorki, centralised at childhood, from the library and read it.)

◆ **बचपन की स्मृतियाँ बहुत मधुर होती हैं। बचपन की किसी यादगार घटना को लेखबद्ध कीजिए।**
(Try to write the memorable and charming incident of childhood.)

कठिन शब्द Difficult Words

■ आक्रमण ■ भर्राए ■ व्याकुल ■ अठन्नी ■ इक्कीसवाँ ■ परिक्रमा ■ कुँवारी ■ कृतज्ञता ■ कल्पित

शब्दार्थ Word Meaning

लाल	- पुत्र (son)	मनोरथ	- मन की इच्छा (heart's desire)
पाषाण	- पत्थर (stone)	कल्पित	- सोचा हुआ (imagined)
अधीर	- बेचैन (restless)	व्याकुल	- परेशान, बेचैन (troubled)

पाठ में आए मुहावरे (Idioms from the lesson)

- **हाथ फैलाना** - माँगना (to beg)
- **माथा ठनकना** - संदेह उत्पन्न होना (to be suspicious)
- **प्राण सूखना** - बहुत डर जाना (to be frightened)
- **आँख भर आना** - आँसू आ जाना (eyes filled with tears)
- **हृदय बैठना** - अत्यधिक चिंतित होना (to be more anxious)
- **कान खड़े होना** - सावधान हो जाना (to be alert)

अभ्यास Exercise

1) क्योंकि उसके कई पुत्रों में से केवल हेमराज ही जीवित बचा था। उसे डर था कि कहीं हेमराज को भी कुछ न हो जाए।
2) पैसे प्राप्ति का
3) तब लाजवंती सहम गई और उसका दिल बैठने लगा।
4) क्योंकि वह हरो की बेटी की शादी के लिए उसकी मदद करना चाहती थी।

पाठ को जानें (Know the Lesson)

◆ **मौखिक विश्लेषण कीजिए–** (Oral analysis)

1. लाजवंती को अपने पुत्र हेमराज की अत्यधिक चिंता क्यों रहती थी ? इसलिए
2. वैद्य जी का क्या मनोरथ सिद्ध हुआ था ?
3. जब लाजवंती को यह पता चला कि हेम का बुखार सख्त है, हानिकारक भी हो सकता है; तब लाजवंती की क्या दशा हुई ?
4. लाजवंती ने तीर्थयात्रा पर न जाने का निश्चय क्यों किया ? इसलिए

◆ **बहुविकल्पीय प्रश्न** (MCQs)

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. लाजवंती किसके कारण चिंतित रहती थी ?
   (i) अपने पुत्र के ☑ (ii) अपने पोते के ☐
   (iii) अपने पति के ☐ (iv) अपने पिता के ☐

2. हेमराज को कौन-सी बीमारी हो गई थी ?
   (i) पेट संबंधी ☐ (ii) मियादी बुखार ☑
   (iii) दिमागी बुखार ☐ (iv) मलेरिया ☐

3. वैद्य जी ने लाजवंती की तुलना किससे की ?
   (i) दुर्गावती से ☐ (ii) लक्ष्मी से ☐
   (iii) सावित्री से ☑ (iv) द्रोपदी से ☐

◆ **लघु उत्तरीय प्रश्न–** (Short answer-type questions)

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर लिखिए– (Read the following paragraph and answer the given questions.)

लाजवंती हरो की अवस्था देखकर काँप गई। उसे ऐसा मालूम हुआ, जैसे कोई कह रहा है कि अगर यह हो गया, तो ईश्वर का कोप गाँव-भर को जलाकर राख कर देगा। लाजवंती का हृदय बैठ गया। उसने कहा–''चिंता मत करो, तुम्हारा संकट मैं दूर करूँगी। तेरी बेटी का ब्याह होगा और बारात के लोगों को भोजन भी मिलेगा। तेरी बेटी तेरी ही बेटी नहीं, मेरी भी है।''

1. हरो को क्या चिंता सता रही थी ?
   हरो को उसकी बेटी की शादी और बारात के लिए भोजन और मिठाई के प्रबंध की चिंता सता रही थी।

2. लाजवंती के अनुसार क्या घटित हो जाने पर ईश्वर का कोप गाँव-भर को जलाकर राख कर देगा ?
   यदि हरो अपनी बेटी को लेकर गाँव छोड़ देगी तो ईश्वर का कोप गाँवभर को जलाकर राख कर देगा।

3. लाजवंती ने हरो का संकट दूर करने के लिए क्या किया ?
   लाजवंती ने हरो का संकट दूर करने के लिए उसे कुछ रुपए देकर उसकी मदद की।

◆ **दीर्घ उत्तरीय प्रश्न–** (Long answer-type questions)

1. लाजवंती का नारी हृदय कब और क्यों काँप उठा ?
   जब लाजवंती के बेटे हेम ने उससे कहा कि उसका सिर दर्द हो रहा है, तब लाजवंती का नारी हृदय काँप उठा क्योंकि यह वही समय था जब उसका पहला बेटा मदन चल बसा था। वह भी इसी तरह बीमार हुआ था।

2. वैद्य ने लाजवंती को 'दूसरी सावित्री' क्यों कहा ?
   वैद्य ने लाजवंती को 'दूसरी सावित्री' इसलिए कहा क्योंकि उसने मरे हुए पति को जिलाया था और लाजवंती ने भी अपने पुत्र को उसी तरह मृत्यु के मुँह से निकाला था।

3. लाजवंती ने तीर्थयात्रा पर जाने का विचार क्यों त्याग दिया ?
   लाजवंती ने तीर्थयात्रा पर जाने का विचार इसलिए त्याग दिया क्योंकि वह अपने जमा किए हुए रुपए देकर हरो की बेटी की शादी के लिए उसकी मदद करना चाहती थी।

अब भाषा की बात (About the Language)

◆ **हिंदी भाषा में कुछ शब्द ऐसे होते हैं, जिनका अर्थ समान प्रतीत होता है। परंतु उनके अर्थों में सूक्ष्म भिन्नता होती है; इस कारण उन्हें एक-दूसरे के स्थान पर प्रयोग नहीं किया जा सकता। ऐसे ही कुछ शब्द नीचे दिए गए हैं। इनके अर्थ लिखिए और वाक्यों में प्रयोग करके उनमें अंतर स्पष्ट कीजिए–**

(There are some words in Hindi that look alike in meaning but they are slight different. So they cannot be used one in place of other's place. Some words are given below. You write the meanings of the given words and distinguish them in meaning by using them in sentences.)

आयु (उम्र) – राम की आयु पचपन वर्ष है।
अवस्था (दशा) – रोहन की अवस्था अच्छी नहीं है।
दुर्बल (रोग आदि के कारण बल का अभाव) – लंबी बीमारी ने उसे दुर्बल बना दिया।
निर्बल (बल की कमी) – हमें निर्बल व्यक्ति को सताना नहीं चाहिए।
कृपा (मेहरबानी) – मुझे दो दिन का अवकाश देने की कृपा करें।
दया (रहम) – हमें गरीबों पर दया करनी चाहिए।
आवश्यक (ज़रूरी) – सफल होने के लिए मेहनत करनी आवश्यक है।
अनिवार्य (जिसके बिना कार्य संभव न हो) – परीक्षा में प्रवेश-पत्र ले जाना अनिवार्य है।

◆ **पाठ में 'धीरे-धीरे', 'बार-बार' आदि पुनरुक्त शब्द-युग्मों का प्रयोग हुआ है। आप भी इसी प्रकार के पाँच शब्द-युग्म लिखकर उनको स्वरचित वाक्यों में प्रयोग कीजिए।**

(Some pairs of repeating words like 'धीरे-धीरे', 'बार-बार' are used in the lesson. You write five such pairs of words and use them in sentences.)

1. जल्दी-जल्दी – जल्दी-जल्दी चलो वरना बस निकल जाएगी।

2.) पास-पास - हम दोनों पास-पास रहते हैं।
3.) दूर-दूर - हमें दूर-दूर तक कोई व्यक्ति नज़र नहीं आया।
4.) थोड़ा-थोड़ा - हम सभी ने थोड़ा-थोड़ा पानी पीकर काम चलाया।
5.) कभी-कभी - राम कभी-कभी सैर करने जाता है।

◆ **बहुविकल्पीय प्रश्न** (MCQs)

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. 'रात' शब्द का तत्सम रूप है–
   (i) रजनी ☐ (ii) संध्या ☐ (iii) रात्रि ✓ (iv) दिवस ☐
2. 'पुत्र' शब्द का तद्भव रूप है–
   (i) पौत्र ☐ (ii) पुत ☐ (iii) पूत ✓ (iv) बेटा ☐
3. 'हृदय बैठना' मुहावरे का अर्थ है–
   (i) शोर मचाना ☐ (ii) बुद्धि भ्रष्ट होना ☐
   (iii) बुरा-भला कहना ☐ (iv) अत्यधिक चिंतित होना ✓

रचनात्मक गतिविधियाँ
Creative Activities

◆ **यदि आपके किसी सहपाठी के पास नई कक्षा की पुस्तकें खरीदने के लिए पैसे न हों तो आप उसकी सहायता किस प्रकार करेंगे ? वास्तविक परिस्थितियों की कल्पना कीजिए और अपने विचार बताइए।**
(How will you help your friend who has no money to buy books. Express your views about it.)

