

# **Health, Physical and Creative Arts**

**Grade 7**

Government of Nepal  
Ministry of Education, science and Technology  
**Curriculum Development Centre**

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## Preface

School education is the foundation for preparing the citizen who are loyal to the nation and nationality, committed to the norms and values of federal democratic republic, self-reliant and respecting the social and cultural diversity. It is also remarkable for developing a good moral character with the practical know-how of the use of ICT along with the application of scientific concept and positive thinking. It is also expected to prepare the citizens who are moral and ethical, disciplined, social and human value sensitive with the consciousness about the environmental conversation and sustainable development. Moreover, it should be helpful for developing the skills for solving the real life problems. This textbook 'Health, Physical and Creative Arts, Grade 4' is fully aligned with the intent carried out by the National Curriculum Framework for School Education, 2076 and is developed fully in accordance with the new Basic Level HPC Curriculum, 2078.

This textbook is initially written by Dr. Madhav Kumar Shrestha, Mr. Yaduram Upreti, Mr. Shreehari Shrestha and Ms. Suman Silwal. It has been translated by Mr. Sujan Chitrakar, Dr. Bhagban Aryal, Dr. Parvati Ghimire Mr. Yadav Prasad Acharaya. The contribution made by Director General Ana Prasad Neupane, the chair person of subject committee Dr. Ram Krishna Maharjan, member of subject committee Ms. Sarmila B.K and Ms. Renuka Pandey Bhusal, Dr. Shyam Krishna Maharjan, Dr. Lokendra Sherchan and Pradeep Bomjan is remarkable in bringing the book in this form. The content of the book has been edited by Mr. Shreehari Shrestha and Ms. Suman Silwal and the language of the book has been edited by Mr. Nabin Kumar Khadka. Art editing of this book was done by Mr. Shreehari Shrestha by making it four colour. The Curriculum Development Centre extends sincere gratitude to all of them.

The textbook is a primary resource for classroom teaching. Considerable efforts have been made to make the book helpful in achieving the expected competencies of the curriculum. Curriculum Development Centre always welcomes constructive feedback for further betterment of its publications.

2079 BS

Curriculum Development Centre  
Sanothimi, Bhaktapur

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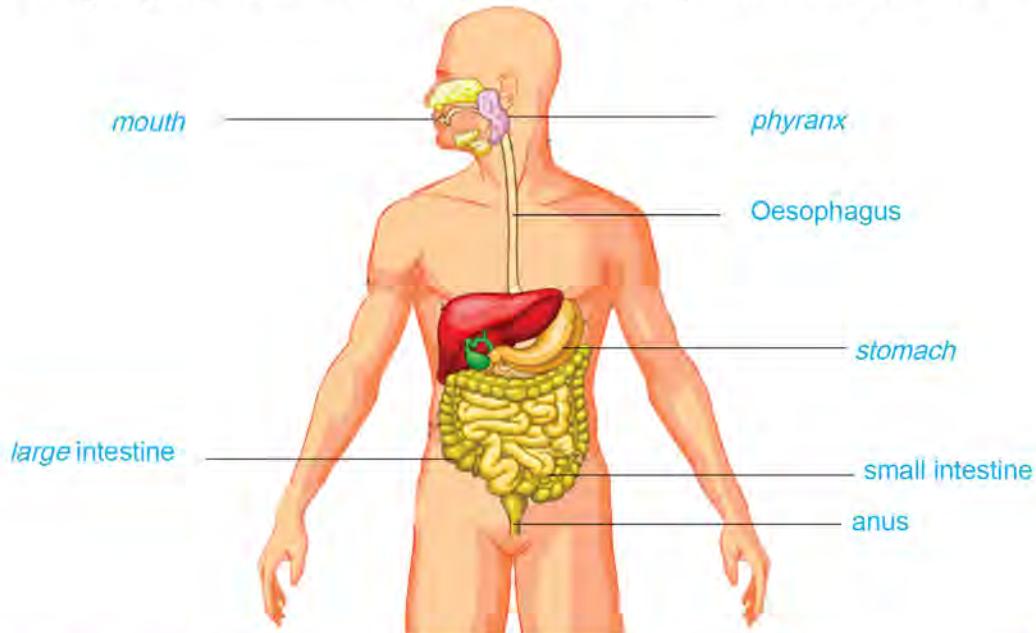
# Human Body

The human body is made up of tiny cells. The same types of cells combine to form tissues and different types of tissues combine to form organs. Groups of organs that work together form a system. The human body is an aggregate of various systems.

## 1.1 Digestive system

### Introduction to digestive system

Our bodies need energy to perform various activities. We eat a variety of foods to gain energy. The nutrients in the food we eat are converted into energy. The digestive system is the system that breaks down, swallows, dissolves, digests, absorbs, and removes residue of food from the body that cannot be absorbed. The organs involved in the digestive system are mouth, throat, oesophagus, stomach, small intestine, large intestine, rectum, etc.



## **Mouth**

Mouth is the first organ to participate in the digestive system. The food we eat is chewed by our teeth. The salivary glands in the mouth produce ptyalin. It softens and helps digest food.

## **Pharynx**

The pharynx is the organ between the mouth and the esophagus. Here the trachea and esophagus are connected. When we swallow the food we eat, the trachea closes on the way to the stomach, and the food goes to the esophagus.

## **Oesophagus**

The esophagus is a long, narrow muscular tube. It is also called the food pipe. It helps carry food from the mouth to the stomach.

## **Stomach**

The stomach is the muscle sac that connects the end of the esophagus to the small intestine. It looks like a j-shaped letter. Its walls contain many digestive glands. These glands produce digestive juices. Such digestive juices are mixed into the food we eat and work to dissolve and digest the food. It helps in the digestion of proteins and fats in food. If the food is in liquid form, the digestion process is faster and if the food is solid, the digestion process is a bit slower. It even stores food for a while.

## **Small intestine**

The small intestine is the longest and most important organ of the digestive system. This organ is connected from the stomach to the large intestine. Its length in adults is about three to five meters. The small intestine works to convert various nutrients in food into soluble ones. Most of the nutrients in food are digested and absorbed by this organ. The nutrients absorbed in it are absorbed directly into the bloodstream and reach every cell in the body. It has three parts. The duodenum is the uppermost part of the

small intestine. The jejunum is the middle part of the small intestine. The tiny hairs on its walls absorb nutrients. The ileum is the last part of the small intestine. It absorbs half of the remaining nutrients and sends the remaining solids to the large intestine for excretion.

### **Large Intestine**

The organ connected from the small intestine to the anus is the large intestine. Its length in adults is about 1.5 meters. It absorbs salts, water and residues that cannot be digested in the small intestine and sends unnecessary and defective substances to the rectum as defecation.

### **Rectum**

The rectum converts unnecessary items that cannot be digested into feces and passes the feces to the anus.

### **Anus**

The Anus is the last part of the digestive system. From this, the remaining substances in the digestive process are excreted in the form of feces.

#### **Activity 1.1**

*What measures should be taken to prevent the malfunction of digestive system ? Discuss with friends.*

### **Digestive process**

Energy is required to perform any physical activity. The digestive process gives us the energy we need. The digestive process starts from the mouth and reaches the anus. This process involves chewing food, swallowing it, making it insoluble, absorbing essential nutrients, and expelling unhealthy substances from the body as feces. Digestion is the process of changing the insoluble nutrients in food into soluble substances with the help of digestive juices. These nutrients in the food we eat are

converted into soluble substances that are absorbed directly into the bloodstream and reach every cell in the body. Then, with the help of oxygen, energy is created in the body.

## Function of digestive system

### *Read the dialogue and understand:*

Teacher : Children, today we are going to have a brief discussion about the functioning of the digestive system.

Students : Ok sir.

Teacher : What does the digestive system do in our body? Who can say about it?

Ramzan : The digestive system works by chewing, swallowing, and digesting food, sir.

Teacher : Well done, listen. Food contains soluble and insoluble substances. This system works to convert and absorb them with the help of various digestive juices.

Sonam : Is it sir? How does it happen, sir?

Teacher : Good question, This process converts carbohydrates into glucose, proteins into amino acids, and fat into fatty acids and glycerin.

Phurwa : I will add something too. This system also serves as excreta for non-absorbable substances.

Teacher : All right. Thank you all. In the same way, discuss further with your friends, ok.

Students : Ok sir. Thank you sir.

### Activity 1.2

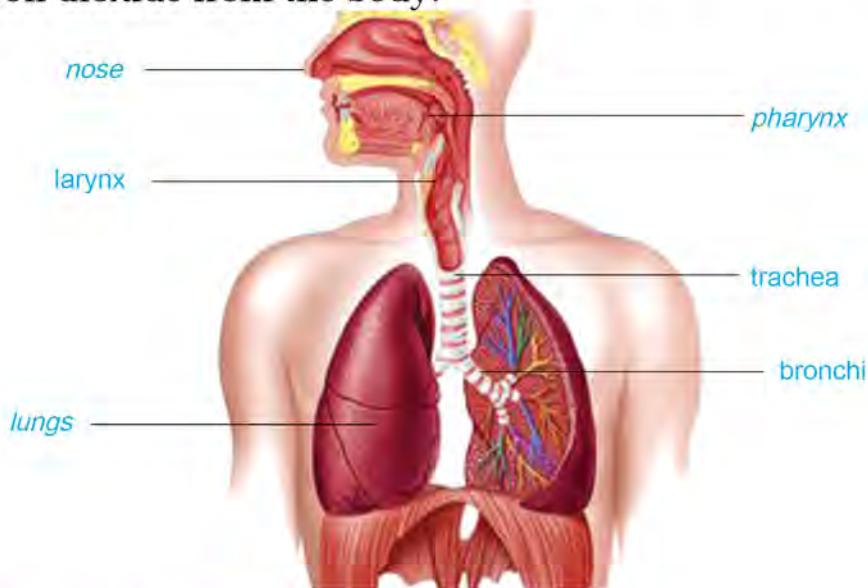
*Differentiate right or wrong by discussing with friends:*

SN	Functions of the digestive system
1	The digestive system converts soluble nutrients in food into insoluble ones.
2	The stomach is an organ that participates in the digestive system by producing different kinds of enzymes.
3	The function of the small intestine is to absorb nutrients.
4	During the digestive process, the body absorbs as much water as it needs in the rectum.

## 1.2 Respiratory system

### A. Introduction to respiratory system

All living things need oxygen to survive. Respiration helps our body to get the oxygen it needs. The organs involved in this process are the nose, throat, larynx, trachea and lungs. The respiratory system is the collective action of the organs that take in oxygenated air from the external environment and expel carbon dioxide from the body.



# Organs of respiratory system

## Nose

The nose is the first organ of the respiratory system. Its main function is to send oxygenated air from the atmosphere to the lungs and expel air containing carbon dioxide from the lungs. The hairs inside the nostrils filter out the dust particles in the air coming from the atmosphere. It also transmits the sense of smell and odor to our brain.

## Pharynx

The pharynx is a common part of the digestive system and the respiratory system. It is located in the middle of the neck. It transmits warm and moist air to the larynx.

## Larynx

The larynx is an organ that extends from the throat to the trachea. It contains Adam's apple (voice box). It helps to clarify the sound. It transfers warm and moist air to the trachea.

## Trachea

The tube that extends from the throat to the lungs is called the trachea. It carries air from the larynx to the bronchi.

## Bronchi and bronchioles

The trachea is divided into the right bronchi and left bronchi. These bronchi are further divided into tiny tubes called bronchioles. They have air sacs at the top called alveoli. These air sacs exchange oxygen and carbon dioxide.

## Lungs

The lungs are a major part of the respiratory system. The lungs are located inside the thoracic cavity of our ribs. It is divided into the right lung and left lung. The right lung has three sections and the left lung has two sections. This causes the right lung to be slightly larger and longer. Inside the lungs are the trachea,

air sacs, arteries, veins, and capillaries. The air sacs in the lungs work to purify the air.

### Activity 1.3

*What measures should be taken to make the respiratory system healthy? Discuss with your friends and present the summary.*

## Respiratory process

Respiration is the process of taking in oxygenated air from the external environment and expelling carbon dioxide from the body. In this process, the oxygen taken from the atmosphere reaches the air sacs in the lungs through the nose, pharynx, larynx, trachea, and bronchi. The oxygen stored in the air sacs (alveoli) reaches every cell of the body through the blood. The exchange of oxygen and carbon dioxide gases takes place in the alveoli. Oxygenated blood then travels from the lungs through the blood vessels (veins) to the heart and from the heart through the blood vessels (arteries) to all the blood cells in the body. Energy is generated in the cells by the chemical reaction of glucose and oxygen obtained from the digestive process. In this way, living beings get the energy they need by respiration. The carbon dioxide gas produced during this process is excreted through the lungs.

## Function of respiratory system

The functions of the respiratory system are:

- Take in oxygenated air from the atmosphere and expel carbon dioxide from the body.
- Transfer carbon dioxide from the blood to the lungs and oxygen from the lungs to the blood.
- Gain energy by reacting between the glucose and oxygen in the cells.

# Circulatory system

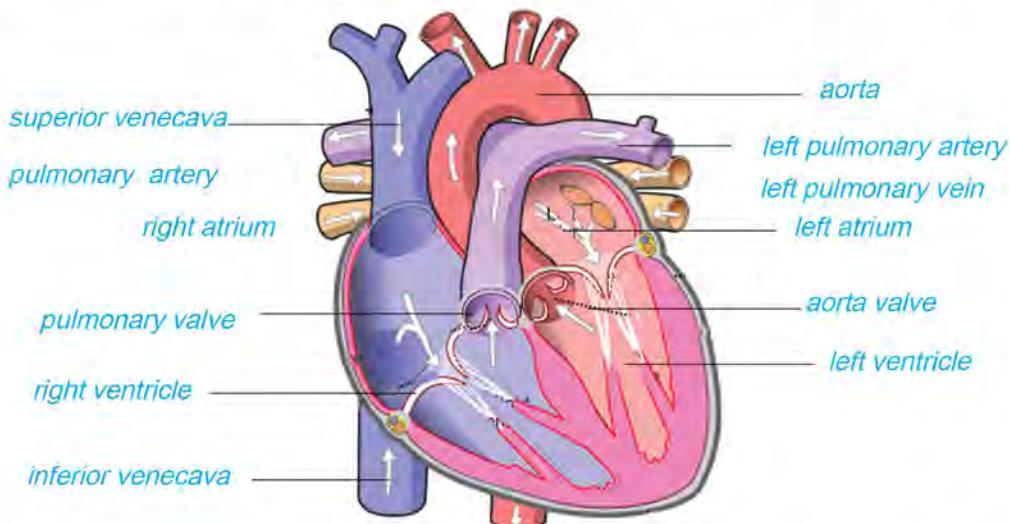
## Introduction to circulatory system

Blood continuously travels in our bodies. Blood carries the nutrients the body needs, such as oxygen, water, hormones, salts, etc., to every cell. It also helps in expelling unwanted substances from the body. In the circulatory system, oxygen and carbon dioxide gases are exchanged between the lungs and the body's cells. It carries all the nutrients absorbed by the digestive system to the cells of all parts of the body. The organs involved in the circulatory system are the heart, blood, and blood vessels. The collective function of these organs is called the circulatory system.

## Organs of circulatory system

### Heart

The heart is one of the most important organs in the circulatory system. The heart is in the middle of the chest, protected inside a cage-like structure made of ribs. The lower part of the heart is tilted slightly to the left. It looks like the shape of a fist. It is made up of a special type of muscle. This is called the cardiac muscle.



The heart has four chambers. The upper two chambers of the heart are called the atrium or auricle. The two chambers below

the heart are called ventricles. The heart carries the pure blood from the fossa through the blood vessels throughout the body. It also purifies the impure blood of the whole body and sends it to the lungs for purification through blood vessels.

### **Blood vessels**

The tube that carries blood in our body is called a blood vessel. There are three types of blood vessels which are as follows:

#### **Artery**

The vessel that carries oxygenated blood from the heart to the body is called the artery. The aorta is the largest artery in the heart. It has high blood pressure as it carries oxygenated blood from the heart to different parts of the body. Its walls are thick and flexible. Only the pulmonary artery carries carbon dioxide-laden blood from the right ventricle of the heart to the lungs.

#### **Vein**

The vessel that carries blood to the heart to purify the blood containing carbon dioxide in the body is called the vein. Its walls are thin. Pulmonary veins carry pure blood from the lungs to the left atrium of the heart. However, the pulmonary vein carries oxygenated blood and pulmonary arteries carry blood containing carbon dioxide.

#### **Blood capillaries**

The smallest unit of blood vessels is called a blood capillary. These blood capillaries attach to the arteries and veins and form a network. Oxygen, carbon dioxide, water, and nutrients can be easily absorbed by the blood capillaries.

#### **Blood**

Blood is a red semi-fluid. It delivers the oxygen and nutrients our *Health, Physical and Creative art, Class 7*

body needs to every corner of the body. Unnecessary substances formed in the cells reach the excretory organs. Blood is made up of the following elements:

### **Plasma**

Plasma is the fluid part in the blood. It contains more than 90 percent water. About 55% of the blood is covered by plasma. It replenishes nutrients, hormones, nitrogenous substances, and salts in the cells.

### **Blood cells**

The solid part of the blood is called the blood cell. About 45% of blood is made up of blood cells. These cells are floating in the plasma. Depending on the structure and function, there are three types of blood cells which are as follows:

#### **Red blood corpuscles**

Red blood cells contain a type of protein called hemoglobin. This causes the blood to turn red. It is formed in the red bone marrow. The hemoglobin in it carries oxygen from the lungs to the cells. It also carries carbon dioxide from the cells to the lungs. Its deficiency condition is called anemia.

#### **White blood cells**

White blood cells are white because they do not contain hemoglobin. They play an important role in the body's immune system in fighting disease. They protect our body from the entry of external germs and viruses. They also kill and destroy bacteria and viruses that have entered the body. That is why it is also called the security guard of our body.

#### **Platelets**

Platelets contain elements essential for the clotting of blood. It

helps to clot the injured area.

### C. Blood circulation process

When the heart contracts, pure blood flows from the left ventricle in the lower part of the heart through the aorta to different parts of the body. Impure blood formed in the upper part of the body passes through the superior vena cava and impure blood formed in the lower part of the body reaches the right atrium of the heart through the inferior vena cava. When the right atrium contracts, the tricuspid valve between the right atrium and the ventricle opens and impure blood enters the right ventricle.

When the right ventricle contracts, the pulmonary valve between the right ventricle and the pulmonary artery opens, and blood travels through the pulmonary artery to the lungs for purification. Carbon dioxide-laden blood goes to the lungs and is purified and oxygenated blood comes to the heart through the pulmonary vein. This is how the blood is purified. Purified blood reaches the left atrium through the pulmonary vein. When the left atrium contracts, the bicuspid valve between the left atrium and the ventricle opens and blood flows to the left ventricle. When the left ventricle contracts, the aortic valve between the left ventricle and the aortic artery opens, and blood reaches various parts of the body through the aortic artery.

Pure blood from the heart travels through the various branches of the pulmonary artery to all parts of the body, and impure blood from different parts of the body is carried to the heart through the superior and inferior vena cava. This whole process is called blood circulation. This is an ongoing process. In this process, the nutrients needed by the body flow to every cell of the body. Nitrogenous urea, uric acid, salts, etc. in the blood are excreted from the kidneys as urine.

## Function of circulatory system

The functions of the circulatory system are:

- i. Oxygen, nutrients, water, hormones, and salts are carried to every organ, tissue, and cell of our body.
- ii. The unwanted substances made in the body are carried to the excretory organ for excretion.
- iii. Prevents excessive bleeding by clotting the wound.
- iv. Provides immunity to the body to fight disease.
- v. It also distributes essential nutrients and hormones to the cells.

### Activity 1.4

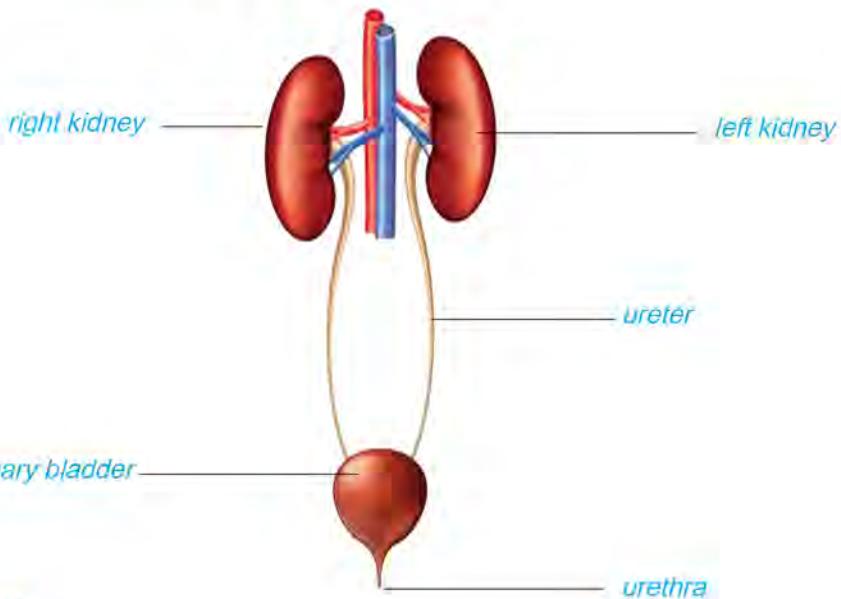
*What measures should be taken to keep the heart healthy?  
Discuss with your teacher and present the summary to the class.*

## Urinary system

### Introduction to urinary system

The urinary system excretes urea, uric acid, ammonia, potassium, salts, etc. in the blood in the form of urine. The urinary system is the system by which the kidneys excrete excess water, salts, and nitrogenous substances in the body as urine.

## Organs of urinary system



### Kidneys

The kidney is the most important organ of the urinary system. It consists of two bean-shaped numbers on both the right and left sides of the abdomen of our body. Each kidney contains a myriad of nephrons. These nephrons filter blood and make urine.

### Ureters

One tube comes out of each kidney. This is called the urethra. These tubes are connected to the bladder. These tubes pass urine to the urinary bladder.

### Urinary bladder

A bladder-shaped muscle that temporarily collects urine through the urethra is called a bladder. About 800-1000 ml of urine can accumulate in the bladder of an adult. After accumulating about 300-400 ml of urine, a person likes to urinate. This bladder helps to expel urine through the urethra and urethral opening.

## **Urethra**

The urethra is a tube that opens from the lower part of the urinary bladder. In adult men, the urethra is used for both ejaculation and urination. In women, there are separate urethra for urination and vagina for reproduction.

## **Function of urinary system**

The functions of the urinary system are:

- Removes urea, uric acid, ammonia, potassium, etc.
- Excess water and salts in the body are filtered and excreted as urine.
- Adjusts body temperature.

### **Activity 1.5**

*Demonstrate the structure of the urinary system prepared by collecting well-covered soil and fine pipes or tubes with the help of the teacher.*

## **Exercise**

### **1. Tick (O) the correct answer:**

- (i) Which of the nutrients is soluble?  
a. Protein                      b. Carbohydrates  
c. Fatty substance            d. Vitamin
- (ii) How many segments of the left lung are there?  
a. three sections              b. four sections  
c. two sections                d. five sections
- (iii) In which organ is the purification of blood done?  
a. Heart                        b. Lungs  
c. Stomach                     d. Liver
- (iv) Deficiency of which blood cell causes anemia?  
a. Plasma                      b. Platelets  
c. White blood cells          d. Red blood cells
- (v) What is the smallest unit of the kidney called?  
a. Nephron                     b. Blood capillary  
c. Urethra                      d. Plasma

### **2. Tick (O) for the correct sentences and (x) for the incorrect ones:**

- i. The urinary tract expels unnecessary substances from the body. ( )
- ii. During respiration, we take in oxygen from the atmosphere and emit carbon dioxide. ( )

- iii. Women have the same tube for reproductive function and urination. ( )
- iv. Adults like to urinate after 300 to 400 ml of urine has accumulated in the bladder. ( )
- v. The veins and arteries are the organs involved in respiration. ( )

**3. Answer the following questions:**

- i. Write the names of the organs of the digestive system.
- ii. What is the respiratory system? Write down any of its four functions.
- iii. Briefly introduce with pictures of the organs participating in the respiratory system.
- iv. What is the circulatory system? Write the functions of this system.
- v. Why is the circulatory system the most important system? Clarify it.
- vi. Write the functions of the kidneys and draw the diagram of it.
- vii. Write short notes on:
  - a. Blood cells
  - b. Lungs
  - c. Small intestine
  - d. Urinary bladder

**Project work**

Prepare a model of any system using the locally available materials in group and present it to the class.

# Community Health and Mental Health

# 2

Nutrition, drinking water, sanitation, health care, health education, etc. are the aspects of community health. Healthy thinking and a healthy lifestyle are the foundation of mental health. A mentally healthy person can carry out their daily activities regularly. They can also fulfill their responsibilities towards their family and community. Community health and mental health are complementary. Both contribute to improve the health of individuals and communities.



## 2.1 Community health

Individuals, families, villages, cities, markets, etc. are areas of community health. Air, water, occupation, education, culture, habits, etc. also have a direct effect on community health. Individuals and families living in the community have a direct and indirect relationship. This relationship can have both positive and negative effects on the health of the community. Therefore, public awareness, public participation, and the availability of health services are necessary for the promotion of community health. In this way, community health is an effort to identify and solve community health problems through the effort of community people.

## Factors affecting community health

Let's read and discuss the dialogue between teachers and students about the factors that affect community health.

Teacher : Students! Let's talk about the factors that affect community health today.



Students : Sure sir.

Teacher : What are the factors that affect community health?  
Who can say about it ?

Ramu : One is the physical element, sir.

Teacher : That's right. Physical elements include the environment around us; geography, health institutions, industries, roads, and so on.

Shyamala : Are social and cultural elements the other elements, sir?

Teacher : Yes Shyamala, Caste, religion, rituals, conduct,

customs, etc. fall under this.

Nilima : The other aspect is the personal element. Garbage management, sanitation, hygienic practices, etc. fall under this category.

Teacher : Thank you Nilima. Does Sulabh want to add anything to it?

Sulabh : Common community health problems need to be identified through collective efforts. The tools and resources available there should be used to solve the problem, sir.

Teacher : Thanks Sulabh. Whose turn is it now?

Girvan : It's my turn. Educational elements can also affect community health and healthy lifestyles.

Teacher : Of course. Thanks to everyone who took an active part in the discussion.



#### Activity 2.1

*Sketch out the elements affecting community health on chart paper using colored pencils, and paste them into the classroom.*

## **2.1.2. Aspects of community health**

Community health is a multi-faceted combination. This includes maternal and child health care, neonatal care, immunization services, etc.

### **A. Maternal and child health service**

The health institution carries out health care and testing of pregnant, maternity and infants. From there, health workers examine the health of the pregnant woman and her unborn child and provide the necessary counseling and medical treatment. Such a service is called maternal and child health service. Pregnant women should have regular health check-ups. The prescribed vaccination service should be taken. A balanced and nutritious diet should be consumed adequately.

### **B. Newborn baby care**

Babies from birth to 28 days are called newborns (infants). The first minute of a baby's birth is considered the golden minute of their life. The first hour is considered the most important time for mother and baby. Health care provided within the first hour of birth is the pillar of a healthy life for both the baby and the expectant mother. Services for newborns include regular health check-ups, breastfeeding, and immunizations, as well as personal hygiene for both mother and baby.

**Read and understand the informative message for newborn care:**

- a. The newborn should be wiped with a soft, fluffy clean, and dry cloth at birth.
- b. Then the baby should be kept warm wrapped with another soft clean cloth.
- c. To keep the newborn warm, it should be kept on the mother's bare chest.

- d. The instruments used to cut the umbilical cord should be sterilized.
- e. The ointment should be applied as per the advice of health workers to protect the navel from infection and kept dry and clean.
- f. A newborn baby should be fed breast milk (colostrum) within one hour of birth.

### C. Immunization service

We get the power to fight disease naturally and artificially. The ability to fight such a disease is called immunity. Immunization services are an artificial way of providing the ability to fight disease. All children are vaccinated against 12 diseases from birth to 15 months. Immunization centers and health institutions provide immunization services. This service is provided free of cost. After the birth of the child, all the prescribed doses should be completed as per the immunization schedule. Check out the immunization schedule below to find out which vaccines should be given to children, when, and how often:

### D. Importance of immunization

*The followings are the importance of the immunization*

- Children gain immunity to fight communicable diseases if all the vaccinations are completed.
- Other people who come in contact with them after the immunization are also protected.
- Protects children from disability.
- Reduces child mortality rate.

## Immunization Schedule



**राष्ट्रीय खोप-तालिका**

पूर्ण शेष, सुरक्षित नवीन्य

पटक/ वेट	कुन उगेरमा	कुन खोप	सुई लगाउने स्थान र माईजम	कुन रोगबाट बचाउँदछ
१	 जन्महो पिताको	पि.सि.जी.		<ul style="list-style-type: none"> <li>• दाया पास्तुराको माथिल्लो भाग छालागिन्त्र (Intra-dermal)</li> <li>• क्षायरोग</li> </ul>
२	 ६ हप्तामा	रोटा (पहिलो जात्रा) पोलियो (पहिलो जात्रा) एफ.आई.पि.जी. पहिलो जात्रा  पि.सि.जी. (पहिलो जात्रा)  डिपि.टी., हेप बी-हिच पहिलो जात्रा		<ul style="list-style-type: none"> <li>• गूरुगा (जालको बिडी जावाना)</li> <li>• गूरुगा दुई थोपा</li> <li>• दाया पास्तुराको माथिल्लो भाग छालागिन्त्र (ID)</li> <li>• दाया तिघाको विच बाहिरी भाग मास्कुगा (IM)</li> <li>• दाया तिघाको विच बाहिरी भाग भास्मगा (IM)</li> <li>• रोटा माइस्याट दुबे भगाडापखाला</li> <li>• पोलियो</li> <li>• डिपि.टी.</li> <li>• गिमोनिया (ब्यूगोकोकल रोगहरू)</li> <li>• अज्ञाते रोज लहरे सोकी घबूटेकर हेपाइटाइटिस-बी रोगिकोलस इन्फ्लूएंजा-बी</li> </ul>
३	 ९० हप्तामा	रोटा (दोस्रो जात्रा) पोलियो (दोस्रो जात्रा)  पि.सि.जी. (दोस्रो जात्रा)  डिपि.टी., हेप बी-हिच (दोस्रो जात्रा)		<ul style="list-style-type: none"> <li>• गूरुगा (जालको बिडी जावाना)</li> <li>• गूरुगा दुई थोपा</li> <li>• दाया पास्तुराको माथिल्लो भाग छालागिन्त्र (ID)</li> <li>• दाया तिघाको विच बाहिरी भाग मास्मगा (IM)</li> <li>• रोटा माइस्याट दुबे भगाडापखाला</li> <li>• पोलियो</li> <li>• गिमोनिया (ब्यूगोकोकल रोगहरू)</li> <li>• द्याङुते रोज लहरे सोकी घबूटेकर हेपाइटाइटिस-बी रोगिकोलस इन्फ्लूएंजा-बी</li> </ul>
८	 ९८ हप्तामा	पोलियो (दोस्रो जात्रा) एफ.आई.पि.जी. (दोस्रो जात्रा)  डिपि.टी., हेप बी-हिच (दोस्रो जात्रा)		<ul style="list-style-type: none"> <li>• गूरुगा दुई थोपा</li> <li>• दाया पास्तुराको माथिल्लो भाग छालागिन्त्र (ID)</li> <li>• दाया तिघाको विच बाहिरी भाग मास्मगा (IM)</li> <li>• पोलियो</li> <li>• पोलियो</li> <li>• अज्ञाते रोज लहरे सोकी घबूटेकर हेपाइटाइटिस-बी रोगिकोलस इन्फ्लूएंजा-बी</li> </ul>
५	 ८ महिनामा	पि.सि.जी. (होठी जात्रा) दादुरा रुबेला पहिलो जात्रा		<ul style="list-style-type: none"> <li>• दाया तिघाको विच बाहिरी भाग मास्मगा (IM)</li> <li>• दाया पास्तुराको माथिल्लो भाग छाला र भासु बीच (Subcutaneous)</li> <li>• गिमोनिया (ब्यूगोकोकल रोगहरू)</li> <li>• दादुरा र रुबेला</li> </ul>
६	 १२ महिनामा	जापानिज इन्सोफलाइटिस		• जापानिज इन्सोफलाइटिस
७	 १५ महिनामा	दादुरा रुबेला (दोस्रो जात्रा) टाइफाइड		<ul style="list-style-type: none"> <li>• दाया पास्तुराको माथिल्लो भाग छाला र भासु बीच (Subcutaneous)</li> <li>• दाया तिघाको विच बाहिरी भाग मास्मगा (IM)</li> <li>• दादुरा र रुबेला</li> <li>• टाइफाइड</li> </ul>

सम्बन्धित: गर्भवती महिलाले पहिलो गर्भगा करितमा एक महिनाको अन्तरमा २ पटक टि.डी. खोप लगाउनपर्छ ।

### **2.1.3 Role of community health workers**

#### **A. Role of auxiliary health worker (AHW)**

Auxiliary health workers in community-level health posts and basic hospitals play a significant role in providing the following health services:

- a. identify the health needs of the community,
- b. mobilize community participation to solve community health problems,
- c. identify the means and resources available in the community,
- d. provide immunization services in immunization centers.
- e. provide family planning services,
- f. make arrangements for maternity services,
- g. teach home remedies and Oral Rehydration Solutions for the prevention of diarrhea,
- h. conduct a child nutrition program,
- i. distribute Vitamin 'A' capsules to children,
- j. distribute iron tablets to pregnant women to prevent anemia.

#### **B. Role of auxiliary nurse-midwifery (ANM)**

The health services provided by Auxiliary Nurse Midwifery at local level basic hospitals and health posts are as follows:

- a. examine the health of the pregnant mother
- b. advising on the choice of place of delivery (home and hospital)
- c. providing dressing service
- d. assist in the prevention of communicable diseases

- e. measuring the child's arm and informing about the nutritional status,
- f. inform about the need for family planning,
- g. provide information about vaccination services,
- h. provide information about personal hygiene,
- i. assist in mobile health care,
- j. participate in school health service program.

### **Activity 2.2**

*Inquire and write about the health workers who have been providing basic health care in your community .*

### **C. Female community health volunteer (FCHV)**

The Female Community Health Volunteers do the following in providing basic health services at the community level:

- a. distribute family planning materials,
- b. distribute iron tablets to pregnant and lactating mothers,
- c. distribute oral rehydration solution (Jivan Jal) and instruct to prepare it,
- d. conduct health education, communication, and community awareness programs,
- e. act as a link between the health facility and the community,
- f. work on the maternal health and neonatal care services,
- g. provide necessary assistance during home delivery .

## **2.2 Traditional and alternative health services**

### **A. Traditional health service system**

Traditional health care is based on traditional knowledge, skills, and practice. In ancient times, various treatment methods were in vogue. These include Jhar-fuk, Tantra-mantra, Pooja-path, Dhami-jhankri, etc. It is believed that diseases are caused by divine power. Such therapies are based solely on faith. Such treatment methods are the traditional health treatment methods. Attempts have been made to introduce modern treatment methods to the people who use such treatment methods nowadays. The basic premise of this treatment method is psychological treatment. Nowadays, with the development of modern and scientific treatment methods, these methods have become less used.

### **B. Alternative health service system**

Alternative health service is an improved system of traditional health care and is being used as an alternative to modern health care. These include Ayurveda, Homeopathy, Amchi Services and Naturopathy. Such methods have been used to diagnose and prevent disease and promote health. Ayurveda is one of the oldest and most popular alternative health services. Traditional health care is also a faith-based treatment service.

Human health is affected by the physical, social and mental environment. In addition, diet, rest, exercise, lifestyle, etc. are factors that affect health. In case of any health problem, home treatment and ayurvedic treatment methods can also be used for health treatment. Yoga and meditation, ayurvedic medicine, naturopathy, acupuncture, traditional Chinese medicine, homeopathy, etc. are alternative health services.

#### **(a) Ayurveda**

Ayurvedic medicine is a method of processing natural herbs

by various methods and preparing ayurvedic medicine. In this method, some medicines are taken directly, some are massaged and some are applied. Some herbs can be used directly. Most of the herbs are processed into medicines in the form of tablets, liquids, powders, oils, etc. Such services are provided by ayurvedic hospitals, ayurvedic treatment centers, ayurvedic firms, etc. In this treatment method, even diseases of a general to complex nature are treated.