◆ **बुखार कई प्रकार के होते हैं। विभिन्न प्रकार के बुखार, उनके कारण और बचाव पर एक टिप्पणी लिखिए।**
(Fever is of many types. Write a note on different types of fever, it's cause and it's prevention.)

Name.....

Class.....Section.....Roll No.....

Subject.....Date.....

HOMEWORK

CLASS - VIII (MATHS)

NUMBERS :

CHAPTER 1 : RATIONAL NUMBER

PAGE NO. → N-3

CHAPTER 2 : EXPONENTS AND POWERS

PAGE NO. → N-33

DATA HANDLING

CHAPTER 1 : STATISTICS

PAGE NO. → DH-3

Solve these chapters on your rough note book.

CLASS - VIII

SUBJECT - PHYSICS

LEARN AND WRITE THE NOTES GIVEN BELOW OF

CHAPTER - 1, 2

FOR OFFICE USE

SCAN PAGES OF

CHAPTER - 1

Pg → 67, 68, 69, 70, 71, 72, 73

CHAPTER - 2

Pg - 73, 74, 75, 76, 77, 78, 79, 80

ICSE PHYSICS 8

CHAPTER 1. Matter

Check Point 1

1. (a) identical (b) increases (c) vibrational (d) gaseous

Check Point 2

1. (a) melting (b) condensation (c) 0

2. (a) During condensation process, a substance releases that much heat as the same substance absorbs during boiling process.

(b) The boiling point of water at atmospheric pressure is 100°C.

Check Point 3

1. (a) solid; gaseous (b) opposite (c) deposition

2. (a) False (b) True (c) True (d) False

Check Point 4

1. (a) Rate of evaporation (b) cooling

2. (a) Alcohol is more volatile than water.

(b) The water present in clothes evaporates faster in sunlight due to increase in temperature. So, clothes dry up quicker in sunlight than in shade.

TEST YOURSELF

A. 1. mass **2.** space **3.** cohesive; adhesive **4.** gas **5.** solid **6.** freezing point **7.** camphor **8.** evaporation

B. 1. Intermolecular force **2.** Latent heat **3.** Sublimation **4.** Condensation **5.** Melting point **6.** Evaporation **7.** Desublimates/Sublimes

C. 1. Force of adhesion: The intermolecular force of attraction amongst molecules of two different substances is called the force of adhesion.

2. Change of state: The process of the change of a substance from one physical state to another physical state by changing its temperature is called change of state.

3. Freezing point: The fixed temperature at which a substance changes from liquid state to solid state at standard atmospheric pressure is called its freezing point.

4. Boiling: The process by which a substance changes from liquid state to gaseous state on heating at a fixed temperature is called boiling.

5. **Deposition:** The process by which a substance in its gaseous (vapour) form, on cooling, directly changes into solid state without passing through the intermediate liquid state is called deposition.

6. **Evaporation:** The phenomenon of transition of a liquid into its vapour form at all temperatures below its boiling point is called evaporation.

D. 1.

Melting	Liquefaction
The process by which a substance in solid state on heating changes into liquid state at a fixed temperature is called melting.	The process by which a substance in vapour state on cooling changes into liquid state at a fixed temperature is called liquefaction.

2.

Solids	Liquids
1. The molecules in solids are closely packed, i.e., the intermolecular spaces are extremely small.	1. The molecules in liquids are less tightly packed than in solids, i.e., intermolecular spaces are more than solids.
2. The intermolecular forces are very strong.	2. The intermolecular forces are weaker than solids.

3.

Melting point	Sublimation point
The fixed temperature at which a substance in solid state changes into a liquid at standard atmospheric pressure is called its melting point.	The fixed temperature at which a substance in solid state changes into gaseous state directly without passing through the intermediate liquid state is called sublimation point.

4.

Liquids	Gases
1. The molecules in liquids are less tightly packed than solid.	1. The molecules in gases are loosely packed.
2. Liquids have definite volume and indefinite shape of their own and they can flow.	2. Gases have neither a definite shape nor a definite volume.

5.

Fusion	Condensation
1. The process by which a substance in solid state changes into liquid state on heating at fixed temperature is called fusion.	1. The process by which a substance in vapour state changes into liquid state on cooling at fixed temperature is called condensation.
2. The fusion or melting point of ice is 0°C.	2. Steam condenses into water at 100°C.

6.

Evaporation	Boiling
1. The phenomenon of transition of a liquid into its vapour form at all temperatures below its boiling point is called evaporation.	1. The process by which a substance in liquid state changes into gaseous state at a fixed temperature is called boiling.
2. Evaporation is a slow process.	2. Boiling is a rapid process.

E. 1. The three main points of kinetic theory of matter are as follows:

(a) Every matter is made up of tiny particles called molecules.

(b) Molecules of a substance are identical in shape, size and mass. However, molecules of different substances may have different masses, shapes, sizes and compositions.

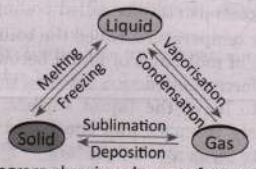
(c) Molecules are continuously in a state of random motion. Motion of molecules is different in different states of matter.

2. Solids < Liquids < Gases

3. Gases < Liquids < Solids

4. The freezing point of water is 0°C and boiling point of water is 100°C.

5. The change of a substance from one physical state to another physical state by changing its temperature is called change of state. The complete cycle of change of state of a substance is as follows:



Schematic diagram showing change of states of matter

6. The three important characteristic properties of a solid on the basis of molecular model of atom are as follows:

(a) The molecules in a solid are closely packed, i.e., the intermolecular spaces are extremely small.

(b) The intermolecular forces between molecules of a solid are very strong and hence, the positions of molecules are fixed. As a result, the solid has a definite volume and definite shape.

(c) The molecules of a solid can only have vibrational motion.

7. Aim: To show that liquids have intermolecular spaces

Materials Required: A glass, a table, sugar and water.

Procedure: Take a glass and put it on the table. Fill it with water up to the brim. Add a small quantity of powdered sugar (or salt) carefully to the glass.

Observation: We observe that the sugar is dissolved in water and water does not spill over. It clearly shows that water has intermolecular spaces and sugar molecules have occupied these spaces.

8. The process by which a substance changes from solid state to liquid state on heating at a fixed temperature is called melting. The fixed temperature at which a substance changes from solid state to liquid state is called melting point.
9. At a particular temperature, called the melting point of solid, molecules of solid acquire sufficient energy so as to overcome the intermolecular force of attraction and become free to move within the substance and the solid substance changes into liquid state. During the melting process, heat energy absorbed by the substance does not raise its temperature. The energy absorbed is utilised for doing work against the intermolecular forces of attraction so as to increase the molecular separation.
10. The process by which a substance in liquid state changes into gaseous state on heating at a definite temperature is called boiling.

    The fixed temperature at which a substance from liquid state changes into gaseous state is called boiling point.
11. At a particular temperature, called the boiling point of liquid, the kinetic energy of molecules of liquid becomes sufficient so as to overcome the force of attraction between them. So, the molecules become free to leave the liquid surface. Now, the molecules can move freely in space and the liquid changes into vapour (gaseous) state. During the process of vaporisation, the heat energy absorbed by molecules of liquid is fully utilised to do work against molecular attraction force so as to increase the distance between them and make them independent and free.
12. The process of changing of a substance directly from solid state to gaseous state without passing through the intermediate liquid state on heating is called sublimation, e.g., camphor, ammonium chloride, etc.
13. The solid carbon dioxide is called dry ice. The main application of dry ice is to use it as a cooling agent.
14. Yes, intermolecular force in solids, which undergo sublimation, is comparatively less. Their molecules are loosely packed as compared to other solids.

15. The process of transition of a liquid into its vapour form at all temperatures below its boiling point is called evaporation.
16. The three factors on which rate of evaporation of a liquid depends are as follows:
    (a) Nature of the liquid
    (b) Temperature
    (c) Surface area
17. Ether > mercury > water > glycerine > coconut oil
18. The two applications of evaporation are as follows:
    (a) During summer, water contained in an earthen pot gets cooled due to evaporation.
    (b) We feel comfortable under a fan when we perspire due to evaporation of sweat from our body.