## Herbal Medicine

Herbal medicine is a method of treatment using plants, leaves, fruits, roots, seeds, stalks, etc. found in nature. It is used directly against various diseases by grinding, boiling, mixing, or solidifying herbs with or without processing.



Neem leaves, Basil, Amla, Timut pepper (Timur), Garlic, Turmeric, Lemon, etc. are the herbs found around us or even in our own fields. Shilajit, Jethimadhu, Pipla, Harro, Asparagus (Kurilo), Rithha, Nutmeg, and ginger are also herbs.

### **Activity 2.3**

*In a group of friends, explore the herbs found in your community and farm and discuss their use and importance in a group and present them in class.*

#### **c. Yoga Therapy**

Yoga therapy is a method of recognizing the defects, diseases, and unhealthiness in the body and preventing it through yoga practise. This method emphasizes that a person's diet, behavior and lifestyle should be healthy. This method is used to treat a person's physical and mental health problems.

It helps to calm and control the mind. Yoga therapy helps to get rid of the harmful substances in the body and to run daily activities regularly. Yoga also regulates breathing. This method delivers oxygen to every part of the body. Yoga has different types. Physical and mental health benefits are gained by practising these types.

#### **d. Natural medicine**

Naturopathy is a method of healing using elements of nature. Under this, treatment is done by using the appropriate amount of five elements (Panchatatwa) such as water, air, soil, fire, and light. This method believes that disease is caused if there is an imbalance of such elements in the body. Therefore, it teaches the body and mind to follow natural laws. This treatment method balances breathing, eating, fasting, exercise, massage, therapy, rest, and sleep. In this method, treatment is done by balancing the five elements with pure conduct and self-discipline.

### **2.3 Healthy and friendly behavior with a friend**

Adolescence is an important period of life. In this period, the effects of hormones cause rapid physical, mental, and emotional

changes. Adolescents in this period are not fully mature mentally. They are curious, fickle, and unstable. In this period, being in the company of bad friends can lead to unhealthy behavior and even addiction. Since friends are of the same age group, their desires, interests, needs, and emotional feelings are similar. So they tend to rejoice in the group of friends and be more attracted to them, and more confident in what the friend says.

When cooperating with a group of friends, one should behave not only emotionally and sentimentally but also with restraint. Such relationships are healthy and friendly when adolescents treat their friends simply and easily. Performing one's work in a disciplined and dignified manner avoids unnecessary problems. Adolescents should not only give importance to their age group friends but also follow the advice given by their elders. Engage in creative works to keep themselves busy and entertained.

The effects of changes to healthy relationships during adolescence are as follows:

- a. jealousy, hatred, and resentment due to passion and stress
- b. unable to concentrate and focus on any work,
- c. hurt the feelings of others and repent,
- d. Mental health problems may appear,
- e. can get into bad company get angry with friends, get hostile, and grow into rivalry,
- f. addicted to smoking, alcohol, and drugs.

Measures for healthy and friendly behavior with friends during adolescence

- a. keep their issues and problems open to teachers, friends, and parents,
- b. respect the views of friends and stay on own views,

- c. participating in yoga, pranayama, meditation, exercise, and sports,
- d. do not get into bad company and addiction out of passion and emotion,
- e. seek the help of friends and parents in solving the problem,
- f. participate in creative and innovative work,
- g. adopt safe sexual behavior.

#### **Activity 2.4**

*Ask one of your good classmates what he/she likes most about your behaviors and ask him or her to write down five such behaviors. Show your parents the good behaviors your friends have written about you.*

### **2.4 Impact of mental health on interpersonal relationships**

A mentally healthy person can think, react and act correctly. He/she can respect others and seek respect and work impartially. Mental health is the ability to carry oneself and one's responsibilities according to time and circumstances. A mentally healthy person can maintain healthy relationships and behaviors with individuals and society. The most important aspect of mental health is one's self-esteem. It, directly and indirectly, affects a person's behavior and relationships. The following incident can further illustrate this point:

In one village there was a very friendly and helpful teacher. He treated all the children and elders of the village equally. The villagers also respected and honored him. He used to educate children from time to time reaching the village. He used to provide information on personal health, community health, and mental health. He used to provide guidance related

to health and care during adolescence. He encouraged the villagers to participate in social programs. He also encouraged the youth to play the role of volunteers in sanitation, immunization services, and public awareness programs.

He assisted in sanitation, waste management, and proper management of drinking water. He used to gather the old people in one place from time to time and understand their views. He was teaching children to help the helpless, the elderly, and the disabled. He also made various efforts to keep the community environment healthy. He even paid attention to planting trees to make the surrounding environment green. He helped solve the problems that arose in the village. Therefore, he was highly respected and admired by all as a social personality.

### Questions for discussion

- a. In the above story, what are the mental health qualities present in the teacher?
- b. How can a mentally healthy person contribute to the community?
- c. How did you find the relationship between the teacher and the community?
- d. What did you learn from this story?

### 2.5 Introduction to drugs

Cigarettes, tobacco, alcohol, marijuana, hashish, heroin, etc. are called drugs. The use of drug hurts a person's physical and mental health. It is very harmful to health and causes physical symptoms such as red eyes, weakness, drowsiness, loss of appetite, and lethargy. It also causes mental symptoms such as fear, memory loss, panic, and depression. Without a healthy family relationship

with their children and parents, without the love and proper care of the family, they may become addicted. None of us should ever use such drugs and advise others not to do so.

### A. Causes of using drugs

- a. If any member of the household is addicted to drugs
- b. In the company of the wrong friends and under pressure
- c. Under the pretext of getting rid of stress
- d. If one fails in any task
- e. Under the pretext of entertainment
- f. Imitating others

#### Activity 2.5

*Prepare a placard for the prevention of drug abuse prevention by discussing it with a group of friends.*

## 2.6 Effects of drugs on health

### Short-term effects

- a. Redness in eyes, high blood pressure, slurred speech
- b. Loss of life in an accident while driving
- c. Mouth and gum odor, dizziness, and excessive sleep
- d. Family and community conflict
- e. Less attention to reading, writing, and other works

### Long term effects

- a. Damage to organs like lungs, heart, kidneys

- b. Can cause diseases like TB, asthma, ulcers, and cancer,
- c. Weakness in the function of circulatory and nervous system,
- d. Weakening of thinking and remembering ability,
- e. An unnecessary increase in family expenses

## 2.7 Preventive measures of using drugs

Some tips to help avoid drug addiction are as follows:

- a. Accompany a good friend,
- b. Raise public awareness against drugs in society,
- c. Parents should be aware of the behavior of their children,
- d. Create a healthy environment by maintaining affection, love, and harmony in the family,
- e. Participate in programs such as yoga, meditation camps, religious discourses
- f. Engage in sports, recreation, and creative works during leisure,
- g. Prohibit on production, sale, distribution, and transportation of drugs.

## Exercises

### 1. Match the following:

- |                  |                    |
|------------------|--------------------|
| a. BCG           | i. Ayurveda        |
| b. Herbs         | ii. Health service |
| c. Health worker | iii. Corona        |
| d. DPT           | iv. Bad company    |
| e. Drugs         | v. Diphtheria      |
|                  | vi. Tuberculosis   |

**2. Fill in the blanks:**

- a. A baby from birth to ..... day is called a newborn baby.
- b. The human body is vaccinated to develop the ability to fight .....
- c. Health volunteers have been making a significant contribution in providing basic health care services at ..... level.
- d. Ayurveda, Homeopathy ..... etc. are important alternative health systems.
- e. Dressing and injecting works are done by .....
- f. To prevent anemia, pregnant women are given .....
- g. Participating in creative activities can prevent the addiction of .....

**3. Answer the following questions:**

- a. Write the definition of community health.
- b. Mention the factors that affect community health.
- c. What services are covered by maternal and child health services?
- d. Write down five things to consider for newborn care.
- e. What are the five benefits of immunization? Present them.
- f. Mention the major health services provided by the Auxiliary health worker.

- g. Why is there a need for an alternative and complementary health care system in Nepal? Justify.
- h. Only a mentally healthy person can maintain healthy social relationships, how? Present your views.
- i. What is a drug? Write down four reasons for consuming it.
- j. Make a list of ways to avoid the abuse of drug.

### **Project work**

Take a look at one of the available health facilities in your community and prepare a report entitled 'Health services provided by the organization'.

# Nutrition and Food Security

# 3

## 3.1 Introduction to nutrients

Food is an essential element for our body. The food we eat can be obtained in solid, liquid, or semi-liquid forms. Food provides essential nutrients for the body. Food contains more than one type of nutrient. Different types of nutrients have different functions. There are five main types of nutrients in a balanced diet.

### Activity 3.1

Discuss with a friend and fill up the following table:

SN	Group	Function	Source
a.	Carbohydrate		
b.	Protein		
c.	Fats		
d.	Minerals		
e.	Vitamins		

### 3.1.1 Types of nutrients

#### A. Types of nutrients based on the amount

Depending on the quantity, there are two types of nutrients: macronutrients and micronutrients. Our bodies need more macronutrients. These include carbohydrates, proteins, and fats. This type of nutrient gives the body the strength to perform its daily functions

Generally, the energy required by our body is obtained from carbohydrates. In addition, the fats also provide extra energy for

conducting additional activities. When a person is sick for a long time, even protein works to give strength. Nutrients are studied by dividing them into three parts based on function.

<b>Energy giving nutrients</b>	<b>Nutrients for body maintenance, growth and development</b>	<b>Protective nutrients</b>
Carbohydrates and fats	Proteins	Vitamins and minerals
Rice, wheat, potato, maize, roots and tubers, honey, sugarcane, ghee, oil, fat, sesame, etc.	Gram, soybean, lentils, almond, beans, kidney beans (rajma), fish, meat, egg, milk, curd, etc.	Fish, eggs, spinach, colocasia (karkalo), millet, beetroot, greens, asparagus, mushrooms, turnips, carrots, cashews, walnuts, etc.

## B. Types of nutrients based on function

### a. Carbohydrates

Generally, carbohydrates are the foods that give energy to the body. To gain strength in the body, one or more of these foods should be eaten regularly as needed. Food sources may not be the same everywhere. Therefore, one should identify the source of carbohydrates from the local food around them and eat it.



### The functions of carbohydrates

- Produce heat and energy required by the body.
- Produce the water the body needs.
- Help to keep the body muscles active.

## b. Fats

Fats give the strength to do extra work. So we need some fat in our food. Using more fatty substances can lead to various diseases. Therefore, the body should take only the right amount of fat that it needs.



### The functions of fats

- i. Help to dissolve vitamins 'A', 'D', 'E', and 'K'
- ii. Maintain regular body temperature
- iii. Make the skin healthy and smooth
- iv. Make the food tasty
- v. Preserve the vitamins in vegetables.

## c. Proteins

The body needs protein for growth and development. Cells in our bodies are getting damaged, broken, and punctured. Protein plays a vital role in repairing these cells. So we need to identify and eat foods that contain protein. Our diet should include one proteinous meal per day.



### The functions of proteins

- i. Help in growth and development of the body.
- ii. Provide energy in case of emergency.
- iii. Support in the digestion.
- iv. Repair body cells.

## d. Vitamins

Vitamins are micronutrients that protect our bodies from various diseases. Vitamins 'B' and 'C' are water-soluble vitamins. Vitamins 'A', 'D', 'E', and 'K' are fat-soluble vitamins. Vitamin 'A' strengthens eyesight. It also protects against night blindness. Vitamin 'A' can be obtained from fish, meat, eggs, dark green vegetables, spinach, yellow fruits, ripe papaya, mangoes, pumpkin, carrots, oranges, etc.



Taking vitamin 'B' helps in the digestion process. Vitamin 'B' includes Thiamine, Riboflavin, Niacin, Biotin, Folic Acid, etc. Vitamin 'B' can be obtained through greens, fruits, bananas, milk, and milk products, and from the kidneys, liver, lungs, and heart of animals.

Vitamin 'C' binds the body's cells. It also works to keep bones, teeth, and gums strong. It also protects against scurvy. Vitamin 'C' can be obtained from sour fruits like Amla (Indian gooseberry), lemon, guava, orange, grape, mango, cabbage, etc.

Vitamin 'D' strengthens our bones. Vitamin D can be obtained from fish oil, liver, egg yolk, etc.

Vitamin 'E' helps to keep the skin healthy and glowing and increases fertility. This protects the red blood cells from being destroyed.

Sources of vitamin 'E' include oil of mustard, soybeans, almonds, coconut, and sunflower, corn and wheat flour, egg, fish, meat, milk, ghee, fruits, broccoli, vegetables, etc.

Vitamin 'K' protects against blood clots and various diseases of the liver. Sources of Vitamin 'E' include meat, fish, eggs, rice, wheat, maize, fresh fruits, various types of green vegetables, milk, etc.

### **Activity 3.2**

*Collect pictures or photos of different types of foods rich in vitamins in and around your home as a group work and paste them on white paper to create a vitamin album and display it.*

#### e. Minerals

Minerals are needed to keep the body healthy and fit. It helps to regulate the amount of fluid in the body. It is found in fish, eggs, zucchini, turnips, radishes, turnips, grains, pulses, cashews, almonds, iodized salt, seafood, fruits, vegetables, etc. Iron, iodine, calcium, phosphorus, etc. are the main minerals. Iron makes hemoglobin in the blood. Iodine helps in the production of the thyroxin hormone, which helps women in conception and body development. The use of iodine can prevent the problem of goiter and dwarfness in the baby.



### **Activity 3.3**

*Collect source samples of different types of nutrients at your home, categorize the nutrients on white paper, and display the chart in class.*

## **3.2 Effects of toxic food**

To increase the production of food items, various types of chemical fertilizers and pesticides are being used in large quantities nowadays. This makes the food poisonous. The effects of such toxic foods on our health are as follows:

- Nausea and dizziness
- Digestive problems including abdominal pain

- c. Having allergies in the body
- d. Deterioration of taste and quality of food items
- e. Decreased fertility in human
- f. Cancer of the skin, stomach, and other organs
- g. Give birth to a mentally ill child

### **3.3 Effects of junk foods**

Junk food is processed food. Since such foods contain a mixture of inedible items, their quality is low. Examples of junk foods are market-found cakes, burgers, chow mein, chips, energy drinks, and more. Such processed foods contain many sugary, frozen fats, salt, white flour, Trans fat, Ajinomoto, inedible foods, preservatives, dyes, and flavors. These foods contain a small number of essential nutrients for the body. Junk food is considered a mild poison. Gradually, children develop the habit of wanting to eat only such foods. It has the following immediate and long-term effects on our health:

<b>Immediate effect</b>	<b>Long-term effect</b>
Constipation	Risk for obesity, liver and kidney problems
Feeling dizzy	Long-term digestive and stomach problems
Indigestion	Risk of diabetes
Diarrhoea	Dental problems
Laziness	Obstruction of physical growth and development
Abdominal pain	Heart and vascular problems
Sleep disturbances	Emotional instability
Appetite loss	Obstruction of brain development

### **3.4 Selection and use of healthy school meal**

**Let's read the dialogue between teacher and students regarding healthy school tiffin:**

Teacher : What tiffin did you bring today? Please tell one by one.

Ram : Sir, I have brought boiled potatoes and chapatti today.

Shyam : I have been sent gram, eggs, and beaten rice from my house. This is my favorite tiffin as well, sir.

Sancha Lal : I brought roasted corn and soybeans, sir.

Teacher : Bravo! What have Mohan, Fulmaya, and Geeta brought?

Mohan : I have brought curd and beaten rice, sir.

Fulmaya : My mother has sent me Chapati mixed with vegetables, and papaya, sir.

Teacher : Oh how nice!

Gita : I have brought vegetables and puri.

Teacher : How wise you all are. In fact, it is possible to prepare healthy food from the various sources available in our homes and locality. These foods are healthy and nutritious. These provide us with all the essential nutrients we need. Try to bring all kinds of nutritious foods as much as possible. You can also share it with your friends.

Students : Yes sir.

Teacher : Well, thank you all. Always bring healthy food from your home like this.

Students : Thank you too, sir.

#### **Activity 3.4**

**Discuss:**

- a. *What tiffin have you brought today? Is the food you brought healthy?*
- b. *How do you choose and use healthy school meals? Discuss with a friend.*
- c. *How many of your friends eat the tiffin brought from home? Explore and make a request to form a habit of eating homemade tiffin to your friend who eats tiffin bought from the market.*

### **3.5 Food adulteration and safety measures**

Nowadays, the problem of adulteration in food has increased a lot. This is a serious community health problem. You may have also heard that vegetable ghee is mixed with cow's ghee, soybean oil with mustard oil, and inferior rice with good quality rice. You may have heard that corn flour is mixed with gram flour and coriander powder is mixed with cumin powder. There are also cases of cornflour in turmeric, brick powder in chili powder, and powdered milk mixed in milk. The practice of mixing different types of low-quality and non-food items in foods for commercial purposes is called food adulteration. Different items of matching colors, shapes, and flavors are mixed into food. There are also practices such as mixing sub standard food, selling it by hiding the quality, and selling stale food. Such actions have serious implications for human health. Adding an item to a food item reduces the nutritional value and quality of the item.

#### **Activity 3.5**

*Fill in the table below by inquiring and discussing food adulteration as everyone has seen or experienced in your locality, village, or neighborhood, and if you find*

*adulteration, report it to the nearest ward office or police station, or media with parental support:*

S.No	Item?	What's wrong?
a.		
b.		
c.		

### A. Harmful effects of food adulteration

The effects of food adulteration are as follows:

- Problems like headache, dizziness, nausea, vomiting, abdominal pain, etc.
- Diseases like diarrhea, dysentery typhoid, cholera
- Diseases like jaundice, paralysis
- Problems such as allergies appear in the body,
- Liver swelling and increased infection,
- Can cause cancer,
- A person may die in famine.

### B. Preventive measures against food adulteration.

Here are some ways to prevent the effects of food adulteration:

- Use only food items from one's farm or locally produced.
- Only food items stated with production date, consumable period and quantity of food should be bought from the market.
- Households and neighbours should be informed about food adulteration and its effects.
- Food should be purchased based on quality, weight, price, and name of a reliable company. Never buy food under the illusion of advertising.