F. 1. False; Molecules of whole universe are **not identical.**
2. False; Molecules of a **liquid** can move freely within it.
3. True
4. True
5. False; Solids are closely packed, whereas **liquids are less closely packed.**
6. False; A liquid can be compressed slightly but **a gas can be compressed easily.**
7. True
8. False; Gases have **neither definite volume nor definite shape.**
9. False; **Steam** at 100°C has more heat energy than **water** at 100°C.
10. True
11. True
12. True
13. False; The process of a gas converting directly into a solid is called **deposition.**
14. True

G. 1.–(c) 2.–(e) 3.–(b) 4.–(a) 5.–(f) 6.–(d)

H. 1. **Force of gravity:** It is the force with which the earth attracts an object towards itself, others are forces acting on molecules of a substance.
2. **Sublimation:** Because in this process, the solid gets converted into gas directly without passing through intermediate liquid state while in other processes, conversion occurs one step ahead.

I. **1.** The intermolecular spaces between the solid molecules are extremely small because their molecules are closely packed. So, the molecules cannot have translatory or rotational motion. These molecules can only vibrate to and fro about their mean respective mean positions, so, they can have only vibrational motion.

2. The intermolecular spaces between gaseous molecules are very large. Since, gas molecules can have independent translatory motion in all possible directions throughout the space, so, average kinetic energy of gas molecules is more as compared to solids and liquids.

3. As heat supplied/released during a change of state does not lead to change in temperature, it is called latent heat.

4. During change of state, the heat absorbed (or released) by the substance does not change the average kinetic energy of molecules, so, the temperature of the substance remains constant.

5. An earthen pitcher has small pores in it. When water is put into the pot, some water seeps out of these pores and gets evaporated. The heat required for evaporation is taken from the water stored in the pitcher. Therefore, water stored in the earthen pitcher becomes cold.

6. The size of naphthalene balls decreases because naphthalene balls sublime, i.e., directly change into vapour form when left open for some time.

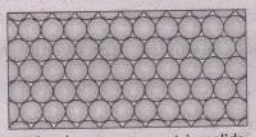
7. As the water of the cotton strip evaporates, it takes heat from the body of the patient. As a result, the body temperature of the patient falls. That is why, a doctor suggests putting of wet cotton strip on the forehead of a patient having high fever.

8. Hot tea cools faster in saucer than in cup because as the surface area of tea increases in saucer, evaporation takes place at a faster rate and its temperature falls. As a result, we can sip tea

8. Hot tea cools faster in saucer than in cup because as the surface area of tea increases in saucer, evaporation takes place at a

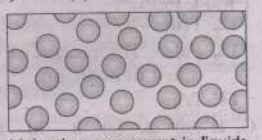
J. 1. (c) 2. (b) 3. (d) 4. (d) 5. (a) 6. (a) 7. (c)

K. **1.** (a)



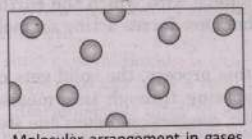
Molecular arrangement in solids

(b)



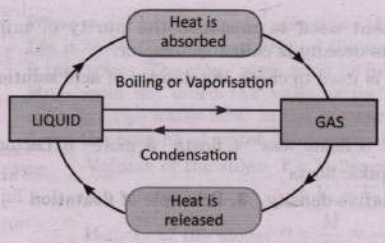
Molecular arrangement in liquids

(c)



Molecular arrangement in gases

2.



Process of boiling and condensation

3. (a)–Melting (b)–Freezing (c)–Vaporisation or Boiling (d)–Condensation (e)–Sublimation (f)–Deposition

THINK ZONE

- Since evaporation is faster on a hot windy day as compared to a cold humid day, so, wet clothes dry up easily on a hot windy day.
- On mixing impurity (salt) to ice, the melting point of ice gets lowered due to melting point depression. Due to melting point depression, ice melts slowly and helps to make kulfi effectively.
- Only those solids sublime which have weak intermolecular forces of attraction. Since, most solids have very strong intermolecular forces, they do not exhibit the property of sublimation.

CHAPTER 2. Physical Quantities and

Check Point 1

1. (a) material (b) kg/m^3 (c) 1

2. (a) A measuring cylinder is a graduated glass cylinder which is used to measure the volume of liquids.

(b) Iron

Check Point 2

1. (a) 4°C (b) Relative density (c) Density

2. (a) The relative density has no units.

(b) If temperature of a substance is increased, its density decreases.

Check Point 3

1. (a) less (b) more (c) floats

2. (a) An instrument used to measure the purity of milk by measuring its density is called lactometer.

(b) Hydrometer is used to check the density of acid solution.

TEST YOURSELF

A. 1. more **2.** liquid **3.** floats; less **4.** floats **5.** more **6.** Lactometer **7.** decreases **8.** sinks; floats

B. 1. Density **2.** Relative density **3.** Principle of floatation **4.** Hydrometer

C. 2.

Density	Relative density
1. The mass of an object contained per unit volume is called density of the material of that object.	1. The ratio of the density of the substance to the density of pure water at 4°C is called the relative density of the given substance.
2. The SI unit of density is kg/m^3.	2. It has no units.

2.

Floating	Sinking
A state of rest or movement of a lighter object on the surface of heavier object is called floating.	A state of rest or movement of a heavier object below the surface of a lighter object (liquid) is called sinking.

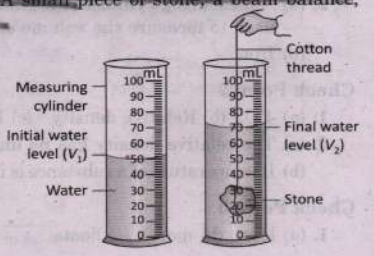
D. 1. The mass of an object contained per unit volume is called density of a material of an object. The SI unit of density is kg/m^3.

2. The density of a substance does not depend on its shape and size. Yes, the density of the substance depends on the material of the substance.

3. Aim: To determine the density of an irregular solid heavier than water and insoluble in it

Materials Required: A small piece of stone, a beam balance, a thread, a measuring cylinder and water

Procedure: Take a small piece of stone and find its mass by using a beam balance. Let it be M. Take a clean measuring cylinder and fill it nearly half with water.



When water level is steady, note down the reading of water level. Let it be V_1. Tie a thread around the stone and gently immerse it into water. The stone piece must be fully immersed into water but should not touch the walls or the base of the measuring cylinder. The water level in the measuring cylinder rises. Note down the reading of water level again. Let it be V_2.

Volume of the stone, V = Volume of displaced water

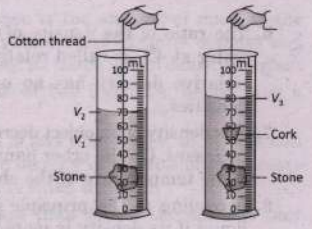
$= V_2 - V_1$

$\therefore$ Density of the stone, $D = \frac{M}{V} = \frac{M}{V_2 - V_1}$

4. Aim: To determine the density of a cork piece using a sinker and a measuring cylinder

Materials Required: A piece of cork, a beam balance, a measuring cylinder, a thread, a stone piece and water

Procedure: Take a small piece of cork and find its mass by using a beam balance. Let it be M. Take a measuring cylinder and fill it nearly half with water. Note down the reading of the water level. Let it be V_1. Now, take a heavy sinker (say, a stone piece) and tie a fine thread to it. Gently, immerse it into water and record the new water level. Let it be V_2. Now, gently remove the stone from water. Tie the cork piece along with stone. Gently, immerse them into water so that both sink into water. Again, record the water level. Let it be V_3.



Then, volume of the cork, $V = V_3 - V_2$

$\therefore$ Density of the cork, $D = \frac{M}{V} = \frac{M}{V_3 - V_2}$

5. Aim: To determine the density of oil (liquid) using a density bottle

Materials Required: A density bottle, the stopper, a liquid (oil or glycerine), a tissue paper or a piece of dry cloth and a beam balance

Procedure: Take an empty and dry density bottle of known capacity (V). Weigh it accurately along with the stopper using a sensitive beam balance. Let its mass be M_1. Now, fill the bottle with given liquid (say, oil or glycerine) up to the brim and insert

the stopper. The extra liquid overflows through the hole in the stopper. Wipe the overflown liquid using a tissue paper or a piece of dry cloth. Weigh the bottle again. Let the combined mass of the liquid and density bottle be M_2.

Calculation:

Volume of density bottle, V = _____ mL = _____ cm^3

Mass of empty density bottle, M_1 = _____ g

Mass of density bottle with liquid, M_2 = _____ g

Mass of liquid, $M = (M_2 - M_1)$ g

$$\therefore \quad \text{Density of liquid, } D = \frac{\text{Mass } (M)}{\text{Volume } (V)}$$

$$= \left(\frac{M_2 - M_1}{V}\right) \text{g/cm}^3$$

6. The ratio of the density of a substance to the density of pure water at 4°C is called relative density.

   Relative density has no unit because it is the ratio of two densities.

7. The density of an object decreases if the temperature of the object increases. On the other hand, the density of the object increases if the temperature of the object decreases.

8. According to the principle of floatation, a solid will sink in a liquid if its density is more than the density of the liquid but a solid will float on a liquid if its density is less than the density of the liquid.

9. A piece of cork, ice cube and a piece of soft wood are three floating bodies.

10. Hydrogen < air < cork < water < iron < mercury < GOLD

11. Mercury > copper > water > ice > alcohol > air

12. The ice will not float in the given oil because the density of the ice is greater than oil. On the other hand, ice will float on water because density of ice is lower than water.

13. When a liquid is heated:
    (a) volume will increase.
    (b) mass remains constant.
    (c) density will decrease.

14. A special type of ship which may sink or float over the sea water as per its convenience is called submarine.

    A submarine works on the principle of floatation.

E. 1. False; A piece of wood and a piece of copper having some mass will **have different volumes.**

2. False; The SI unit of density is **kg/m^3.**

3. False; Density of a liquid **decreases** with increase in temperature. (or Density of a liquid increases with **decrease** in temperature).

4. False; Density of ice is **lesser** than density of water.

5. True

6. True

7. True

8. False; **Relative density has no unit.**

9. False; A **lactometer** is used to determine purity of a sample of milk.

10. True

F. 1.–(b) 2.–(c) 3.–(d) 4.–(a)

G. 1. Since the density of a substance is the amount of mass of the substance present in its unit volume, and SI units of mass and volume are kg and m^3 respectively, so, the SI unit of density is kg/m^3.

2. The relative density is a ratio of two densities, hence, it is a unitless quantity.

3. The density of a wooden piece is less than water, so, it floats on water. On the other hand, the density of an iron piece is more than the density of water, so, it sinks in water.

4. Since the density of ice is less than water, therefore, a very large-sized iceberg floats on sea water.

5. Density of iron is much more than the density of water, so, an iron needle sinks in water. On the other hand, an iron ship is designed in such a way that it is mostly hollow from within. As a result, the volume of the iron ship becomes very large as compared to its mass, hence, its effective density becomes less than that of water. Therefore, a ship floats on water.

6. The density of sea water is more than the density of freshwater due to salts present in it. Therefore, it is easier to swim in sea water than in freshwater.

7. The volume is directly proportional to temperature, i.e., when the temperature of a substance increases, its volume also increases. As we know, the density of a substance is inversely proportional to its volume. So, when volume of a substance increases on increase in temperature, its density decreases.

8. As the density of a balloon filled with hydrogen is less than the density of air, so, a balloon filled with hydrogen gas rises in air.

H. 1. Density $= \dfrac{\text{Mass}}{\text{Volume}}$

$= \dfrac{624}{80} = 7.8\ \text{g/cm}^3$

2. Density $= \dfrac{\text{Mass}}{\text{Volume}}$

$= \dfrac{225}{75} = 3\ \text{g/cm}^3$

3. Density of copper $= 8.9\ \text{g/cm}^3$

$= 8.9 \times 1000\ \text{kg/m}^3$ ($\because$ $1\ \text{g/cm}^3 = 1000\ \text{kg/m}^3$)

$= 8900\ \text{kg/m}^3$

4. Density $= \dfrac{\text{Mass}}{\text{Volume}}$

$= \dfrac{1.35\ \text{kg}}{(15\ \text{cm})^3}$

$= \dfrac{1.35\ \text{kg}}{\left(\dfrac{15}{100}\right)^3 \text{m}^3}$

$= \dfrac{1.35 \times 100 \times 100 \times 100\ \text{kg}}{15 \times 15 \times 15\ \text{m}^3}$

$= \dfrac{135 \times 100 \times 100}{15 \times 15 \times 15} = 400\ \text{kg/m}^3$

5. Volume of a metal sphere $= \dfrac{4}{3}\pi r^3$

$= \dfrac{4}{3} \times 3.14 \times (3)^3$

$= \dfrac{4}{3} \times 3.14 \times 27$

$= 36 \times 3.14$

$= 113.04\ \text{cm}^3$

$\because$ $\text{Density} = \dfrac{\text{Mass}}{\text{Volume}}$

$\therefore$ Mass = Density × Volume

$= 7\ \text{g/cm}^3 \times 113.04\ \text{cm}^3$

$= 791.28\ \text{g} \simeq 792\ \text{g}$

6. $\because$ $\text{Density} = \dfrac{\text{Mass}}{\text{Volume}}$

$\therefore$ $\text{Volume} = \dfrac{\text{Mass}}{\text{Density}}$

$= \dfrac{280}{800} = 0.35\ \text{m}^3$

7. Here, volume of density bottle, $V = 25\ \text{mL} = 25\ \text{cm}^3$

Mass of the liquid, $M = (43.8 - 22.6)\ \text{g}$

$= (21.2)\ \text{g} = 21.2\ \text{g}$

Density of the given liquid, $D = \dfrac{M}{V}$

$= \dfrac{21.2\ \text{g}}{25\ \text{cm}^3}$

$= 0.848\ \text{g/cm}^3$

$= 0.848 \times 1000$

$= 848\ \text{kg/m}^3$

8. Here, mass of the given liquid, $M = 84.2\ \text{g}$

Volume of solid, $V = 60\ \text{mL} - 36\ \text{mL}$

$= 24\ \text{mL}$

$= 24\ \text{cm}^3$

$\therefore$ $\text{Density} = \dfrac{\text{Mass}}{\text{Volume}}$

$= \dfrac{84.2}{24}$

$= 3.5\ \text{g/cm}^3$

9. Here, initial volume of water, $V_1 = 24\ \text{cm}^3$

Volume of the water and sinker, $V_2 = 56\ \text{cm}^3$

Now, Volume of water, sinker and cork, $V_3 = 88\ \text{cm}^3$

and mass of the cork piece, $M = 12.5\ \text{g}$

$\therefore$ Volume of the sinker $= V_2 - V_1$

$= (56 - 24)\ \text{cm}^3 = 32\ \text{cm}^3$

$\therefore$ Volume of the cork piece $= V_3 - V_2$

$= (88 - 56)\ \text{cm}^3 = 32\ \text{cm}^3$

$\therefore$ Density of the cork piece, $D = \dfrac{\text{Mass of the cork piece}}{\text{Volume of the cork piece}}$

$= \dfrac{12.5}{32} = 0.391\ \text{g/cm}^3$

$\because$ $1\ g/cm^3 = 1000\ kg/m^3$

$\therefore$ $0.391\ g/cm^3 = 1000 \times 0.391\ kg/m^3$

$= 391\ kg/m^3$

I. 1. (b) **2.** (a) **3.** (b) **4.** (b) **5.** (d) **6.** (d) **7.** (a)

J. 1. Iron; The density of iron is more than water and density of others is less than water.

2. Iceberg; Iceberg floats on water and others sink in water.
(Or Density of iceberg is less than water and density of others is more than water).

THINK ZONE

- Density of water in dead sea is more than that of the body of a person. So, a person cannot sink in dead sea even if he so desires.
- The value of relative density of a substance is independent of the unit system because it is a ratio of two densities.

CHAPTER 3. Force and Pressure

Check Point 1

1. (a) turning effect

(b) newton metre

2. (a) The two effects of a force are as follows:

(i) A force may bring a moving object at rest or *vice versa.*

(ii) A force may change the shape and size of an object.

(b) Moment of a force is also called turning effect of a force.

Check Point 2

1. (a) 1 (b) sharp; blunt (c) camel

2. (a) For a given thrust, the pressure is inversely proportional to the surface area of the object, i.e., pressure increases when area of contact is decreased.

(b) The SI unit of pressure is N/m^2 or pascal.

Check Point 3

1. (a) liquid

(b) increases

(c) does not depend

2. (a) **Aim:** To show that a liquid exerts pressure

Materials Required: A glass tube, a thin stretched rubber membrane and water

Subject Punjabi

ਪਾਠ - 3

ਪਤ੍ਰ-ਲਿਖਣ ਦੀ ਪੜ੍ਹਾਈ - ਕਾਹੀ

ਕਾਹਕਿਰ - ਕਰਨੈਲ ਸਿੰਘ ਸੋਮਲ

ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਸੰਖੇਪ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।

1 ਸ਼ਬਦ (ੳ) ਹਰਮਿੰਦਰ ਕੌਰ ਮੈਡਮ ਸਕੂਲ ਦੇ ਕੀ ਸਨ ?

ਉੱਤਰ ਹਰਮਿੰਦਰ ਕੌਰ ਮੈਡਮ ਸਕੂਲ ਦੇ ਮੁੱਖ ਅਧਿਆਪਕਾ ਸਨ।

(ਅ) ਸਨੌਜ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਚਾਰ ਕੀ ਦਲੀਲ ਦਿੱਤੀ ?