- e. Voices should be raised against the adulteration of food.
- f. The complaint should be made to the concerned agency for the control of food adulteration

## Exercises

### 1. Match the following:

a.	Provide energy under normal circumstances	i.	Vitamins
b.	Build and maintain the body	ii.	fats
c.	Provide energy in case of additional activity	iii.	Protein
d.	Provide protection and prevent disease	iv.	Carbohydrates
		v.	Minerals

### 2. Answer the following questions:

- a. What is a nutrient? Mention the types of nutrients based on the function with examples.
- b. Write down the main effects of using junk food.
- c. What are the things to consider when choosing a healthy school meal?
- d. What is food adulteration? Write down ways to prevent its effects.
- e. Write down four ways to avoid the effects of toxic foods.
- f. Make a list of the effects of food adulteration on our health.

## Project work

Find out the nutrients available in your community and divide them according to their function, paste them on a white board paper and stick them on your school's noticeboard.

# Disease, Safety and First Aid

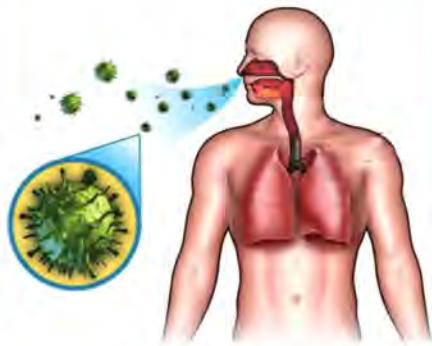
# 4

The disease is a condition in which a person's physical and mental health condition becomes imbalanced due to various reasons. Examples of diseases are diarrhea, dysentery, cholera, covid-19, hypertension, diabetes, etc. We may have seen or experienced fires, injuries, electric shocks, fights, and so on. Care should be taken to avoid such accidents. Wearing a life jacket while swimming, wearing a helmet when riding a motorcycle, and taking precautions when lighting a fire are safety measures. Safety is the precautionary measure to be taken to avoid any accident. Many types of accidents can happen even while taking precautionary measures. The first treatment that is given immediately after an accident is called first aid.

## 8.1 Diseases transmitted by air

### Activity 4.1

*See the picture and discuss:*



- a. Why did the person walking in the picture cover his nose?
- b. What are respiratory diseases? Discuss their symptoms with a friend.

Let's read and understand the following dialogue about diseases transmitted through the air:

Teacher : Did you see litter and defecation on the way?

Student : We have seen. It looks so bad.

Teacher : When we litter like this, the environment around us also becomes foul-smelling.

Student : That foul smell spreads around us. Isn't it, teacher?

Teacher : Yes, the disease germs spread from the same stinking environment along with the foul smell.

Student : It would be harmful to breathe in such a foul-smelling environment.

Teacher : Yes, germs can enter our bodies when we breathe in a polluted environment.

Student : Do the germs of the disease enter our body through the air even when a sick person coughs or sneezes near us?

Teacher : Bravo, that's right. The disease can also spread to other members of the family through breathing.

Student : What diseases are spread by such polluted air?

Teacher : Listen. Diseases such as whooping cough, diphtheria, tuberculosis, smallpox, and pneumonia are spread through polluted air.

## A. Cause, symptoms, and preventive measures of air-borne diseases

Disease	Agent	Cause	Symptom	Prevention
Chicken pox	Virus	Coughing or sneezing by the patient Using the equipment used by the patient without cleaning	Fever, body ache, weakness, yellow rashes appear After a while, the rashes turn into blisters filled with fluid. The blisters burst and become scabs and finally fall off.	Only defecate in the toilet Do not spit or discharge nasal waste indiscriminately Use the items used by the patient after a thorough cleaning Feed plenty of juicy food Wear seasonal clothes to prevent cold and sweat
Whooping cough	Bacteria	Coughing or sneezing by the patient	Continuous coughing Coughing more at night than during the day Fever, body ache, feeling weakness Excessive pain when coughing with a chest pain	Immunize children with DPT Use the items used by the patient only after a thorough cleaning Wear seasonal clothing to prevent from getting cold Consider personal cleanliness
Tuberculosis	Bacteria	Using the equipment used by the patient without cleaning	A high fever during evening and night Sweating along with fever Weight loss, appetite loss, weakness Cough, chest pain, blood in the sputum	Boil buffalo and cow's milk well before consuming. Children should be vaccinated with BCG soon after birth.  Use the items used by the patient only after a thorough cleaning.  Pay attention to personal hygiene.

### **Activity 4.2**

*A child in your neighborhood may have been cured of whooping cough or smallpox. Find such a family and ask about symptoms of the disease in the child and present it in the classroom.*

## **4.2 Communicable disease caused by contaminated syringe and blood**

### **Read and understand:**

Not far from Rupak's house was a bamboo bush. Every evening four or five young men would gather there. They talked for a while and even sang songs. His friends were gradually added. They gradually started using cigarettes, marijuana, chewing tobacco, etc. Time passed and new friends were added. An unidentified friend also joined the group. He seems to be using drugs. He was also infected with HIV. He did not tell this to his friends. Gradually, he started forcing his friends to take drugs. Other friends in the group started taking drugs from the syringes he used. After falling into addiction, they started running out of money. As a result, they started stealing and fighting. At the same time, the health condition of one person deteriorated and he was admitted to the hospital. His blood test showed that he had HIV. When his friends found out about it, they regretted it a lot and vowed not to get addicted anymore.

### **A. Causes, symptoms, and preventive measures of disease caused due to contaminated syringes and blood**

**The following are the causes, symptoms, and preventive measures of diseases transmitted by syringes/blood:**

Disease	Agent	Cause	Symptom	Prevention
Hepatitis 'B'	Hepatitis 'B' Virus (HBV)	If an infected person uses a needle, syringe, nose or ear piercing needle	Loss of appetite, nausea	Take and give blood only after testing.

Hepatitis 'B'	Hepatitis 'B' Virus (HBV)	Mother's blood during delivery and through wounds if mixed into the baby's bloodstream.  Unprotected sex with an infected person.	Yellowing of eyes, nails, urine, etc. Jaundice like symptoms Fever and sweating Rashes in the body Weakness.	Whenever possible an infected woman should not become pregnant  Don't have unprotected sex  Do not use infected needles  Take vaccines on time.
Hepatitis 'C'	Hepatitis 'C' Virus (HCV)	If an infected person uses a needle, syringe, nose or ear piercing needle Mother's blood during delivery and through wounds if mixed into the baby's bloodstream Unprotected sex with an infected person	Weakness and leanness Light yellowing during normal conditions and heavy yellowing during severity Fever, loss of appetite Yellowing of the white part of the eyes, nails, and skin	Do not eat greasy or sour food  Do not take medicines that affect the liver.  Use only after cleaning needles or other equipment.  To test in case of doubt.  Get vaccinated on time
HIV and AIDS	HIV (Retro Virus)	Having unprotected sex with an infected person When a pregnant woman gives birth to a child Use a needle, syringe, or any other sharp weapon used by the infected person If the blood or any part of the infected person is given to another person or an organ is transplanted	The patient has fever for a long time and a loss of appetite Prolonged cough or diarrhea The patient loses weight. Sores appear on the skin. Weakening resistance to disease Swollen and enlarged lymph glands.	Not having unprotected sex  Use sterilized needles  An infected mother should not be pregnant.  In case of blood transfusion or organ transplantation, it should be done only after HIV testing.

## **4.1 Causes and prevention of tonsilitis and pharyngitis**

### **Tonsillitis**

**Let's read and discuss the dialogue between teacher and student regarding tonsillitis.**

Teacher : Thakur, are you not well today?

Thakur : Sir, there is pain at the base of the neck inside my mouth I can't even swallow saliva.

Teacher : Let's see. Oops! It seems you have tonsillitis.

Thakur : Is it, what is tonsillitis, sir?

Teacher : On the inside of our mouth is a pair of soft tissues called tonsils at the base of the neck. Infection of this part is called tonsillitis. This problem is more common in children.

Thakur : How are the tonsils, sir?

Teacher : (Showing the picture) It can be easily seen by looking at an open mouth. It is covered with a pink membrane.

Thakur : What causes this disease, sir?

Teacher : In fact, the disease is caused by common viruses and bacteria. In addition, it is caused by allergies to smoke and cold.

Thakur : What happens if we get this disease, sir?

Teacher : There is sore throat while swallowing food and saliva, headache, fever, and tonsils.

Thakur : What is the way to avoid such a disease, sir?



Teacher : Now listen. To prevent this, you should brush your teeth daily after eating, avoid crowds, avoid cold and dusty smoke, stay clean, eat a balanced diet, and go to the nearest health facility during problems.

#### **Activity 4.3**

*Have you ever had tonsillitis? If so, share your experiences, and if not, ask others and present its symptoms and preventive measures.*

### **B. Pharyngitis**

Have you ever had throat pain? Did you notice a change in voice? Did you have a sore throat? Was it difficult to swallow food, water, and breath? If this happened then the back of your throat (opening of nose, mouth, esophagus, and trachea) pharynx may be red and swollen. This is called pharyngitis or sore throat.

It affects people of all ages. It is found that children under the age of 15 are more prone to this disease. This disease is mainly caused by viruses and bacteria. Occasionally there is sneezing, coughing, flu, headache, body aches, weakness, high fever, and even vomiting.

To avoid this, in the winter season, one has to warm the body, wear thick clothes, eat plenty of soup of lentils, beans, and thyme (jwano), put a teaspoon of salt in a glass of warm water, and rinse three/four times a day. Especially cold drinks, ice, ice cream, and sweets like things should not be eaten. In addition, one has to stay safe from dust, smoke, and cold.

#### **Activity 4.4**

*What are the symptoms of pharyngitis? What are the measures to prevent it? Write after discussion in a group.*

## 4.4 Construction and use of first aid kits

Accidents can happen in our homes, school, and other places including roads. Accidents can happen when children play, work. In such cases, immediate treatment may be required. First aid is the first support or normal treatment that is given at the accident site before the injured is taken to the hospital or health facility. This helps in preventing further complications for the victim. So first aid kits should be kept prepared. In case of an accident, first aid can be provided with the help of the items in the box. The items of the first aid box and its use are given in the table below.

Material	Usage
Cotton, distilled water	to clean wounds and bruises
Rolling bandages or gauze pads	to bandage wounds and bruises and sprain
Adhesive Tape, Safety Pin	to hold on to the bandage
Scissors, knives, forceps	to do surgery or cut the gauze pad
Dettol, Savlon, or Tincture Benzoin	to clean wounds
Thermometer	to measure the fever
Soap and handkerchief	to wash hands and wipe
Generic drug (Cetamol, Metronidazole, Brufen, Antacid)	to use in case of fever, headache, stomach ache, gastritis
Ointment, spray, Oral rehydration Solution (Jeewan Jal)	to reduce pain, for rehydration of the body
Gloves, triangular strip	to wear on the hand

### Activity 4.5

*Have each student prepare a first aid kit and show it to the class teacher and keep it at home.*



## 4.5 Accidents and their first aid

### (A). Sprain

#### Activity 4.6

*Have you ever experienced a joint sprain? If so, what symptoms were seen during that? Make a list and discuss it in class.*

#### Read and understand:

One day, Prem was going to school in a hurry. He slipped down on the way. His legs hurt a lot. Seeing him falling down, the people around him came and picked him up. He could not walk because of pain in his leg. A neighbor reported to his home. His father carried him to a nearby health post. Examination by a health worker revealed that the joint of the leg was sprained. He asked the health worker if there were any other conditions for a joint sprain in the body. The health worker said that sometimes the muscles of the limbs get sprained even when running, jumping, and playing. The muscles around the joint are stretched or torn more than necessary in this condition. "It's called a sprain," he said.



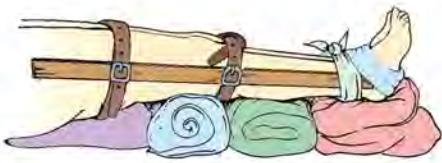
Prem inquired about the symptoms of joint sprain with a health worker. He said that a sprained joint is painful, difficult to move, swelling around the joint and the skin around the joint is blue. He also taught that as first aid, the joints should be kept in a relaxed position, soaked in water or ice, and bandaged.

#### Activity 4.7

- 1. Why did Prem fall? What symptoms were seen in his joint?*
- 2. How is first aid done in joint pain? Discuss with a friend.*

### B. Fracture

Usually, the bones in our body can be damaged during a fall or an accident. Accidents while playing sports or falling from trees can cause the breaking of bones. To impair a bone in this way is a fracture. Here are the symptoms of a fracture.



- Pain when touching a broken bone
- Swelling around the fractured area
- When touching a fractured area, it will feel as if the bone has come loose.
- Sweating all over the body and fainting due to pain
- The area around the broken bone appears blue.

### First aid

- First of all, take the injured to a comfortable place from the accident site and rest comfortably
- Keep the fractured part straight without moving
- Bind the bone around the fractured part by tying it with a rope or gauze or bandage to the base of the fracture

- d. In case of a broken arm, make a rope out of yarn or cloth and hang the hand around the neck.
- e. Take the injured to the nearest health center as soon as possible for further treatment.

### C. Shock

A state of unconsciousness for a short period due to some reason is called fainting or shock. Sudden loss of body fluids, excessive bleeding, or excessive decrease of the sugar levels in diabetics can cause fainting. Fainting can happen if the temperature of the external environment is too low or too high, the amount of oxygen in the body is too low, or the brain or spinal is injured. Sometimes people can even faint due to the effect of the medicine. The following are the symptoms of shock:

- a. The victim or patient is in a state of semi or complete unconsciousness
- b. Slow pulse rate
- c. Sweating from the body
- d. Decreased blood pressure
- e. Yellow and pale face



### First aid

- a. In such a case, the victim should be laid to rest in a safe place.
- b. Crowds of people should be removed and the victim should be placed in a ventilated place.
- c. If there are tight clothes on the body, they should be loosened.
- d. The victim should be given artificial respiration when needed.
- e. Get the victim to the health center as soon as possible.

### **Activity 4.8**

- a. In what situations can people faint in general? Discuss and write the points.
- b. What first aid can be given to a fainted person on the spot? Discuss and demonstrate first aid measures.

## **D. Snake bite**

### **Activity 4.9**

- a. What are the causes of snake bites? Discuss this with a friend and make a list of ways to prevent it.
- b. What are the symptoms of a snake bite? Make a list and present it to the class.

### **Let's read and understand:**

Ajay and Garima are siblings. They had gone to their maternal uncle's house during the summer vacation of the last year. There was a very green place around the maternal uncle's house in Parwanipur of Bara. In the evening, both of them put on sandals and went for a walk in the mango orchard. When Ajay was about to return home in the evening, he was suddenly bitten by something. Saying 'Aiya', he jumped up and shouted. Seeing her brother terrified, Garima looked around and saw a snake.

Garima immediately brought Ajay to a safe place and kept his legs below the level of his chest. At the same time, the maternal uncle also arrived. She also told her uncle about it. He was also terrified of what to do.

She sent for her maternal uncle to call a rickshaw and she went to treat her brother first. She thoroughly washed the wound with soap and water and covered it with a clean cloth. At the same time, her maternal uncle brought a rickshaw. Together, they rushed Ajay to the health facility. Garima told the health worker

about the first aid she provided. The health worker thanked Garima for providing timely first aid. He started treating Ajay. After treatment, Ajay recovered and returned home. The maternal uncle appreciated Garima's courage and bravery.

### First aid

- a. In case of a snake bite, the injured should be laid to rest in a safe place,
- b. The affected area should be washed with soap and water,
- c. To prevent the spread of the poison, it should be tied tightly with a rope or cloth just above the bite site,
- d. Provide artificial respiration and CPR (cardio-pulmonary resuscitation) should be done,
- e. Should be taken to a health center or snake bite treatment center as soon as possible.

#### Activity 4.10

*What are the steps to be taken to prevent snake bites? Discuss.*

### E. Electric shock

**Let's read and learn the following conversation about the methods of first aid for an electric shock:**

Teacher : If you are not careful when using electrical appliances, you may get electrocuted. Have you ever seen someone electrocuted?

Ram : I've seen my friend get an electric shock, sir.

Teacher : Tell me, how did he get the shock?

Ram : Sir, he would sometimes touch the bare electric wire with the bare hand. He also used to insert fingers in

switches or plugs and tear off the black tape where the wires were connected. He used to open and extinguish the switch with his wet hand. Due to his behavior, he was electrocuted.



Teacher : Yes, he did not take minimum safety measures. Do any of you know about the first aid that can be given in case of electric shock?

Hari : I know, sir.

Teacher : Hari, could you say how first aid is given in case of electric shock.

Hari : The main switch of electricity should be switched off as soon as you know that there is an electric shock. Dry wood or a stick should be used to release the person from the current. If the victim is unconscious, artificial respiration or CPR should be given. After regaining consciousness, he/she should be given warm liquid, water, tea, coffee, etc. A soft and clean handkerchief should be soaked in water and applied to the affected area. Depending on the condition of the patient, he/she should be taken to the health facility or hospital immediately, sir.

Teacher : That's right. Thank you. This is how to get someone to do first aid in case of electric shock.

Students : Sure sir, we'll do the same.

#### Activity 4.11

*Make a list of ways to avoid getting electrocuted and stick it on the wall of your home and classroom.*

#### 4.5 Safety measures for road accidents

**Read and learn the dialogue between Anu and the traffic police:**

Anu : Namaste sir, I have come to get information about road accidents from you.

Traffic Police : Namaste, what are your inquiries regarding road accidents? Please ask, Anu sister.

Anu : What is a road accident? Please tell me first about it.

Traffic Police : An accident that occurs on a motor vehicle and the road is called a road accident.

Anu : Why do road accidents happen, sir?

Traffic Police : Accidents occur when driving under the influence of drugs or alcohol, when a person walks on the road carelessly, or when crossing the road. Sometimes the driver gets tired and false asleep while traveling and driving. It also causes accident.

Anu : Sir, what measures should be taken to avoid such accidents?

Traffic Police : One should stop at the red light while walking on the road, wait carefully at the yellow light, and cross the road only at the green light.