ਉੱਤਰ ਸਨੌਜ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਚਾਰ ਦਲੀਲ ਦਿੱਤੀ ਕਿ ਅਸੀਂ ਅਗਲੇ ਨੂੰ ਆਯਡੇ ਸਰਟੀਫਿਕੇਟ ਦਿਆ ਦੇਵਾਂਗੇ।

(ੲ) ਮੈਡਮ ਜੀ ਅਨੁਸਾਰ ਚੀਏ ਦੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਦਾ ਕਿਸ ਗੱਲ ਤੋਂ ਪਤਾ ਲੱਗਦਾ ਹੈ?

ਉੱਤਰ ਮੈਡਮ ਜੀ ਅਨੁਸਾਰ ਚੀਏ ਦੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਦਾ ਪਤਾ ਉਸ ਦੇ ਵਿਹਾਰ ਤੋਂ ਲਗਦਾ ਹੈ।

(ਸ) ਮੈਡਮ ਜੀ ਅਨੁਸਾਰ ਸਕਦਰ ਤੇ ਸਗਾਰਜਾ ਰਣਜੋਡ ਸਿੰਘ ਕਿਸ ਸਿਆਨ ਤੋਂ ਫੈਰੇ ਸਨ?

ਉੱਤਰ ਮੈਡਮ ਜੀ ਅਨੁਸਾਰ ਸਕਦਰ ਤੇ ਸਗਾਰਜਾ ਰਣਜੋਡ ਸਿੰਘ ਅੱਖਰ ਸਿਆਨ ਤੋਂ ਫੈਰੇ ਸਨ।

(ਹ) ਹਰੀ ਸੌਹਨ ਨੇ ਮੈਡਮ ਜੀ ਨੂੰ ਕਿਹੜਾ ਸਵਾਲ ਪੁੱਛਿਆ ਸੀ?

ਉੱਤਰ ਹਰੀ ਸੌਹਨ ਨੇ ਮੈਡਮ ਜੀ ਨੂੰ ਪੁੱਛਿਆ ਕਿ ਜਿਹੜੇ ਸਕੂਲਾਂ ਵਿੱਚ ਨਰੀ ਪਤ੍ਰ ਸਕਦੇ ਉਹ ਫਿਰ ਸਿੱਖਦੇ ਕਿੱਥੇ ਹਨ।

2 ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਵੱਡੇ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।

(ੳ) ਬੱਚਿਆਂ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਚਾਰ ਕੀ-ਕੀ ਦੱਸਿਆ ?

ਉੱਤਰ ਬੱਚਿਆਂ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਪੈਂਦ ਚਾਰ ਦੱਸਿਆ ਕਿ ਅਸੀਂ ਅਗਲੇ ਨੂੰ ਆਯਡੇ ਸਰਟੀਫਿਕੇਟ ਦਿਆ ਦੇਵਾਂਗੇ। ਕਿਸੇ ਨੇ ਕਿਹਾ ਅਸੀਂ ਆਯਡੇ ਚੂਰੇ ਦੇ ਚਾਰ ਆਯਡਾ ਨਾਮ ਅਤੇ ਜੋਗਤਾ ਲਿਖ ਕੇ ਇੱਕ ਤਸਤੀ ਬਨਾ ਦੇਵਾਂਗੇ। ਕਿਸੇ ਹੋਰ ਨੇ ਕਿਹਾ ਕਿ ਅਸੀਂ ਆਪ ਦੱਸ ਦੇਵਾਂਗੇ ਕਿ ਅਸੀਂ ਕਿੰਨਾ ਪਤ੍ਰੇਗੇ। ਇਸੇ ਤਰ੍ਹਾਂ ਕਿਸੇ ਹੋਰ ਵਿਦਿਆਰਥੀ ਨੇ ਦੱਸਿਆ ਕਿ ਸਾਡੇ ਘਰ ਦੇ ਕੋਲ ਹੀ ਦੱਸਦੇ ਕਿ ਅਸੀਂ ਕਿੰਨੀਆਂ ਜਮਾਤਾਂ ਪਾਸ ਕੀਤੀਆਂ ਹਨ।

(ਅ) ਬੱਚਿਆਂ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਚੀਏ ਵਿੱਚ ਕਿਹੜੇ-ਕਿਹੜੇ ਗੁਣ ਚਾਰੇ ਦੱਸਿਆ ?

ਉੱਤਰ ਬੱਚਿਆਂ ਨੇ ਪਤ੍ਰ-ਲਿਖਣ ਚੀਏ ਦੇ ਗੁਣ ਚਾਰੇ ਦੱਸਿਆ ਕਿ ਉਹ ਸਫਾਈ ਦਾ ਖਿਆਲ ਰੱਖਦਾ ਹੈ, ਉਹ ਸਿਹਨਤੀ ਹੁੰਦਾ ਹੈ, ਉਸ ਦਾ ਆਸ ਸਿਆਨ ਵਧੇਰ ਹੁੰਦਾ ਹੈ, ਉਹ ਨਵੇਂ ਤੋਂ ਨਵਾਂ ਸਿਆਨ ਹਾਸਲ ਕਰਦਾ ਰਹਿੰਦਾ ਹੈ,

ਉਹ ਕਿਸੇ ਨਾ ਕਿਸੇ ਕੰਮ ਦਾ ਮਾਹਰ ਹੁੰਦਾ ਹੈ, ਉਹ ਨਿੰਮਤੀ ਹੁੰਦਾ ਹੈ, ਉਹ ਸਦਾ ਚੰਕਸ ਰਹਿੰਦਾ ਹੈ, ਉਹ ਸਾਰਥਕ ਸਿੱਖਿਆ ਹੋਰਨਾਂ ਦੋਸਤਾਂ ਨੂੰ ਵੀ ਦੱਸਦਾ ਹੈ, ਉਹ ਹੱਸ-ਮੁੱਖ ਰਹਿੰਦਾ ਹੈ, ਉਹ ਸਾਰਥਕ ਚੰਗਿਆਈ ਦਾ ਪ੍ਰਚਾਰ ਕਰੀਂ ਕਰਦਾ, ਉਸ ਦੀ ਸਿਹਤ ਚੰਗੀ ਹੁੰਦੀ ਹੈ ਅਤੇ ਉਹ ਸਮੇਂ ਦਾ ਪਾਬੰਦ ਹੁੰਦਾ ਹੈ।

(ਦ) ਮੈਡਮ ਜੀ ਨੇ ਅਖ਼ਬਾਰ ਤੇ ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦੀ ਉਦਾਹਰਨ ਕਿਉਂ ਦਿੱਤੀ ?

ਉੱਤਰ ਮੈਡਮ ਜੀ ਨੇ ਬੱਚਿਆਂ ਨੂੰ ਸਮਝਾਉਣਾ ਚਾਹੁੰਦੇ ਸਨ ਕਿ ਜਿਹੜੇ ਬੰਦੇ ਅਨਪੜ੍ਹ ਹੁੰਦੇ ਹਨ ਉਹ ਵੀ ਗੁਣਵਾਨ ਹੁੰਦੇ ਹਨ। ਇਸ ਲਈ ਉਹਨਾਂ ਨੇ ਅਖ਼ਬਾਰ ਤੇ ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦੀ ਉਦਾਹਰਨ ਦਿੱਤੀ ਸੀ ਕਿ ਭਾਵੇਂ ਇਹ ਦੋਵੇਂ ਅਨਪੜ੍ਹ ਸਨ ਪਰ ਫਿਰ ਵੀ ਇਹ ਬਹੁਤ ਗੁਣਵਾਨ ਅਤੇ ਸਿਆਣੇ ਸਨ।

(ਸ) ਮੈਡਮ ਜੀ ਨੇ ਸਿੱਖਿਆ ਗ੍ਰਹਿਣ ਕਰਨ ਬਾਰੇ ਕੀ-ਕੀ ਦੱਸਿਆ ?