- Anu : By following such rules, can road accidents be avoided, sir?
- Traffic Police : There are other measures as well. When crossing the road, we should always cross only at Zebra Crossing or Sky Bridge. On the road without such facilities, pedestrians should cross the road when the vehicle is not coming after checking the vehicles on both sides of the road. You only have to walk on the footpath of the road. When getting on and off the bus, get on and off only after the bus has stopped.
- Anu : There are a lot of rules to follow on the road, aren't there, sir?
- Traffic Police : Yes, there are many. If we all follow such rules, road accidents can be avoided.
- Anu : Could you tell me something about the rules to be followed by the driver, sir?
- Traffic Police : Drivers should stop only at designated places. Do not drive under the influence of alcohol. Drivers should not drive in a hurry and compete. The vehicle should be operated only after checking its condition.
- Anu : Thank you very much for teaching me how to prevent road accidents.
- Traffic Police : Thank you as well for listening carefully to the rules to be followed on the road.
- Anu : Is it permissible to use a mobile phone while driving?
- Traffic Police : It is not possible to do this at all. Also, the driver and the person next to the driver should fasten their seatbelt.

## **Exercises**

### **1. Tick (O) the appropriate option below:**

- (i) What is the disease transmitted by contaminated air?  
a. HIV and AIDS                      b. Smallpox  
c. Hepatitis 'B'                      d. Diarrhea
- (ii) What is the disease transmitted by the use of infected needles or blood?  
a. Tuberculosis                      b. Whooping cough  
c. Hepatitis 'B'                      d. Cholera
- (iii) Which disease does not transmit when living together and eating together?  
a. Scabies                              b. Whooping cough  
c. Cholera                              d. HIV and AIDS
- (iv) What is not there in the first aid box?  
a. Thermometer                      b. Soap  
c. Bandages                            d. Antibiotic medicine
- (v) In which color of the traffic light, we should carefully cross the road?  
a. Green                                b. Yellow  
c. Red                                    d. White

### **2. Answer the following questions:**

- a. Write the symptoms of tuberculosis and its preventive measures.
- b. Prepare a list of symptoms and preventative measures

- of the diseases transferred through infected syringe/blood.
- c. How are HIV and AIDS transmitted? Suggest ways to prevent it.
  - d. How can tonsillitis and pharyngitis be prevented? Mention the measures.
  - e. What is first aid? How can we do first aid in case of electric shock, mention the treatment method?
  - f. List out the measures to prevent road accidents.
  - g. What materials are kept in the first aid box? Prepare a table by mentioning the names and functions of those materials.
  - h. Write first aid methods for snake bites.

### **Project work**

With the help of your teacher, observe the contents of the first aid box and prepare the box accordingly and place it in the first aid room at the school.

# Sexual and Reproductive Health

# 5

## 5.1 Introduction to gender identity and sexual orientation

Sex is a natural and biological identity. The term refers to biological characteristics, structure, process and genetics. Sex is what happens physically when a person is born. This identity recognizes a person as female, male, intersex or sexual minority. It is not changeable. Physical features such as anatomy, production of hormones, visible changes, ovulation of a woman, and production of sperm in a man and procreation are natural. All of these traits fall into sexuality.

### 5.1.1 Sexuality

Sexuality is an integrated form of topics such as sex, sexual identity, sexual role and reproduction. This includes aspects such as physical structure, gender, gender identity, sexual identity, sexual health, and sexual rights. It refers to the overall form of sexual values and beliefs, expression and management. Sexuality is also about love, thoughts about life, relationships, and behavior towards people. Sexuality is a very personal experience and expression. Sexuality tends to be expressed differently. Human sexuality varies from person to person.

It covers how people treat homosexuals and the opposite sex. Human sexuality is influenced by culture, race, religion, economic and social status, physical condition, sexual identity, etc. The expression of sexuality also depends on the sexual identity of a person. Sexual identity is the sexual behavior and relationships that a person shows. Sexuality lasts a lifetime.

Based on sexual identity, individuals can be divided into three groups as follows:

### A. Heterosexual

People who are sexually attracted to the opposite sex fall into this group.

### B. Homosexual

This group includes people who are sexually attracted to men with men and women with women. Male homosexuals are also called gay and female homosexuals are called lesbians.

### C. Bisexual

Some people are sexually attracted to the opposite sex as well as to the same sex. Such people belong to this group.

Sexual identity is a matter of a person's identity, existence, and human rights. A person with a different sexual identity than the opposite sex is generally called a sexual minority. It is also called LGBTI. A brief introduction to it is as follows:

#### a    **Lesbian**

If a woman is physically and emotionally attracted to a woman only for sexual behavior, she is called a lesbian.

#### b    **Gay**

If a man is physically and emotionally attracted to a man regarding sexuality, such a person is called a gay.

#### c    **Bisexual**

A person who is attracted to both sexes sexually and emotionally for sexual pleasure and exchange of emotions is called bisexual.

#### d    **Transsexual**

People in this group engage in sexual behavior that is contrary to their physical or natural appearance. For example, even though

they are physically women, they behave like men, dress like men, and make up like men. Similarly, even though they are physically male, they behave like women, dress as women, and makeup like women.

### e Intersexual

A person who does not naturally recognize a man or a woman is called an intersexual person. For example, if a man is born with the genitals of both men and women, namely the penis, testicles, vagina, and uterus, this is called intersexual.

#### 5.1.3 Sexuality education

People with different sexual identities should be treated with the same respect as other people. Sexual identity is a part of human rights. So the rights of people with all kinds of sexual identities should be respected. The process of bringing about positive changes in sexual knowledge, attitudes, and behaviors is called "sexuality education". It teaches how to express one's sexuality and how to behave responsibly according to one's sexuality. Adolescents are also curious and enthusiastic about such topics.

If a parent or teacher understands and resolves their curiosity and enthusiasm, they can avoid taking the wrong path. Parents at home, teachers at schools, and health workers at health facilities can provide counseling and advice related to sexual and other aspects. Adolescents need to learn about sex and sexuality at the right time. This will help them and others to live healthier life by engaging in healthy sexual behavior.

It teaches about the human reproductive system and the biological, cultural, and sexual perceptions of men and women. This helps the individual, family, and society to get information on sexuality issues and work and help in healthy sex life. Thus, sexuality education is necessary for healthy sexual conduct and safe sex life by moving sexual behavior in a positive direction and dismissing misconceptions and negative feelings about sexuality.

### **Activity 5.1**

*Ask a health worker in your neighborhood or someone who knows about sexual and reproductive health the following questions and prepare a short report based on them:*

- a. Why does a person need sexuality education?
- b. How is sexuality education viewed in our society?
- c. What is the attitude of adolescents in society towards sexuality?

### **5.2 Impact of taboos regarding menstruation**

A teacher teaches in a school in a remote district. On Saturday, he went for a walk in the village. He saw an adolescent girl sitting at the door of a small house with her head bowed. He started a conversation with her. Let's read the dialogue between them:

Teacher : Nani, why are you living alone in this little house?

Nani : Sir, my mother told me not to stay at home because of menstruation, so she sent me here to live.

Teacher : Why can't you stay at home, Nani?

Nani : I don't know, sir. It is customary for everyone in our household to come and live in such a house after menstruation.

(Teacher went to Nani's house and met her mother and asked some things.)

Teacher : Namaskar, are you the mother of the girl living in

that hut far away?

Mother : Namaskar sir. Yes, I am the mother of a child sir.

Teacher : Why did you leave Nani alone in the barn?

Mother : Nani is kept there because she is menstruating. Only after she is cleansed she can stay at home, sir.

Teacher : Why? This practice shouldn't be done.

Mother : Gods of the house get angry if stayed at home during menstruation. Diseases and disasters of various kinds occur. The house is not clean either, sir. According to our custom, we should not even enter the kitchen. At such times we should not even go to the place of worship, the temple. Worship materials should not be touched. It is cleansed only after taking a bath after five days of menstruation. It is customary to come home only after that.

Teacher : Such practices are not based on scientific facts and are harmful to health.

Mother : It is a matter of our tradition, sir.

Teacher : What should the child do to eat?

Mother : I take the food there on a separate plate. She should eat there. She shouldn't come out. She shouldn't travel and don't go to school. Also, she shouldn't touch the water tap.

*(After hearing all this, the teacher gathered the women around him and informed them about the negative effects of such superstitions.)*



Teacher: Well, all of you listen to me carefully. During menstruation, blood flows from the female reproductive organs. In this case, if the reproductive organs are not cleaned, they can become infected. Clothes become foul-smelling if not washed. In such cases, adequate attention should be paid to cleanliness. Eat plenty of nutritious foods such as green vegetables, leafy vegetables, fruits, milk, and yogurt. Excessive blood flow can weaken the body and lead to diseases such as anemia. Not only has this but keeping girls in a dark room causes physical and mental pain. In addition, a variety of accidents can occur.

Women : Oops. Really, sir?

Teacher : Yes! Now you can be safe by following healthy practices without following such superstitions. Menstruation is an obvious physical and natural process. At this time, there is no scientific or social basis for untouchability and discrimination.

Women : We all understand you very well. Now we will follow the healthy behavior during menstruation as you said. Also, thank you very much for providing such important information.

Teacher : Thank you all on my behalf for taking my words positively.

### Activity 5.2

#### Discuss.

- a. What superstitions do you find in the dialogue regarding menstruation?
- b. What are the negative effects of superstitions on menstruation?
- c. Do you have such superstitions in your home and community? If there are, what are the reasons for that?
- d. What should be done to eradicate such superstitions?

### 5.3 Introduction to sexual abuse and ways to keep safe

Activities that involve physical, mental, and sexual stimulation, influence, or pressure are considered sexual abuse. Sexual abuse is the act of touching another person's reproductive organs or sensitive organs and showing own body with the wrong intention. Sexual abuse, such as the display of pornographic images, the use of obscene language, the temptation, and the misuse of social networking sites, are prevalent in our society knowingly or unknowingly. Here a schoolgirl is telling a story about her sexual abuse while she was in sixth grade. Let's read her story and be aware:

When I was studying in class six, I used to go to study and learn with a neighbor's brother. He loved me very much. I had a lot of respect for him as a parent. If I had to ask a question, I would ask

him first. When I went to do my homework, he would pull me close with love. Sometimes he would even pinch and touch. From time to time he would give me chocolates and money for tiffin.

He told me not to be ashamed while reading. Time passed like this and I completed class six and reached class seven. One day, a health education teacher in class seven taught about sexual abuse. This is when I found out I had been sexually abused. When I was in 6th grade, my loving brother actually abused me sexually. I told all those things to the headteacher and the parents. The headteacher and his parents warned him not to do such things. The headteacher also warned the students and teachers of all classes about sexual abuse.

### Activity 5.3

#### Discuss:

- What kinds of sexual abuse had happened to the student of class six?
- What efforts should be made to prevent such sexual abuse?
- Do you know any of such sexual abuse that happened to anyone? If so, what did you do when you had such problems?

#### 5.3.1 Safer sexual behavior

During adolescence, there is the production of various hormones and the rapid development of the genitals. In this condition, along with the physical, mental, and emotional development, an increase in sexual desire is a normal process. Safer sexual behavior is a restrained and systematic way of managing sexual desires and activities. Safer sex plays an important role in a person's personality development and health and social status.

People who have safer sexual behavior can avoid sexually transmitted diseases, including HIV and AIDS, hepatitis, and gonorrhea.

#### **Activity 5.4**

*Make a list of the changes that have taken place in your adolescence and show it to your class teacher by making a note of the support or expectations that adolescents should receive from adults.*

#### **A. Ways of safer sexual behavior**

##### **a. Moderation and mutual understanding**

Misunderstandings can arise when adolescents' wishes, desires, and needs do not match. As a result, adolescents often become irritable and hostile. Some even engage in anti-social activities. To address such behaviors, parents, teachers, and people in the community should understand the needs and problems of adolescents and help them manage accordingly.

##### **b. Participation in creative works**

Adolescents should be given different roles and put to creative work. Creative activities such as skillful work, music, painting, sports, dance, literary writing, and study control imbalance and high emotion. Involvement in creative activities allows not enough time to think about wrong actions and behave antisocially. Engaging in various creative activities will lead to a sense of responsibility, talent, and maturity in behavior, which will reduce the problems of adolescence.

##### **c. Advice on safer sexual behavior**

By teaching adolescents the knowledge, skills, and experience of safer sexual behavior, they can be protected from potential risks. Self-control can be exercised through activities such as

delaying sexual desire and engaging in other creative activities. Adolescent problems can also be managed by providing youth-friendly sexual and reproductive health services.

#### **d. Providing sexuality education**

Sexuality education is offered to provide information on sex-related topics, raise awareness of sexually transmitted diseases, and teach sexual behavior and conduct. It provides knowledge and experience regarding the sexual desires and behaviors that develop in the developmental stage of the human body. It raises awareness about the reproductive system, healthy sexual behavior, sexual dysfunction, its side effects, and sexually transmitted diseases such as HIV and AIDS and syphilis.

### **5.4 Adolescence-friendly sexual and reproductive health service**

Adolescent-friendly sexual and reproductive health services are the sexual and reproductive health-related services, guidance, and counseling based on the needs and expectations of adolescents. This service can be provided through nearby health centers, media, social networks, websites, awareness programs, etc. The service is also needed to address their needs and solve the problems in this period. Guidance and counseling services are needed to develop a positive attitude towards themselves and their physical transformation and to develop the ability to be responsible and make the right decisions. The needs for reproductive health services are as follows:

- a. To direct misconceptions about sexual and reproductive health in the right direction
- b. To guide adolescents to develop safe sexual behavior.
- c. To remove curiosity about sex and sexuality and to learn and teach life skills related to sexuality.

- d. To pave the way for resolving sexual and reproductive health complications and problems such as unwanted pregnancies, premature pregnancies, abortions, etc.
- e. To avoid and prevent sexual problems such as infections
- f. To provide information regarding the proper use of emergency contraceptives and family planning devices.

## Exercise

### 1. Fill in the blanks:

- a. Sexuality refers to the totality of values and beliefs, expression, management, etc. related to .....
- b. People who have a sexual relationship between men and women are people with ..... identity.
- c. Safe sexual practices protect from ..... and fatal diseases.
- d. Adolescents should be given different roles in ..... work to manage the problems that come with adolescence.
- e. Sexuality education helps to learn ..... related topics, and teach positive sexual behavior and conduct.
- f. Adolescent-friendly sexual and reproductive ..... helps to manage and solve the problems of adolescence.
- g. Sexuality education is ..... to change the knowledge and behavior related to sexuality.

## **2. Answer the following questions:**

- a. People with different gender identities should be treated equally, why?
- b. What is sexual orientation? Why is information on sexual orientation necessary? Present your views.
- c. What are the misconceptions and superstitions about menstruation existing in your society? Mention the effects it has on reproductive health.
- d. What is safe sexual behavior? Write down why adolescents should follow safe sexual behaviors.
- e. What is an adolescent-friendly sexual and reproductive health service necessary? Highlight its need.

### **Project work**

Fill out the table below after meeting five adolescents in your neighborhood and asking them about the problems during adolescence that had arisen while maintaining a healthy relationship and the ways taken to solve them:

<b>The main problems of adolescents</b>	<b>Measures of management</b>
i.	i.
ii.	ii.
iii.	iii.
iv.	iv.
v.	v.

# Physical Exercise and Drill

## 6.1. Physical exercise



Everyone should be healthy and fit. In order to be healthy and fit, cells, tissues, organs and systems must be healthy and fit. Activities done to keep the human body healthy and fit are called physical exercise. The terms physical training and physical exercise are used interchangeably. Regular physical exercise makes us feel hungry, helps to digest food, and keep our body fit. It also helps in the physical growth, mental and social development of the person.

### A. Exercise of feet and ankle

Before learning and performing any sports skills, we should exercise our feet and ankles well. To perform this type of exercise, we can stand or jump for some time with one foot. Moreover, we can also exercise our feet and ankles while sitting or sleeping. Exercising in this way can keep the muscles, joints, and bones of the feet and ankles healthy and strong.



### **Activity 6.1**

First of all, jog for a while. Perform some warm up exercises. Then lie down with your feet spread on a ground or mat. Count 1 bring one foot as close to the knee as possible, bring the foot to the normal position on count 2, extend the foot back as far as possible on count 3 and bring the foot to the normal position on count 4. Similarly, move your foot to the right on count 5, bring it to the previous state on count 6, move it to the left on count 7 and bring it to the previous position on count 8.

### **B. Exercise of legs, knees, and thighs**

Exercise is essential to make our muscles, joints, and bones of the leg, knee, and thigh strong and flexible. Before learning the skills of the games and sports such as football, basketball, high jump, long jump, etc., we should exercise our leg, knee, and thigh well.

### **Activity 6.2**

First of all, jog for a while before practising exercise of leg, knee, and thigh. While exercising these parts of the body, they should be contracted and stretched. We should not bend or distort the knee. To perform the exercise, first of all, standing with your left leg, bend the right leg slowly to the back. After reaching the leg to the hip, holding it with the right hand gently pull it towards the hip. Perform this exercise five times alternately with both legs.



### **Activity 6.3**

Stand all the students in a line. As per the instruction of the teacher, bring the right leg slightly forward; place both hands on the knees, and stretch the left leg straight. Do the same with the left leg again. Practise it five times alternately with both legs.



## C. Exercise of back and stomach

We need to exercise our back and stomach regularly to digest the food that we eat, to protect our sensitive organs, and to keep them healthy. Even before learning and performing a variety of sports skills, we need to exercise our back and abdomen properly. Do the following activities for the back and abdomen.

### Activity 6.4

First of all, stand in a line. Touch the floor with one hand on count 1, stand in the attention position on count 2, hold the hips with both hands and look at the sky on count 3, and stand in the attention position again on count 4. Repeat this process up to five times.



### Activity 6.5

Stand all of the students in a row and jog for two to three minutes. Then stand in the row without touching each other. As per the command given by the teacher, touch the left knee with the right hand and look at the fingers of the hand, raising the left hand straight up on count of 1. On count 2, stand up straight, placing your hands on your hips. On count 3, touch the right foot with the left hand. Come back to the state of beginning on count 4. Repeat this activity three to four times.



### Activity 6.6

First of all, jog for two to three minutes in a row. Then lie down on the mat and perform abdominal exercises as shown in the



picture. When the teacher gives a command or count 1, try to touch the left knee with the elbow of the right hand and then touch the right knee with the elbow of the left hand on count 2. In addition, also do abdominal exercises by making legs up and down while lying down.