ਉੱਤਰ ਮੈਡਮ ਜੀ ਨੇ ਸਿੱਖਿਆ ਗ੍ਰਹਿਣ ਕਰਨ ਬਾਰੇ ਦੱਸਿਆ ਕਿ ਸਿੱਖਣ ਲਈ ਸਕੂਲ ਬਹੁਤ ਚੰਗੀ ਥਾਂ ਹੈ ਪਰ ਸਿੱਖਣ ਦਾਖ਼ੇ ਹੋਰ ਸਥਾਨਾਂ ਥਾਂਵਾਂ ਤੋਂ ਵੀ ਸਿੱਖਣਾ ਚਾਹੀਦਾ ਹੈ। ਸਾਨੂੰ ਚਾਹੀਦਾ ਹੈ ਸਾਰੀ ਉਮਰ ਸਿੱਖਦੇ ਰਹੀਏ। ਤੁਸੀਂ ਵੀ ਸਿੱਖਦੇ ਰਹਿਣਾ ਹੈ। ਸਿੱਖਣਾ ਛੱਡ ਦਿਓਗੇ ਤਾਂ ਤੁਹਾਡਾ ਗਿਆਨ ਪੁਰਾਣਾ ਅਤੇ ਬਾਸੀ ਹੋ ਜਾਵੇਗਾ।

3 ਹੇਠਾਂ ਦਿੱਤੇ ਸ਼ਬਦਾਂ-ਸਮੂਹਾਂ ਨੂੰ ਹਵਾ ਵਿੱਚ ਵਰਤੋ।

1 ਸਾਫ਼-ਥੱਲਾ — ਮੇਰੀ ਸਹਿਤ ਦੇ ਵੱਡੇ-ਵੱਡੇ ਬੰਦਿਆਂ ਨਾਲ ਸਾਫ਼ ਥੱਲਾ ਹੈ।

2 ਵਿਹਾਰ — ਦੁਸ਼ਮਣਾਂ ਨਾਲ ਸਦਾ ਚੰਗਾ ਵਿਹਾਰ ਕਰੋ।

3. ਉੱਘੜ ਦੋਘਾ — ਸਾਡੇ ਵਿਹਾਰ ਤੋਂ ਸਾਡੇ ਗੁਣ ਉੱਘੜ ਦੋਘੇ ਹਨ।

4. ਝਲਕਦਾ — ਸਾਡੇ ਵਿਹਾਰ ਤੋਂ ਸਾਡੀ ਸਿਆਣਪ ਝਲਕ ਦੋਂਦੀ ਹੈ।

5 ਸਾਰ — ਰਾਮ ਸਿਮਤੀ ਲੱਕੜ ਦੇ ਕੰਮ ਵਿੱਚ ਚੰਗਾ ਸਾਰ ਹੈ।

6. ਨਿੰਮਤੀ — ਸਹੋਰ ਚੰਗੇ ਨਿੰਮਤੀ ਕੁੜੀ ਸੀ।

7 ਚੰਕਸ — ਸਾਨੂੰ ਸੜਕ ਪਾਰ ਕਰਦੇ ਸਮੇਂ ਚੰਕਸ ਰਹਿਣਾ ਚਾਹੀਦਾ ਹੈ।

8 ਸਾਬਤ ਕਰਨ — ਰਾਮ ਨੇ ਸਾਬਤ ਕਰ ਦਿੱਤਾ ਕਿ ਉਹ ਨਿਰਦੋਸ਼ ਹੈ।

9. ਅਸਲਤਾ — ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਪੜ੍ਹਾਈ ਵਿੱਚ ਲਗਨ ਵੇਖ ਕੇ ਅਧਿਆਪਕ ਨੂੰ ਬਹੁਤ ਅਸਲਤਾ ਹੋਈ।

4. ਹਾਲੀ ਵਾਹਾਂ ਤਰੋ (ਉੱਤਰ)

1. ਮੁੱਖ ਅਧਿਆਪਕਾ
2. ਸਰਟੀਫ਼ਿਕੇਟ
3. ਤਖ਼ਤੀ
4. ਵਿਹਾਰ
5. ਸਨੀਟਰ

ਵਿਆਕਰਨ

1 ਬਹੁ-ਵਿਕਲਪੀ ਪ੍ਰਸ਼ਨ
(ੳ) ਖ਼ੁਸ਼ ਦਾ ਵਿਰੋਧੀ ਸ਼ਬਦ
ਉੱਤਰ - ਗ਼ਮੀਨ
(ਅ) 'ਮਾਹਰ' ਦਾ ਸਮਾਨਾਰਥਕ ਸ਼ਬਦ
ਉੱਤਰ- ਨਿਪੁੰਨ
(ੲ) ਮੈਡਮ ਦਾ ਲਿੰਗ ਬਦਲੋ -
ਉੱਤਰ ਸਰ
(ਸ) ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚ ਸ਼ੁੱਧ ਸ਼ਬਦ ਚੁਣੋ -
ਉੱਤਰ ਔਖਾ
(ਹ) 'ਜਿਸ ਦੇ ਕੋਈ ਔਲਾਦ ਨਾ ਹੋਵੇ'
ਉੱਤਰ ਔਂਤਰਾ

2 ਹੇਠ ਲਿਖੇ ਵਾਕਾਂ ਦੀ ਵਚਨ ਬਦਲੀ ਕਰੋ।
(ੳ) ਮੈਡਮ ਨੇ ਪ੍ਰਸ਼ਨ ਕੀਤਾ (ੳ) ਮੈਡਮਾਂ ਨੇ ਪ੍ਰਸ਼ਨ ਕੀਤੇ।
(ਅ) ਉਹ ਜਮਾਤ ਪਾਸ ਕਰ ਗਿਆ ਹੈ। (ਅ) ਉਹ ਜਮਾਤ ਪਾਸ ਕਰ ਗਏ ਹਨ।
(ੲ) ਉਸ ਦੀ ਤਸਵੀਰ ਲਟਕ ਰਹੀ ਹੈ। (ੲ) ਉਹਨਾਂ ਦੀਆਂ ਤਸਵੀਰਾਂ ਲਟਕ ਰਹੀਆਂ ਹਨ।
(ਸ) ਮੁਖੀ ਨੇ ਬੱਚੇ ਨੂੰ ਪਿਆਰ ਕੀਤਾ (ਸ) ਮੁਖੀਆਂ ਨੇ ਬੱਚਿਆਂ ਨੂੰ ਪਿਆਰ ਕੀਤਾ।
(ਹ) ਚਿੜੀ ਤੇ ਕਾਂ ਨੇ ਰੋਟੀ ਖਾਧੀ (ਹ) ਚਿੜੀਆਂ ਤੇ ਕਾਂਵਾਂ ਨੇ ਰੋਟੀਆਂ ਖਾਧੀਆਂ।

ਪਾਠ-4

ਕਵਿਤਾ- ਪਾਣੀ ਦਾ ਜੋ ਪੈ ਗਿਆ ਕਾਲ
ਕਵੀ- ਚਰਨ 'ਸੀਚੇਵਾਲਵੀ'

1 ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਸੰਖੇਪ ਰੂਪ ਵਿੱਚ ਲਿਖੋ-
(ੳ) ਪਾਣੀ ਬਿਨਾਂ ਕੀ-ਕੀ ਨਹੀਂ ਹੋ ਸਕਦਾ?
ਉੱਤਰ ਪਾਣੀ ਧਰਤੀ ਦੇ ਜੀਵਨ ਦਾ ਆਧਾਰ ਹੈ। ਪਾਣੀ ਬਿਨਾਂ ਨਹਾਉਣਾ, ਰੋਟੀ, ਦਾਲ-ਸਬਜ਼ੀ ਬਣਾਉਣਾ ਆਦਿ ਕੰਮ ਨਹੀਂ ਹੋ ਸਕਦੇ।
(ਅ) ਪਾਣੀ ਬਿਨਾਂ ਬੱਚਿਆਂ ਨੂੰ ਕੀ ਹੁੰਦਾ ਹੈ?
ਉੱਤਰ ਪਾਣੀ ਬਿਨਾਂ ਬੱਚਿਆਂ ਦੀ ਹਿੱਲ-ਜੁੱਲ ਹੋਣੀ ਸੰਭਵ ਨਹੀਂ ਹੈ ਕਿਉਂਕਿ ਪਾਣੀ ਹੀ ਜੀਵਨ ਹੈ।
(ੲ) ਪਾਣੀ ਦੀ ਸੁਚੱਜੀ ਵਰਤੋਂ ਕਰਨ ਲਈ ਕੀ ਕਰਨਾ ਚਾਹੀਦਾ ਹੈ?
ਉੱਤਰ ਪਾਣੀ ਦੀ ਸੁਚੱਜੀ ਵਰਤੋਂ ਕਰਨ ਲਈ ਇਸ ਨੂੰ ਸੰਜਮ ਨਾਲ ਵਰਤਣਾ ਚਾਹੀਦਾ ਹੈ।
(ਸ) ਮੀਂਹ ਕੌਣ ਲਿਆਉਂਦਾ ਹੈ?
ਉੱਤਰ ਮੀਂਹ ਰੁੱਖ ਲਿਆਉਂਦੇ ਹਨ।

(ਕ) ਧਰਤੀ ਮੀਂਹ ਨਾਲ ਨਿਰਾਲ ਹੁੰਦੀ ਹੈ, ਕਿਵੇਂ?
ਉੱਤਰ ਧਰਤੀ ਮੀਂਹ ਨਾਲ ਨਿਰਾਲ ਹੁੰਦੀ ਹੈ ਕਿਉਂਕਿ ਗਰਮੀ ਨਾਲ ਤਪਦੀ ਹੋਈ ਧਰਤੀ ਚਰਮਾਤ ਨਾਲ ਠੰਢੀ ਹੋ ਜਾਂਦੀ ਹੈ ਤੇ ਪਾਣੀ ਦੀ ਕਮੀ ਵੀ ਦੂਰ ਹੋ ਜਾਂਦੀ ਹੈ।