## 6.2 Drills

Drill is a fun activity to be done in a group as per the command of the commander. Drills contain instruction, order, and action. Drills are performed repeatedly with the beat of drum, music or count as per the command of the leader. It is generally performed in the regular assembly of the schools, inauguration, and closing ceremony of the sports competition, and march pass of the scouts.



### 6.2.1 Practise of drill according to counts and music

Regular practise of drills maintains our physical fitness and mental development and the functioning of the senses. It helps in developing social traits such as discipline, tolerance, harmony and demonstrating peaceful behavior. It also provides entertainment. Moreover, it develops the ability to work efficiently.

#### A. Attention

This is a command to be in a state of readiness before taking any action. In this position, we stand up straight and put the heels of both feet together and keep our toes at an angle of 30 degrees so that it makes a V shape. The knees and chest are stretched and both hands are attached to the body below the elbows and loose fists are placed next to the hips. While doing this, the body weight should be equalized on both legs and there should be; chin up, chest out, shoulders back, stomach in and mouth closed.

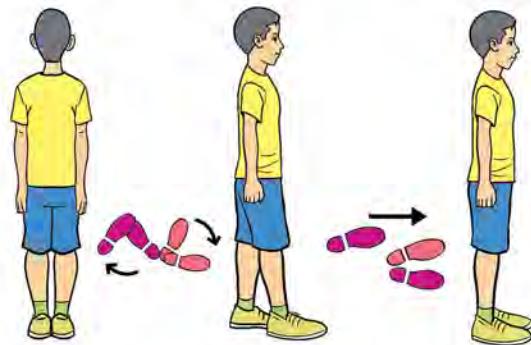


## B. Stand at ease

Upon receiving this command, we lift our left leg 15 to 20 cm and place it approximately 25 to 30 cm from the right foot. We move our right and left hands backwards, put our right hand on top of our left hand and cross the thumbs together. Straightening the body, we inflate the chest and look straight ahead.

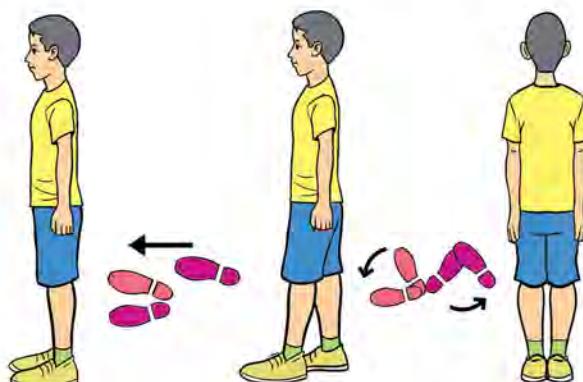
## C. Right Turn

In this command, the feet and the body are turned to the right and the left foot is brought forward. As soon as we receive this command, we return to a 90 degree angle standing on the heel of the right leg and the toe of the left leg. At the same time, we lift the right leg up (right knee bend 15cm) and then touch the ankle of the left leg.

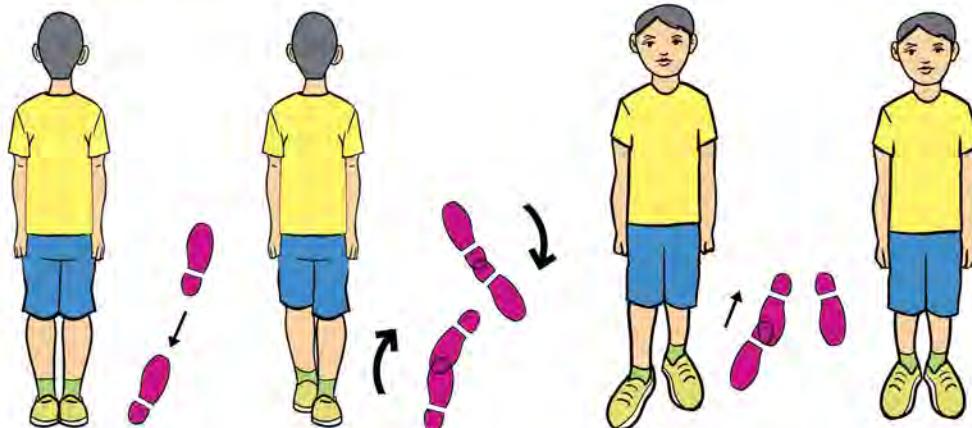


## D. Left Turn

In this command, the feet and body are turned to the left and the right foot is brought forward. As soon as we receive this command, we return to a 90 degree angle standing on the heel of the left leg and the toe of the right leg. At the same time, we lift the left leg up (left knee bend 15cm) and then touch the ankle of the right leg.



## E. About Turn



As soon as we receive the command 'About Turn', we stand with the toes of the right foot and the heel of the left foot. We rotate the left foot 15 cm at an angle of 180 degrees from the right side and connect it with the right leg, turning in the opposite direction. As per the command given for this activity, we should keep our body in a balanced position.

## F. Mark Time

As soon as we receive the command 'Mark Time', we should raise our left leg and stand on the ground and then our right leg follows it and on the count 1.2, 1.2, we should repeat the same process. After this command, we should raise (about 6 inches) our left leg and stand on the ground in counting 1 and then raise our right leg and place it on the ground in counting 2.

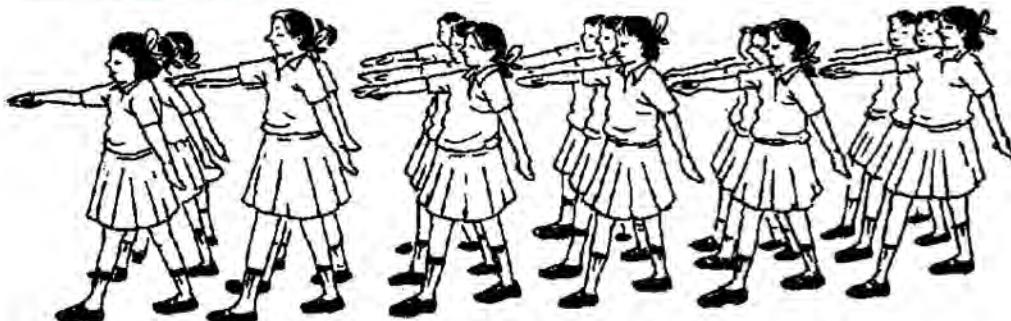


## G. Flag Holding

As soon as we receive the command for holding the flag, we should hold the flag with the left hand about 10 to 12 inches below the right hand. While holding the flag, we should turn our right hands' fingers outwards from the chest and the thumb should be held down and placed in front of the chest. Similarly the fingers of the left hand should be faced inward. Following the

March pass command, we should hold the flag slightly leaning at the stage to honor the guest. Once the honor is over, we should raise the flag again after the command for forward march.

#### H. Forward March



In this command we move forward from the attention position or the mark time position. First of all, we move forward by lifting our left leg coordinating our hands and feet. When the left foot is in front, the right hand should be in front and when the right foot is in front, the left hand should be in front. Finally, after receiving the command of "Halt", we stand on the right foot following three steps; check by right leg, count 1 by left leg and count 2 by right leg.

#### I. Eyes Right

While practising the Drills, the commander gives us a command to look right in front of the chief guest and the guests as we move forward. In this command, we turn our head to the right and look right and move forward at the same position till we get the next command. In this state we should not move our hands.

#### J. Eyes Front

As we move forward at the right eye position, the command is given to return to the normal position after passing the designated area of the chief guest. As soon as we receive this command, we move forwards with our heads straight and moving our hands and legs as before.

## K. Disperse and dismiss

Disperse command is given when the group needs rest for some time. Upon receiving this command, we turn right, one step to the right and three steps forward, and move in different directions and take rest. After the command 'Dismiss', the drills activities are formally over. As soon as you receive the command 'Dismiss', we turn to the right, halt for 3 seconds. Then we salute and take 3 steps forward and dismiss.

### Activity 6.7

First of all, practise a warm up exercise. Then practise the commands of the Drills to the rhythm of counting or music/drum/madal as instructed by the teacher.

### Exercise

#### Answer the following questions

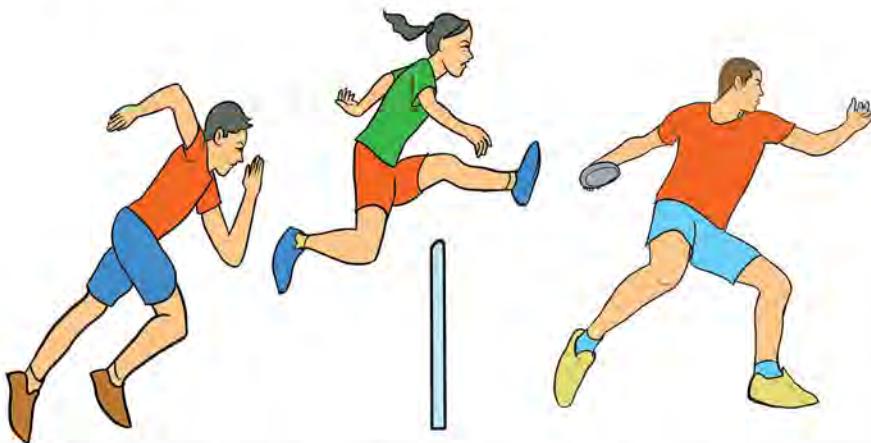
1. What do you mean by physical training?
2. Why do we need warm up exercise before practising physical training? Give any three reasons.
3. Mention the ways to exercise your feet and ankles.
4. What are the things to be considered when exercising your legs, knees, and thighs? Write down.
5. "Drills develop discipline and social qualities". Justify this statement.
6. Make a list of the commands you have practised in the classroom.

# Athletics and Adventurous Activities

# 7

## 7.1 Introduction to athletics and adventure activities

With the development of human life, people have been involved in running, jumping and throwing. Walking, running, jumping, and throwing activities are done by creating motion in coordination of nerves and muscles. The integrated form of such activities is called athletics. It is also called track and field as running and walking activities are performed on the track and jumping and throwing activities are performed in the field. Human beings perform such basic and natural physical activities for subsistence and self-defense.



We go hiking in the mountains, go to the jungle/safaris, and swim in rivers. Adventure activities are the most complex and difficult physical activities which are not performed generally by all people in their daily life. Such activities require high morale, strength, endurance, flexibility, coordination, and balance. Walking in the forest, climbing mountains, and hills, crossing rivers are the examples of adventure activities.

### **7.1.1 Middle distance running**

Middle distance running includes 800 to 1500 metres run. Middle distance running can be started in standing start. It is started from a curve. However, 800 m is sometimes run with a Crouch start.

Oxygen must be balanced to produce energy in the body for this running. So, these runs fall under aerobic activity. Athletes need speed, pace, strength, endurance, etc. to run a middle distance running. We should pay special attention to the reaction time, knee and hand position while running. Athletes need continue training and practise to develop such abilities. Circuit and interval training can be conducted to develop such abilities.

#### ***Activity 7.1***

First of all, perform a warm-up exercise. After the warm-up exercise, make a circle with a radius of 5 metres on the track or in the school's ground if available. With the teacher's help, choose different circuit training activities (skipping, sit up, dumbbell curling, khee life, squat thrust, jumping and touching the wall, taking turns kneeling and touching the chest). Then practise the activity in a station as fast as you can for 30 seconds and then take a rest for a while (about 45 seconds), then go to the next station and do the activities there for 30 seconds, in turn perform all the activities of all the stations.

#### ***Activity 7.2***

First of all, do a warm up exercise. Then run on the school's ground or track. If you feel difficulty, take a rest for a while. While practising middle distance running, practise it at low, medium, and high speeds.

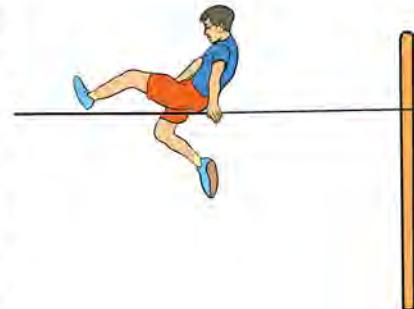
### **7.1.2 Skill of high jump**

The activity trying to reach the maximum height above the ground level is called high jump. This event is performed using

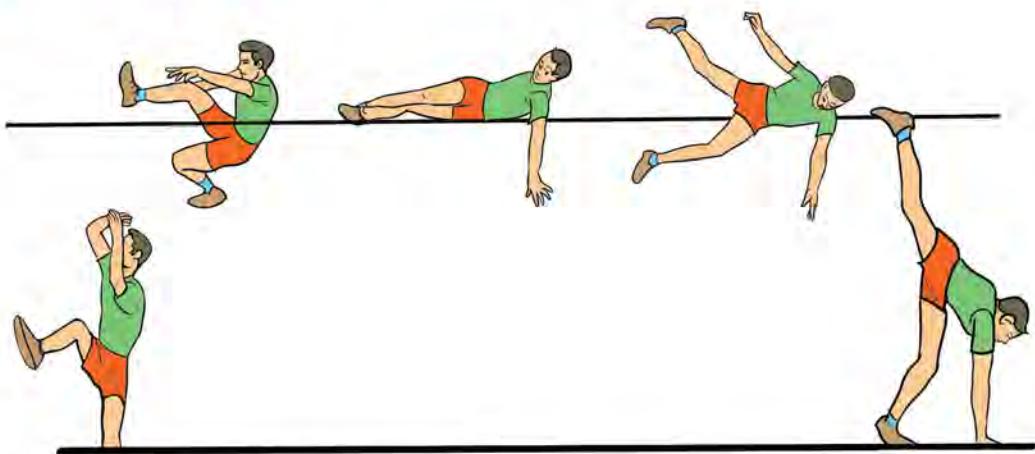
skills like approach, take off, clearance and landing. The landing area should be filled with suitable mat or sand. Here we practise the Eastern Cut-off and Western Roll style of high jump.

### A. Eastern Cut-off style

Eastern cut off style is one of the ways to do high jump. This is a modified version of the scissor cut style. When doing a high jump in this way, the players have to cross the bar turning the body forward and keeping the arms and legs parallel as shown in the picture.



### B. Western roll style



To perform western roll method in high jump, we have to start the approach run by making an angle of 30-40 degrees. Then, after taking off, we have to cross the bar by making our body horizontal and keeping the left or right hand above the cross bar as shown in the picture. While crossing the cross bar, our back of the body should be placed on the landing area and face on the opposite of the landing area.

## **Skills of high jump**

### **A. Approach**

The approach is an act of running the prescribed distance in different positions to reach to take off. The approach run is done with only about seven steps.

### **B. Take-off**

Take-off is an act of lifting the body by pushing the left or right foot on the ground with force to jump up after the approach run. When taking off, the weight of the body falls on the leg which takes steps for take-off and that helps to lift the body up.

### **C. Clearance**

The clearance is an act of crossing the cross bar reaching the maximum height after taking off. The way of clearance varies according to styles or methods.

### **D. Landing**

The act of landing safely on the mat or pit after crossing the cross bar is called landing. We can also perform landing with the shoulders or back according to the method of high jump.

### ***Activity 7.3***

First of all, practise a warm-up exercise. Then practise the high jump with the Eastern Cut Up and Western Roll method by making a suitable place for high jump with the necessary materials in the school's ground. Seek the help of a teacher if you have any problems while practising.

### **7.1.3 Shot put**

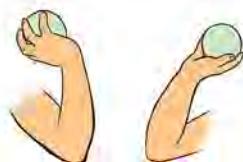
The event of throwing a round object made of a mixture of iron or other metals by pushing it from above the shoulder, holding it with the fingers from a circle made in a radius of 1.07 metres is called Shot put.

## A. Holding

Holding is the first basic skill of Shot put. The act of holding the shot is called shot put holding. Players must first hold the shot properly in order to perform well in the shot put event. As shown in the picture, players should hold the shot between the thumb and the other finger of the hand.

## B. Stance

When a player enters the ring holding a shot, the position of the front foot resting fully on the ground and supporting the other leg to balance the body is called stance. In this stage, the shot should be held above the chin.



## C. Gliding

Athletes glide by gently tilting the body across one leg and gently dragging the other leg to create motion in the shot put ring. The main purpose of gliding is to create movement in the body.



## D. Throwing

The act of throwing a shot with all one's strength along with gliding is called throwing in shot put event. While throwing the shot put, players are allowed to take support from the front of the stop board with one foot and move above it, but they must not touch the stop board.

## E. Reverse

A reverse is a skill of turning in the opposite direction immediately after the player throws the shot to keep the body in balance and prevent the foot from touching the stop broad. This prevents players from being disqualified.

## **Activity 7.4**

First of all, perform warm-up activities properly. Then take turns practising the basic skills of Shot put in the Shot put ring. In case of any problem occurring while practising, seek the help of the teacher.

### **7.1.4 Relay running**

A relay run is an event of running a prescribed distance by handing over a baton to the teammate. Generally,  $100 \times 4$  meter and  $400 \times 4$  metre relay runs are organized. In the  $100 \times 4$  meter relay, each runner has to run a distance of 100 metres and handover the baton to his/her teammate. In the  $400 \times 4$  meter relay race, each runner must run a distance of 400 metres and pass the baton to his/her teammate. An area of 20 metres is maintained for giving and taking a baton. Its practise helps to develop a sense of competition and team spirit among the players.



### **7.1.5 Jumping relay**

The practise of jumping relay games helps players to develop running, jumping, and agility. In order to practise this game, each player has to cover a certain distance. After crossing the prescribed distance, we should sit overturned. After that, the second player has to run and cross the prescribed distance crossing the overturned player by jumping. In the same way, the game can be practised in such a way that other players run, jump and cross their friends.

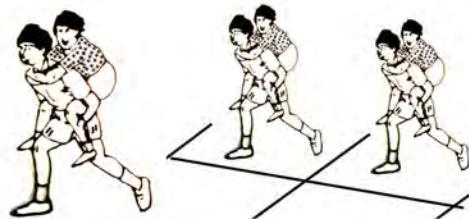
## **Activity 7.5**

Be divided everyone into four equal groups. Mark the area where each group will be running and sitting overturned for the jumping relay. Then the foremost player of the line should

run the prescribed distance, and sit overturned on his/her hands and knees on the floor. Then the second player should run and cross the friend who is sitting overturned on his knees. Practise a jumping relay game turn by turn.