2 ਹੇਠਾ ਦਿੱਤੇ ਸ਼ਬਦਾਂ - ਸੁਗਵਰਿਆਂ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋ —

1. ਇਸ਼ਨਾਨ — ਸਾਨੂੰ ਹਰ ਰੋਜ਼ ਇਸ਼ਨਾਨ ਕਰਨਾ ਚਾਹੀਦਾ ਹੈ।
2. ਕਵਿਤਾ — ਕਵੀ ਕਵਿਤਾ ਲਿਖ ਰਿਹਾ ਹੈ।
3. ਛਿਲਕਾ — ਪਾਣੀ ਬਿਨਾਂ ਬੱਚੇ ਨੇ ਛਿਲਕਾ ਸੁੱਟ ਦਿੱਤਾ।
4. ਸੁਝੱਤੀ — ਸਾਨੂੰ ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ।
5. ਸੰਜਮ — ਪਾਣੀ ਦੀ ਸਾਨੂੰ ਸੰਜਮ ਨਾਲ ਵਰਤੋਂ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ।
6. ਕਾਲ ਪੈਣਾ — ਜੇਕਰ ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਨਾ ਕੀਤੀ ਤਾਂ ਪਾਣੀ ਦਾ ਕਾਲ ਪੈ ਜਾਵੇਗਾ।
7. ਨਿਰਾਲ ਹੋਣਾ - ਮੀਂਹ ਪੈਣ ਨਾਲ ਧਰਤੀ ਨਿਰਾਲ ਹੋ ਜਾਂਦੀ ਹੈ।
8. ਉੱਦਮ — ਸਾਨੂੰ ਰਲ-ਮਿਲ ਕੇ ਰੁੱਖ ਲਗਾਉਣ ਲਈ ਉੱਦਮ ਕਰਨਾ ਚਾਹੀਦਾ ਹੈ।

3 ਹੇਠਾਂ ਲਿਖੇ ਗਦ-ਟੋਟੇ ਦੇ ਸਰਲ-ਅਰਥ ਕਰੋ।
"ਉੱਦਮ ਕਰੀਏ ਰੁੱਖ ਲਗਾਈਏ,
- - - - - - - -
- - - - - ਪਵੇ ਨਾ ਕਾਲ।"

ਸਰਲ-ਅਰਥ - ਵੱਧ ਤੋਂ ਵੱਧ ਮਜ਼ਾਂ ਵਿੱਚ ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਕਰੋ ਤੇ ਰੁੱਖ ਆਓ ਮੱਲ ਲਗਾਉਣ ਚਾਰ ਸਿੱਖਿਆ ਦਿੰਦਾ ਆਖਦਾ ਹੈ ਕਿ ਸਾਨੂੰ ਮਿਲ ਕੇ ਰੁੱਖ ਲਗਾਉਣੇ ਚਾਹੀਦੇ ਹਨ ਤੇ ਇਹ ਰੁੱਖ ਬੱਦਲਾਂ ਨੂੰ ਖਿੱਚ ਕੇ ਲਿਆਉਂਦੇ ਹਨ। ਮੀਂਹ ਦੀਆਂ ਕਣੀਆਂ ਨਾਲ ਧਰਤੀ ਅਸ਼ਨਾਲ ਹੋ ਜਾਂਦੀ ਹੈ ਤੇ ਪਾਣੀ ਦਾ ਫਿਰ ਕੋਈ ਕਾਲ ਨਹੀਂ ਪਵੇਗਾ। ਜੇ ਪਾਣੀ ਦਾ ਕਾਲ ਪੈ ਗਿਆ ਤਾਂ ਪਾਣੀ ਦੀ ਕਮੀ ਨੂੰ ਪੂਰਾ ਨਹੀਂ ਕੀਤਾ ਜਾ ਸਕਦਾ।

4. ਹੇਠ ਲਿਖੇ ਗਦ-ਟੋਟੇ ਵਿੱਚੋਂ ਹੇਠਾਂ ਦਿੱਤੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਦਿਓ -
"ਕਰੀਏ ਸ਼ੁਰੂ - - - - - - - ਨਾ ਕਾਲ।"

(ੳ) ਪਾਣੀ ਦੀ ਵਰਤੋਂ ਕਿਵੇਂ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ?
ਉੱਤਰ ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ।
(ਅ) ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਕਰਨ ਨੂੰ ਕੀ ਲਾਭ ਹੈ?
ਉੱਤਰ ਪਾਣੀ ਦੀ ਸੁਝੱਤੀ ਵਰਤੋਂ ਕਰਨ ਨੂੰ ਲਾਭ ਹੈ ਪਾਣੀ ਨੂੰ ਸੰਜਮ ਨਾਲ ਵਰਤਣਾ।
(ੲ) ਪਾਣੀ ਦਾ ਕਾਲ ਕਿਵੇਂ ਨਹੀਂ ਪੈ ਸਕਦਾ?
ਉੱਤਰ ਪਾਣੀ ਦੀ ਸਹੀ ਵਰਤੋਂ ਕਰਨ ਨਾਲ ਇਸ ਦਾ ਕਾਲ ਨਹੀਂ ਪੈ ਸਕਦਾ।

ਵਿਆਕਰਨ

1. ਘਰ-ਵਿਹਣੀ ਔਸ਼ਰ -

(ੳ) 'ਧਾਈ' ਦਾ ਵਿਰੋਧੀ ਸ਼ਬਦ।
ਉੱਤਰ ਅੱਗ

(ਅ) 'ਵਿਹਣਾ' ਦਾ ਕੀ ਅਰਥ ਹੈ।
ਉੱਤਰ ਹੈਣਾ

(ੲ) 'ਕਾਫ਼ ਚੱਜ' ਦਾ ਕੀ ਅਰਥ ਹੈ।
ਉੱਤਰ ਸੁੱਕ ਜਾਣਾ

(ਸ) 'ਧਾਫ਼' ਦਾ ਵਿਰੋਧੀ ਸ਼ਬਦ।
ਉੱਤਰ ਧਾਫ਼ਣੀ

(ਹ) 'ਸਾਂ' ਦਾ ਘਰ-ਵਚਨ ।
ਉੱਤਰ ਸਾਡਾਂ

2 ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਦੇ ਸਮਾਨਾਰਥਕ ਦੋ-ਦੋ ਸ਼ਬਦ ਲਿਖੋ -

1 ਔਰਤ	ਇਸਤਰੀ	ਜਨਾਨੀ
2 ਆਦਮੀ	ਮੁਰਸ਼	ਬੰਦਾ
3 ਧਰਤੀ	ਭੂਮੀ	ਜ਼ਮੀਨ
4 ਅਸਮਾਨ	ਅਕਾਸ਼	ਗਗਨ
5 ਧਾਈ	ਜਲ	ਨੀਰ
6 ਧਾਫ਼	ਬੱਚਾ	ਧਾਫ਼ਕ
7 ਮੀਂਹ	ਵਰਸਾਤ	ਬਾਰਿਸ਼

ਕਹਿਤ ਦੀ ਅਭੰਗ ਸਹਿਤ ਵਿਆਖਿਆ

1 ਸੰਕੇਤ — ਧਾਈ ਦਾ ਸੇ - - - - - - - ਧੋਂ ਗਿਆ ਕਾਫ਼।

ਅਭੰਗ :- ਇਹ ਕਾਵਿ ਟੋਟਾ ਸਾਡੀ ਪੰਜਾਬੀ ਦੀ ਪਾਠ ਪੁਸਤਕ 'ਚੜ੍ਹਦਾ ਜ਼ੀ ਪੰਜਾਬੀ ਪਾਠ ਸਾਡਾ' ਵਿੱਚ ਵਰਜ 'ਵਰਨ ਸੀਵੇਹਾਨੀ' ਦੀ ਲਿਖੀ ਕਵਿਤਾ 'ਧਾਈ ਦਾ ਸੇ ਧੋਂ ਗਿਆ ਕਾਫ਼' ਵਿੱਚੋਂ ਲਿਆ ਗਿਆ ਹੈ। ਇਸ ਕਵਿਤਾ ਵਿੱਚ ਕਵੀ ਨੇ ਧਾਈ ਦੀ ਧਾਟ ਆਉਂਦੇ ਹੋ ਸੇ ਨੁਕਸਾਨ ਹੋ ਸਕਦੇ ਹਨ, ਉਨ੍ਹਾਂ ਦਾ ਜ਼ਿਕਰ ਕੀਤਾ ਹੈ ਅਤੇ ਸਾਨੂੰ ਧਾਈ ਦੀ ਸੰਜਮ ਨਾਲ ਵਰਤੋਂ ਕਰਨ ਦਾ ਸੰਦੇਸ਼ ਦਿੱਤਾ ਹੈ।