### B. Relay carrying friends

To practise this game, we should pair the players/students with matching heights, weights and genders. As soon as you get the signal, run the prescribed distance by carrying one of your friends standing on the file. Then the second pair should run the prescribed distance by carrying the friend in the same way as the first pair. Similarly, all the pairs should complete the game by crossing the prescribed distance.



### 7.2 Adventure activities in water and jungle



We generally use rivers and lakes for swimming, rafting and diving in the waves. Activities like swimming, rafting, jungle safari, hiking etc. are called adventure activities in water and forest. Participating in this type of activity requires the help of a skilled trainer. We must follow the necessary safety measures. Participants should be careful and cautious as such activities can lead to accidents if they are not careful.

## Possibility of adventurous activities on water in Nepal

There is a huge potential for adventure activities in water in Nepal. Rara Lake, Phewa Lake, Tilicho Lake, Begnas Lake, Sephoksundo Lake, ponds, and waterfalls are also places with great potential for adventure activities in the water. Various businessmen in Nepal have run rafting business in Karnali, Narayani, Trishuli and Seti rivers. Adventurous activities can be promoted if local governments manage with proper planning. From this, we can also promote sports tourism, economic and social development.

### Activity 7.6

Discuss with your parents and neighborhood leaders about the potential for adventure activities in the water in your community and present the findings obtained in the classroom.

### Exercise

#### Answer the followings questions

1. What is athletics? Write down with examples.
2. What are the races under the middle distance running?
3. Describe any one way of performing a high jump.
4. What are the materials required for Shot put. Write down.
5. What adventurous activities can be done at your community and local level? Inquire and make a list.

# Games

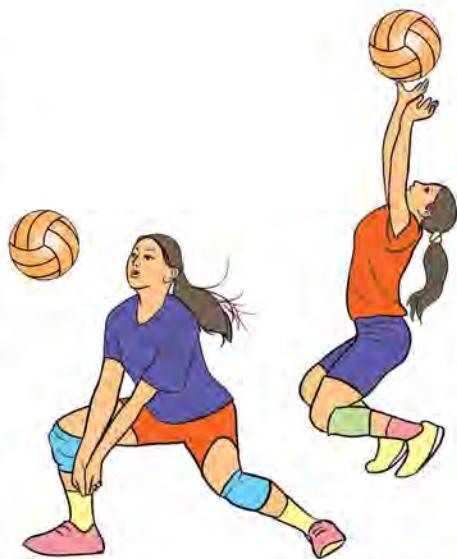
# 8

## 8.1 Volleyball

Volleyball is the national game of Nepal. A rectangular court 9 metres wide and 18 metres long is required to play this game. This game is played in two groups of 6-6 players by hanging a net in the middle of the court without allowing the ball to fall to the ground. This game starts with service. We have to pass three times by throwing the ball served by the opponent and drop it from the net towards the serving side. The team which can drop the ball onto the opponents' court obtains a score and gets a chance to serve. In the same way, the opponent can also score a point and get a chance to serve if your team hits the ball out of the outlined section and gets foul. Each game is played with 25 points. The team that wins three out of five sets wins the game. If the scores reach 24-24 then the game is played until one team leads by two.

### A. Raising and setting

In volleyball raising or setting is the way to pass the ball to a spiker by making it easy to spike. In volleyball, a spiker can strike the ball raised by the setter or raiser forcefully toward the court of opponents' side. This helps us to get more points. The ball coming from your team or the ball that accidentally comes close to the net from the opponent's court



should be lifted to reach the net to spikier of your side. If the setter or raiser is skillful, the game becomes more interesting and competitive.

### **Activity 8.1**

Let us stand in the file behind the attack line. Let us stand one of you on the side of the net by turning your back and the next one should stand in the spiking area. Teacher or team leader should pass the ball to the student standing in the first row of the file. The person who receives the ball should pass the ball to the person standing on the side of the net turning his/her back and then you should go and stand in the place of the person standing near the net. Person standing with his/her back to the net should pass the ball to a friend standing in the spike area so that he/she can spike the ball. A friend from the spike area should pass the ball to the person standing in the first row of the file and then he/she should go and stand at the end of the file. Keep continuing this practise.

### **B. Spiking**

Spikier plays an important role in the volleyball team. This is an important offensive skill. Spiking is an act of striking the ball forcefully toward the opponents' court by spikier jumping from the attract area. A person who spikes volleyball is called a spikier. In order to spike, you have to follow the steps; approach, take off, jump, and hit the ball and land as shown in the picture.



### **8.2 Football**

Football is one of the most popular games in the world. This game is also known as soccer in some countries. The football

game is played in a group of 11/11 players. This game is played in two phases of 45-45 minutes. There is an interval of 10 minutes between these two phases. In this game players use foot and head to hit the ball.



### A. Kicking

In football, kicking skill is used to direct the ball in a certain direction, pass to friends and score goals. Kicking can be done using various techniques such as inside kick, instep kick, free kick, goal kick, penalty kick and corner kick.

#### a. Rolling kick

Rolling kick is the act of hitting the ball to roll on the field while playing a football game. In this kick we should hit on the middle part of the ball by the inside or tip of the foot.

#### b. High kick

In a football game, the act of hitting the ball in the air is called high kick. To kick the ball, we have to hit it from the tip or inside of the foot.

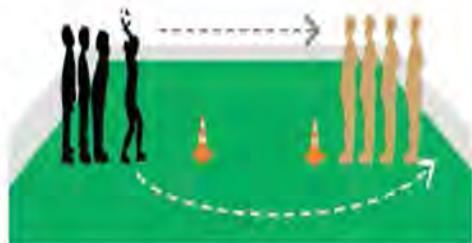
### Activity 8.2

After doing the warm up exercise, make two groups of equal number. In the first step, kick the ball low with your feet as shown in the picture. In the second stage, kick the ball high and go and stand at the end of the file. The next group also should practise the same kicking skill by controlling the ball in turns.



## B. Throw-in

In football, the skill of throwing the ball that has gone out, into the ground from the sidelines to restart the game is called throw in. For this, the player should throw the ball with hands, keeping the ball on the head and lifting the legs without touching the sidelines.



### Activity 8.3

First of all, do a warm-up activity properly. Then make two groups in equal numbers. As shown in the picture, throw the ball with both hands and stand at the end of the file. Practise throw-in skill turn by turn.

## C. Heading

In football, the act of hitting the ball coming above the head with the head is called heading. While heading, as soon as the ball comes in contact with the head, we should push forward with a little bit of our strength. But, during the trapping, we should try to lower the ball to the ground by bowing our head. It takes a lot of practise to become perfect in heading skills.



## D. Goalkeeping

Goalkeeping is a defensive skill used to prevent football from entering the goal post during the game. Blocking, punching, grabbing, etc. skills are used to prevent football from entering into the goal post.



### **Activity 8.4**

After a warm-up exercise, stand in a semicircular line. One of the students of the group should throw the ball from the front to reach above the knees. Hold the ball coming from the other side with both hands joining little fingers and bring the ball to the chest. Keep continuing this practise in turns.

### **Activity 8.5**

Make four equal groups and stand in the line by maintaining four to five metres distance. Try to catch the ball coming from group 'A' by the student standing in the first row of group 'B', looking at the situation, punching and diving to stop the ball. Once you hold the ball, give it to the friend behind you and then go and stand at the end of the line. The student receiving the ball should kick it and send it to group 'A'. The student in the first row of group 'A' should try to stop the ball by grabbing, punching, and diving as did by group 'B'.

### **Activity 8.6**

Practise the basic skills of football with your classmates over and over again. If you encounter any difficulties while practising, seek the help of a sports teacher.

## **8.3 Basketball**

Basketball is a game played between two groups of five players on a rectangular court by shooting the ball into the opponent's basket. This game is played in four stages of 10-10 minutes. The group that gets the more points in 40 minutes wins the game.

### **A. Pivoting**

Pivoting is a skill of holding the ball with both hands and controlling it, keeping one foot like a pivot and moving the other foot forward, backward, right and left. This skill is



used when you have to move toward the opponent's court with dribbling or if the ball is under your control. In this situation, the players of the opposing team try to block you from close range. In such a case, you can pass the ball safely to your friend by controlling it.

## B. Shooting

In a basketball game, shooting is an act of throwing a ball into a basket. There are different types of shooting. Depending on the situation, 1 or 2 or 3 points can be obtained by inserting the ball into the basket. 1, 2 and 3 points are obtained in case of free shot, shooting from 3 point circle and shooting from outside 3 point circle respectively. Shooting can be done in different ways.

### a. Set shot

Set shot is an act of shooting with full preparation during a basketball game when there is no obstruction from the opponent. This shot can be made from anywhere inside or outside the three point circle.



### Activity 8.7

After performing the warm-up exercise, stand in the file 8-10 feet away from the ring of the basketball court. Practise set shot skill alternately as shown in the picture.

### b. Jump shot

In a basketball game, a jump shot is made when the opponent's players are in front and the shot has to be made from above the opponent. Jump shot can also be done by tricking the opponent and moving one step left and right. To practise jump shots, you have to jump to release the ball by pushing it forward.

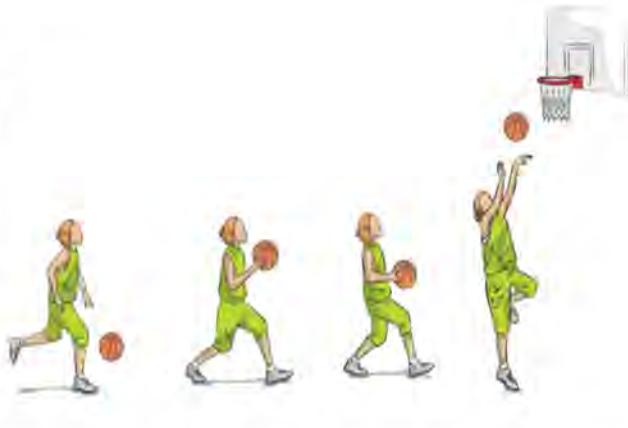
### **Activity 8.8**

After doing the warm-up exercise, stand in the file 8-10 feet away from the ring of the basketball court. Practise jump shot to insert the ball into the basket alternately as shown in the picture.



#### **c. Lay-up shot**

The most commonly used skill in shooting in a basketball game is lay-up shot. To execute a lay-up, dribble the ball towards the basket and hold the ball with both hands in the air and bring the ball up above your head, take two steps extending the arm, and then flick the wrist to guide the basketball into the hoop. Most players use this shot to score faster.



#### **d. Free shot**

In this game, the players of the offensive side are given the opportunity to make a free shot if the defending player fouls individually. The team receives 1 point for each successful free shot. No one is allowed to interfere while shooting the ball by using this style.

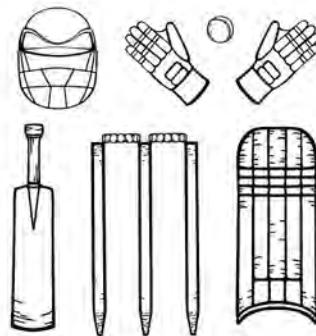


### **Activity 8.9**

Go to the basketball court and practise shooting skills. Contact the teacher if there are any problems during the practise.

## 8.4 Cricket

Cricket is a game played by bowling and batting between 11 players in an oval-shaped ground. The 2.64 metres wide and 20.12 metres long pitch is made in the middle of the ground. Three stumps like wooden sticks are placed on both sides of the pitch.



### A. Batting

In this game, the skill of hitting, rolling, or blocking the ball bowled by the opponents according to the position of the ball by the batsman is called batting. Depending on the situation, batting can be done defensively and offensively. Players generally use offensive strategy in short over games. Defensive batting is generally practised in one day and tests games. Players need the following skills for batting.

#### a. Grip

Grip is the most basic skill of the cricket game. Grip is the act of catching the bat rightly by the batsman. The strong and appropriate grip is required to push the ball farther and add runs.

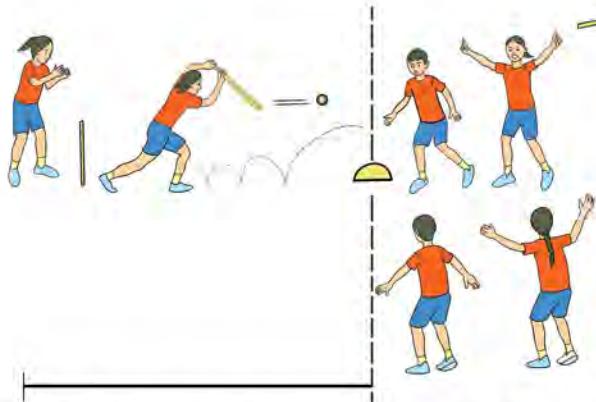
#### b. Stance

In this game, stance is a ready position of the batsman to bat the ball by concentrating on the direction the ball is coming. Stance helps to balance the body, helps the ball to bat harder, and makes it easier to run.



#### c. Shot/drive

Depending on the situation; direction, speed, and height of the ball players shoot or drive the bowled ball. In a cricket game, straight drive, cover drive, square drive, on drive,



off drive, hook shot, pull shot, late cut shot etc. are used.

## B. Bowling

Bowling is an act of throwing the ball forcefully from the designated area towards the batting area. Run-ups or approach races play an important role in bowling properly. Bowling can usually be done in two ways in a cricket game.

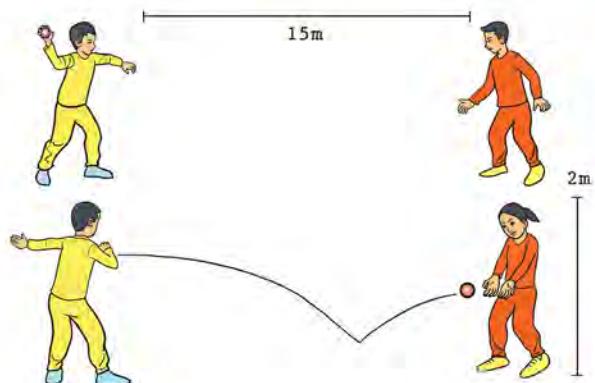
### a. Fast bowling

The act of throwing the ball by running at high speed by a bowler from the bowling alley is called fast bowling. For this skill, the players should have fast speed, proper physical fitness, strong shoulders, and arms. Batsmen are more likely to get out in fast bowling.



### Activity 8.10

Be divided into two equal groups after the warm-up exercise. Practise bowling turn by turn as shown in the picture.



## b. Spin Bowling

Spin bowling is a bowling technique in cricket, in which the ball is delivered slowly but with the potential to deviate sharply after bouncing. Spin bowling can be performed in two ways by twisting the ball from the wrist and from the finger. For this, there should be proper coordination of strength, speed, endurance, etc. of the shoulders and arms of the players.

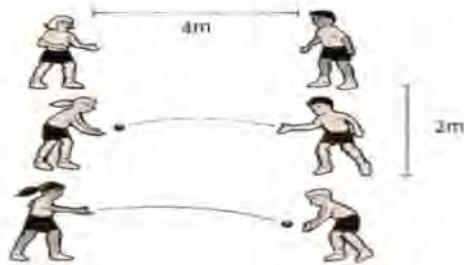
## C. Fielding

Fielding is the action of fielders in collecting the ball after it is struck by the batsman, to limit the number of runs that the batsman scores and/or to get the batsman out by catching the ball in flight or by running the batsman out. The game is played in three ways: defensive, offensive, and close fielding. Excellent bowling and fielding make it difficult for batsmen to score many runs.



### Activity 8.11

After proper warm up exercise, make two groups of equal numbers. Practise throwing and catching the ball alternately as shown in the picture.



## 8.5 Kabaddi

The game is played between two groups of seven players. One group is called Raider and the other group is called Anti Raider. In this game, the team that gets more points within the allotted time wins. Strength, endurance, physical fitness, and agility will be well developed among the players.

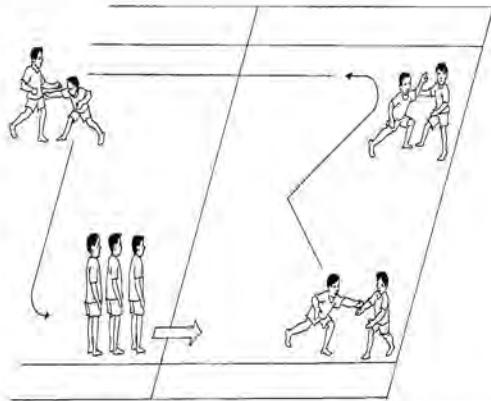
## A. Dodging/ Deceiving

In a Kabaddi game, the skill of the raider to act as if he/she has

touched one side but to touch the other side, or to act as if he/she has attacked on one side but to attack on the other side is the skill of dodging. The skill of deceiving is also called dodging in Kabaddi.

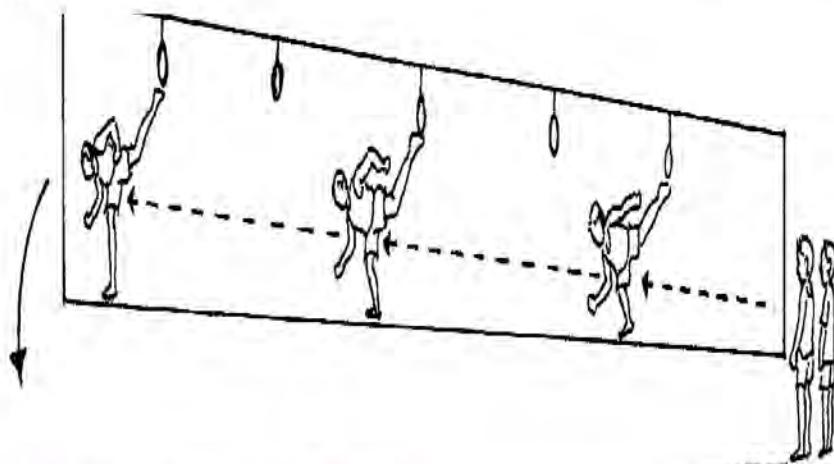
### **Activity 8.12**

After doing the warm up exercise properly, three of you should stand in the three corners of the kabaddi court. The rest of the players should stand in the file. Initially, the first student of the file should try to touch a friend in front of the court by chanting; kabaddi, kabaddi. Then try to touch the friend in the next corner and finally the third one. Then go and stand behind the file. The second, third and fourth students should also practise this in turns.



### **B. Practise of Kicking**

While playing the Kabaddi game, the raider kicks in a convenient direction like a horse kicks back. While raiding, the raider uses roll kick, front kick, back kick or side kick etc. depending on the situation.