ਵਿਆਖਿਆ :- ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਾਨੂੰ ਸੁਚੇਤ ਕਾਵਣ ਹੋਏ ਕਹਿੰਦਾ ਹੈ ਕਿ ਸਾਨੂੰ ਧਾਈ ਦੀ ਵਰਤੋਂ ਠੀਕ ਢੰਗ ਨਾਲ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ ਕਿਉਂਕਿ ਜੇਕਰ ਧਾਈ ਦੀ ਕਮੀ ਹੋ ਗਈ ਤਾਂ ਸਾਡਾ ਘਰ-ਘਰ ਨਾਲ ਹੋਵੇਗਾ। ਅਸੀਂ ਨਾ ਹੀ ਇਸਨੂੰ ਕਰ ਸਕਾਂਗੇ ਅਤੇ ਨਾ ਹੀ ਰੱਬ ਦਾ ਨਾਮ ਜਪ ਸਕਾਂਗੇ। ਧਾਈ ਤੋਂ ਬਿਨਾਂ ਰੱਬ ਦੀ ਭਗਤੀ ਕਰਨ ਵਿੱਚ ਵੀ ਮੁਸ਼ਕਲ ਹੋ ਜਾਵੇਗੀ।

2. ਸੰਕੇਤ – ਪੂਰਾ ਕਿਵੇਂ ਹੋਊ — — — — — — ਪੈ ਗਿਆ ਕਾਲ।
ਪ੍ਰਸੰਗ – Same
ਵਿਆਖਿਆ:– ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਦੱਸਦਾ ਹੈ ਕਿ ਪਾਣੀ ਦੀ ਘਾਟ ਆਉਣ ਤੇ ਸਾਡੀ ਰੋਜ਼ ਦੀ ਜ਼ਿੰਦਗੀ ਦੇ ਕੰਮ ਰੁਕ ਜਾਣਗੇ। ਸਾਡੇ ਘਰ ਦੀਆਂ ਇਸਤਰੀਆਂ ਆਟਾ ਨਹੀਂ ਗੁੰਨ ਸਕਣਗੀਆਂ ਅਤੇ ਸਾਗ ਵੀ ਨਹੀਂ ਪਕਾ ਸਕਣਗੀਆਂ। ਜੇ ਪਾਣੀ ਦੀ ਘਾਟ ਆ ਗਈ ਤਾਂ ਇਹ ਘਾਟਾ ਪੂਰਾ ਨਹੀਂ ਕੀਤਾ ਜਾ ਸਕਦਾ।

3. ਸੰਕੇਤ:– ਨਾ ਚਿੜੀਆਂ ਦੀ ਚੂੰ — — — — — — ਜੇ ਪੈ ਗਿਆ ਕਾਲ।
ਪ੍ਰਸੰਗ – Same
ਵਿਆਖਿਆ:– ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਦੱਸਦਾ ਹੈ ਕਿ ਜੇ ਪਾਣੀ ਦੀ ਘਾਟ ਆ ਗਈ ਤਾਂ ਚਿੜੀਆਂ ਦੀ ਚੂੰ-ਚੂੰ ਸੁਣਨੀ ਬੰਦ ਹੋ ਜਾਵੇਗੀ। ਆਜ਼ਾਦ ਪੰਛੀਆਂ ਦੀ ਚਹਿਚਹਾਟ ਖਤਮ ਹੋ ਜਾਵੇਗੀ। ਇੱਥੋਂ ਤੱਕ ਕਿ ਕਵੀ ਕਵਿਤਾਵਾਂ ਲਿਖਣੀਆਂ ਭੁੱਲ ਜਾਣਗੇ। ਸਾਡੇ ਜਜ਼ਬਾਤ, ਭਾਵਨਾਵਾਂ ਅਤੇ ਮੇਲ ਵਿਚਾਰ ਖ਼ਤਮ ਹੋ ਜਾਣਗੇ, ਜੇ ਪਾਣੀ ਦਾ ਕਾਲ ਪੈ ਗਿਆ ਤਾਂ ਬਹੁਤ ਬੁਰਾ ਹਾਲ ਹੋ ਜਾਵੇਗਾ।

4. ਸੰਕੇਤ – ਪਾਣੀ ਦਾ ਇੱਕ ਘੁੱਟ — — — — — ਪਾਣੀ ਦਾ ਪੈ ਗਿਆ ਕਾਲ।
ਪ੍ਰਸੰਗ – Same
ਵਿਆਖਿਆ:– ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਦੱਸਦਾ ਹੈ ਕਿ ਜੇ ਪਾਣੀ ਦੀ ਘਾਟ ਆ ਗਈ ਤਾਂ ਪਿਆਸ ਨਾਲ ਸਾਡੇ ਬੁੱਲ੍ਹ ਸੁੱਕ ਜਾਣਗੇ ਅਤੇ ਨਿਆਣਿਆਂ ਦੀ ਨਹੀਂ ਨਿੱਭਣਗੇ। ਛੋਟੇ-ਛੋਟੇ ਬੱਚੇ ਪਿਆਸ ਨਾਲ ਰੋਣਗੇ ਅਤੇ ਤੜਫਣਗੇ ਜੇ ਪਾਣੀ ਦਾ ਕਾਲ ਪੈ ਗਿਆ ਤਾਂ ਸਾਡਾ ਬੁਰਾ ਹਾਲ ਹੋ ਜਾਵੇਗਾ।

5. ਸੰਕੇਤ:– ਕਰੀਏ — — — — — — ਕਾਲ।
ਪ੍ਰਸੰਗ – Same
ਵਿਆਖਿਆ:– ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਾਨੂੰ ਪਾਣੀ ਦੀ ਘਾਟ ਆਉਣ ਬਾਰੇ ਸੁਚੇਤ ਕਰਦਾ ਹੋਇਆ ਕਹਿੰਦਾ ਹੈ ਕਿ ਆਓ ਆਪਾ ਸਾਰੇ ਆਪਣੇ ਘਰ ਤੋਂ ਹੀ ਪਾਣੀ ਦੀ ਠੀਕ ਢੰਗ ਨਾਲ ਅਤੇ ਸੰਜਮ ਨਾਲ ਵਰਤੋਂ ਕਰਨੀ ਸ਼ੁਰੂ ਕਰੀਏ ਕਿਉਂਕਿ ਜੇ ਧਰਤੀ 'ਤੇ ਪਾਣੀ ਦਾ ਕਾਲ ਪੈ ਗਿਆ ਤਾਂ ਬਹੁਤ ਬੁਰਾ ਹਾਲ ਹੋਵੇਗਾ।

6. ਸੰਕੇਤ:– ਉੱਦਮ — — — — — — ਕਾਲ।
ਪ੍ਰਸੰਗ Same
ਵਿਆਖਿਆ:– ਕਵਿਤਾ ਦੀਆਂ ਆਖਰੀ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਾਨੂੰ ਸੰਦੇਸ਼ ਦਿੰਦੇ ਹੋਏ ਕਹਿੰਦਾ ਹੈ ਕਿ ਆਓ ਰਲ-ਮਿਲ

ਦੇ ਹਿਸਾਬ ਕਰੀਏ ਤੇ ਥਾਂ-ਥਾਂ ਤੇ ਵੱਧ ਤੋਂ ਵੱਧ ਰੁੱਖ ਲਗਾਈਏ ਤੇ ਰੁੱਖ ਚੱਟਣਾਂ ਨੂੰ ਫਿਰ ਤੋਂ ਚੱਟਣਾਂ ਨੂੰ ਘਰ ਦੇ ਧਰਤੀ ਵੱਲ ਨੂੰ ਆਉਣ ਜਿਸ ਨਾਲ ਧਰਤੀ ਤੇ ਮੀਂਹ ਪੈਣ ਤੇ ਧਰਤੀ ਉੱਪਰ ਹਰ ਥਾਂ ਹਰਿਆਲੀ ਹੋ ਜਾਏ ਤੇ ਧਰਤੀ ਸੁਖ ਦੇ ਸਾਹ ਕਿਤੇ ਧਰਤੀ ਤੇ ਥਾਂ ਦੀ ਘਾਟ ਆ ਗਈ ਤਾਂ ਇਸ ਨੂੰ ਪੂਰਾ ਨਹੀਂ ਕੀਤਾ ਜਾ ਸਕਦਾ।

Note - Word meaning learn from the Book.

ਸੁਖਨ/ਉੱਤਰ ਪੁਸਤਕ ਵਿਚ ਦਿਸ਼ਾ ਅਤੇ ਹਵਾ ਚਲਾਓ ਕਾਪੀ ਤੇ ਲਿਖੋ ਅਤੇ ਯਾਦ ਕਰੋ ਜੀ। ਬਾਕੀ ਅਭਿਆਸ ਲਿਖ ਯਾਦ ਕਰਨਾ ਹੈ।