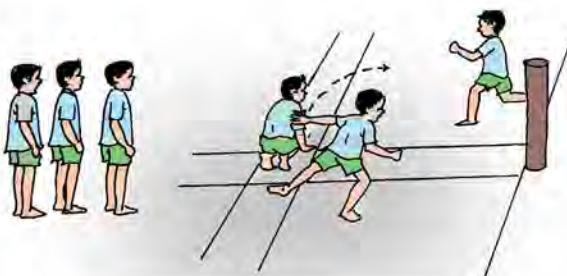


### **Activity 8.13**

Place two poles of 6-7 metres in the school playground and hang a rope. Make bundles/bags of different items and hang them in the middle. All the students should stand on the side of the pole in file. You should move forward one by one by chanting; kabaddi kabaddi, and kick the hanging bags and then when you reach the other side, run and stand behind the line.

### **8.6 Kho-kho**

A game played between two groups as a runner and a chaser for a specified period of time is called a kho-kho game. To start the game, eight players from the chasing group must sit in the opposite direction, one after the other, in a square drawn in the middle of the field. Similarly, an active chaser should be standing near a wooden pole. Runners should be divided into three groups. Runners can run anywhere inside the court during the game. Chasers, on the other hand, are not allowed to cross the central lane and change direction.



#### **A. Sitting on the square**

In a Kho-kho game, players can sit on the square in two ways; bunch or bullet method and parallel toe method. While sitting on a square with a Bunch or Bullet method, as shown in the picture, one leg should be bent completely from one side of the square to the middle and the other leg is supported only by the fist and both hands should be placed outside the central lane. In the same way, in the parallel toe method, both the knees should be held together and both hands should be kept in the same way as in the bunch method.

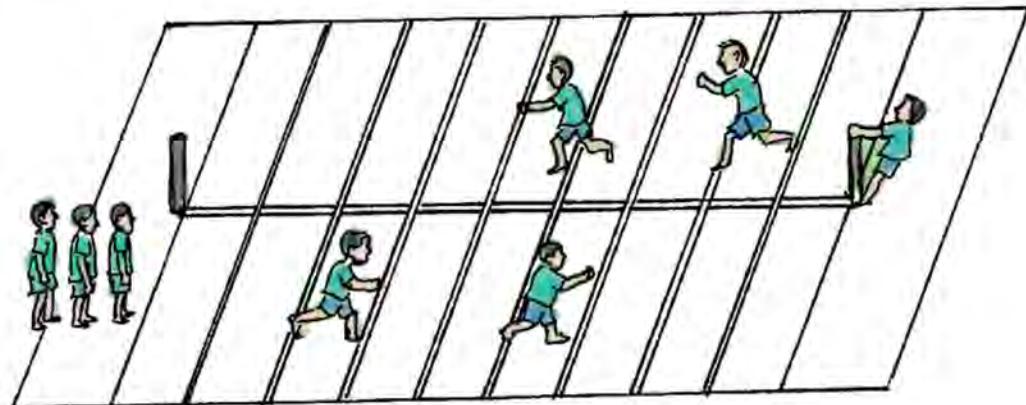
## B. Giving kho

In the course of chasing in a kho kho game if the runners cross the center lane and go to the other side, the active chaser should give kho immediately to the nearby passive chaser. After giving kho, the passive chaser becomes the active chaser. After giving the kho active chaser should sit in the place of the passive chaser. Kho can be given in various ways like simple kho, early kho, late kho, fake kho etc.



### Activity 8.14

Practise the warm-up exercise properly. Make two groups of nine students. Chasers should sit on the field as per the rules. The rest of the students should line up on one side. At first, a student standing on the first row of the file should run and give the kho to the friend sitting nearby the pole. Students who received kho should give early kho to their nearest friend. Similarly, as soon as the eighth student sitting on the square gets kho, should get up and turn the pole by holding it and then go and stand behind the file.



### C. Get up from the square and taking the direction

In this game, once the passive chaser gets kho he/she should immediately get up from the square by covering the cross lane and try to touch the runner. After getting up from the square, the active chaser should determine the direction. It depends on the runner's strategy where to go after getting up from the square.

### D. Running

In this game, runners run to avoid being touched. The chaser can touch runners in any situation if the runners do not run properly. So, the runner can run by making a single running chain and a circular line as shown in the picture.

#### **Activity 8.15**

Practise the basic skills of kabaddi and kho kho in groups. Contact the teacher if you encounter any problems during practise.

### **Exercise**

#### **Answer the following questions.**

1. What is setting and spiking in a volleyball game?
2. What are the basic skills of a football game?
3. How can we get points in a basketball game?
4. Introduce the basic skills of cricket such as bowling, batting and fielding.
5. How do we practise kabaddi in court?
6. How can we practise the Kho-kho game between two groups on the court?

## Yoga

9

### 9.1 Introduction to Yoga

Yoga is a combination of physical, mental, social and spiritual aspects. Yoga includes exercise, asana and pranayama. It makes the human body healthy, fit and strong. It helps to manage stress and awaken spirituality. Similarly, Nadi, swor-bigyan, components of Ashtanga Yoga, Chakra Shakti Kendras, Kundalini etc. are its other aspects. In order to practise yoga, one should know the methods, environment, caution, advantages, and disadvantages of yoga. Necessary rules should be followed while practising yoga regularly.

#### A. Pratyahara

Pratyahara is the fifth component of Ashtanga Yoga. Its practise makes the senses restrained. A person who keeps his senses under control becomes disciplined, honest, and gifted. If we are able to control our senses, we can develop good habits and behavior. Lifestyle is also systematic. It leads to the path of righteousness with positive thinking.

#### Activity 9.1

After reading the following paragraph, discuss in the class

Eating habits also determine our health. A healthy diet helps us stay healthy. As soon as you wake up in the morning, you should drink clean or boiled water kept in a copper vessel. Whenever possible we should eat fresh and clean fruits, vegetables and nutritious food produced ourselves. When eating food, it should be chewed well. It is better to drink water only 40-50 minutes

before meals and 25-30 minutes after meals. Pure fresh fruits, seasonal vegetables, and non-spicy foods are healthy foods. The normal diet is considered to be the best diet. A healthy diet increases a person's lifespan, intelligence, strength, health and happiness. Fish, starchy and fried foods, beverages, and packaged foods are considered Tamasik foods. According to Yoga science, such diets are considered harmful to health. Practising yoga brings balance and purity in one's diet. Purification of food helps to purify the body and mind and then the senses remain under control. In addition, it helps to increase concentration and memory power.

- What are the things to be considered while eating foods?
- Why is Satwik (healthy) food considered good for health?

## 9.2 Practise of micro Yoga

The basic activities of yoga practise are micro activities or micro yoga. Before practising yoga, micro yoga should be done to bring the body in a state of readiness or to warm the body. It brings physical flexibility and prepares the body for yoga. While doing micro yoga, you should pay attention to the following things:

- Sit on a vajrasana with the chest, neck and head straight, and the mouth closed, turn the face slightly towards the sky and open the mouth.
- Let us breathe and exhale short and fast so that both nostrils produce a melodious sound.
- Widen the eyes slowly and try to rotate the eyeball from the back and sides.
- Practise looking straight down, up, right and left, and blinking and opening your eyes.
- Grasp the earlobe with fingers of both hands alternately and lightly pull and shake.

- f. Grasp the base of the nose with thumb and middle finger, creating pressure, bringing the finger to the tip of the nose and releasing it with a jerk.
- g. Try to laugh forcefully with the lips closed and stretching the lips from left to right.
- h. Finally, shake the hands and hips and then stroke the legs slightly.

### 9.3 Pranayama

Pranayama is an act of Purak (breathing), Kumbhaka (holding breath) and Rechaka (exhaling). The entry of oxygen into the body is inhaling and the coming out of that air is exhaling. Closing the movement of Gamanagaman is a symptom of Pranayama. Pranayama means also the act of bringing the life force in the body to our control. Examples of pranayama are Nadishodhan, Anulom Vilom, Bhastrika, Ujjayi, Bhramari, Suryabhedi, Chandrabhedi, Sheetali, Sitkari, Muchcha, Kevali etc.

#### A. Kapalbhati



Kapalbhati is an act of cleansing the internal body. This is done by exhaling at the rate of one stroke per second. Kapalbhati increases the function of the lungs. It helps to clean mucus and cough in the respiratory tract. It also helps to keep the nervous system, circulatory system and digestive system healthy. People with heart disease, hernia, asthma, etc. should not do this. We should not practise this activity even if we are feeling dizzy.

## **Activity 9.2**

- a. Sit upright in a comfortable meditation posture.
- b. Sit with both hands on your knees and your body and back straight as shown in the picture.
- c. Exhale forcefully through both nostrils.
- d. When the breath is exhaled, the stomach shrinks inwards and when the stomach is restored, the breath fills in the lungs by itself.
- e. Practise this continuously for about one minute in the beginning and then for three minutes and then rest for one minute.
- f. It is considered good to practise this exercise for 10 minutes. Do not practise it for 10 minutes at a time. The time period should be gradually increased.

## **9.4 Yogasana**

Asanas are practical yoga. Ashtanga yoga considers asana to be the third organ. Hatha yoga involves getting up, sitting, lying on our stomach and sleeping on our spine.

### **9.4.1 Pawan muktasana (Gas release pose)**



Pawan muktasana is the practise of sleeping on the back, bending the legs alternately from the knees, holding the knees with both hands and bringing the legs to the chest. This posture can be practised by all age groups; children, young and old.

### **Activity 9.3**

- a. Sleep with your legs straight on the mat, lying on your back.
- b. Try to bring the right leg up to the chest with both hands as shown in the picture.
- c. While doing this, exhale completely through the nose and slowly straighten the legs.
- d. After resting for some time, try to bring the right leg up to the chest with both hands.
- e. Practise daily 3-4 times initially and gradually 8-10 times daily.

### **Caution**

- a. It should not be practised during menstruation.
- b. In case of problems related to spinal cord and high blood pressure, we should practise only under the guidance of a qualified instructor.

### **Benefits**

- a. Regular practise of this yoga strengthens the abdominal and back muscles.
- b. It is also beneficial to prevent diseases related to the digestive and reproductive system.

### **9.4.2 Matsyasana (Fish Pose)**

The practise of yoga by making fish postures as shown in the picture is called Matsyasana.

### **Activity 9.4**

- a. Sit in Padmasana with both hands behind your back.
- b. As shown in the picture, lie on the ground with your elbows bent and your back to the bed.



- c. In doing so, the back and hips should not touch the ground and the head should be resting on the ground.
- d. Now, first leaning your back on the ground, slowly rise with the help of both elbows and hands.
- e. Practise 3-4 times in the beginning and gradually 8-10 times daily.

### **Activity 9.5**

Practise the Matsyasana by following the above methods.

#### **Caution**

- a. Heart and ulcer patients and pregnant women should not practise this asana.

#### **Benefits**

- b. Regular practise of this asana prevents the problems such as Payals, constipation and also the problems related to reproduction.
- c. It prevents diseases like asthma, tonsillitis etc.

### **9.4.3 Ustrasana (Camel pose)**

Ustrasana is the practise of sitting on one's knees and looking at the sky with both hands trying to touch the heels.



### **Activity 9.6**

- a. Sit on the mat with knees by bending your legs.
- b. Try to hold the feet with both hands, facing the sky as shown in the picture.

- c. In doing so, try to push the abdomen forward, keep the thighs straight, and bend the head and spine as far back as possible.
- d. Hold the weight of the whole body with the feet and hands.
- e. Sit in this position for a while and slowly return to your previous position.
- f. Practise daily 3-4 times initially and gradually up to 8-10 times daily.

### **Caution**

- a. People who are afraid of heights, people with high blood pressure and severe back pain and cervical problems should practise it only under the guidance of an instructor.

### **Benefits**

- b. Regular practise of this asana prevents problems in the digestive system and reproductive system.
- c. It helps to strengthen the nerves and it is beneficial in resolving mouth and throat problems.

### **Exercise**

#### **Answer the following questions.**

- a. Introduce Aahar and Pratyahar.
- b. Why should we practise micro yoga?
- c. Write the benefits of Kapalbhati.
- d. How should we practise Pawan Muktasana?
- e. What are the things to be considered while practising Matsyasana and Ustrasana?

# Introduction to Arts, Line art and Colour

20

## 10.1 Introduction to arts

People show how they feel in many creative ways. Art is the creative works like painting, music, dance, and plays. Art is the beautiful expression of how people think and how their imagination work. Some people use music, others use words, and some use beautiful photos to show how they feel. Objects in our world have size, shape and form. To paint these things is art. So, art is to show a person's inner imagination through form, shape, and depth in a meaningful way.

Art is also a universal language. Art has different meanings at different times and places. Art is sometimes presented as a victory over the enemy, sometimes as an imitation of beauty and sometimes as a sign of the glory and power of a country. Art can speak to people of different times. The understanding of art can also change with time. The sculptures, wood carvings, temples, and old palaces from the past now have different meaning and values to us.

While doing something, there are certain rules to follow. We can only do well at these things if we follow the rules carefully and work hard. Paintings, sculptures, and even music all have specific rules. The rules used in visual arts are called the fundamentals of art. The fundamentals of art include dimension, proportion, balance, rhythm, harmony, perspective and composition.

Line, shape, size, value, space, texture and so on are all important elements of art. Artistic expressions in the visual arts include painting, sculpting, printing and photography.

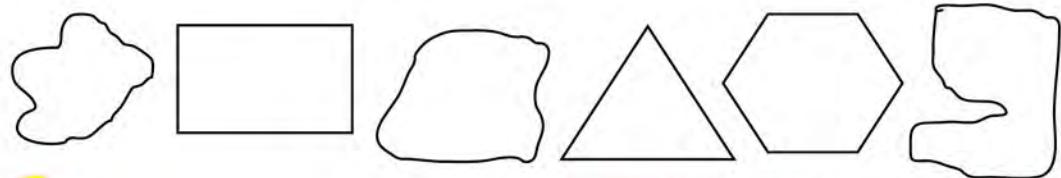
A line is the building block of a drawing. An image is made with lines. Lines can be vertical, horizontal, zigzag, spiral and of other shapes. The art found in Stone Age caves were made up of only lines. Manuscripts and religious paintings have many examples of line drawings. Several of our country's manuscripts also have line drawings.



## 10.2 Shape, Form and Pattern

### Shape

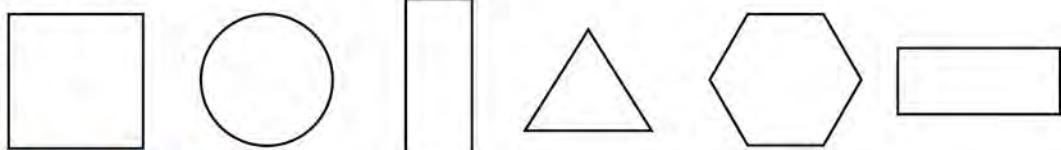
An object has a shape. For example, an object can be square, rectangle, oval, angular or any other shape. The shape is how the object looks in two dimensions. Drawing these shapes help you get better at drawing.



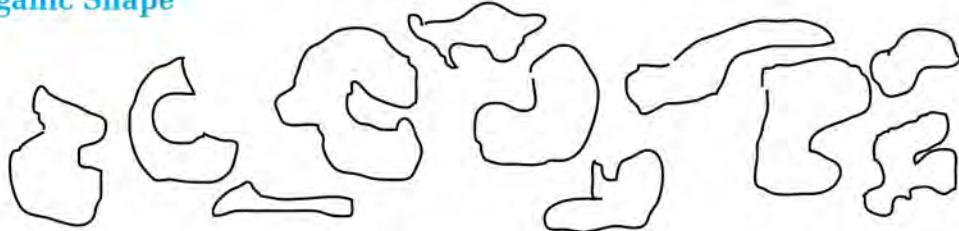
The shape is divided into two types.

### Geometric shape

Triangular, square, rectangular, circular, cylindrical, etc. are all examples of geometric shapes.



### Organic Shape



Organic shapes are any shapes that are not geometric. These shapes don't have names like geometric shapes do.

#### Activity 10.1

*Practise geometric and organic shapes and discuss. Then, draw an object based on these geometric shapes.*

### Form

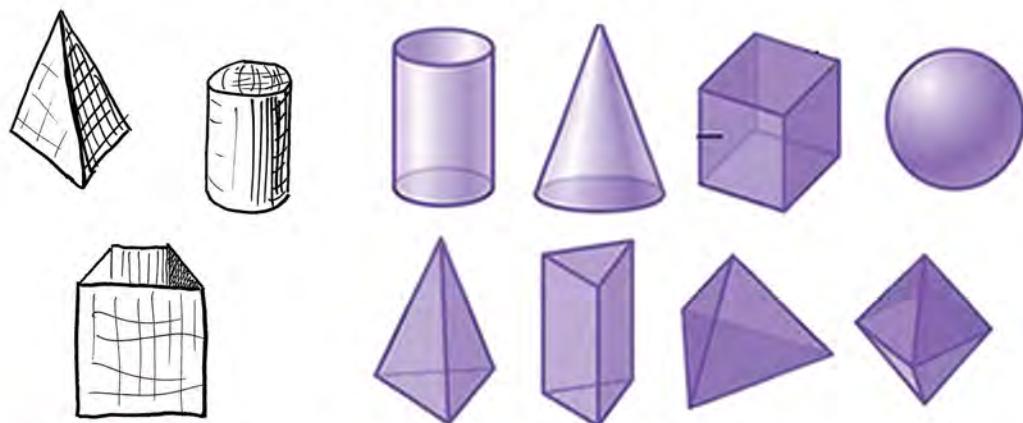
An object has length, breadth and depth. The form is the three-dimensional property of an object. A shape is two-dimensional, while the form is three-dimensional because it also has volume and thickness. The form can be described as the basis of sculpture.



The form can be divided into two types as well.

### Geometric Form

Geometric forms are those shapes that you can make with geometry, like squares, rectangles, circles, cones, cubes, etc.



### Organic Form

Apart from the geometric forms, there are also forms in nature that don't have an exact shape. These forms are called organic forms.



#### Activity 10.2

*Practise the geometric forms mentioned in your textbook.*

*Go outside and find things with different geometric and organic forms. Then, look closely at your favorite form and draw it.*

## Patterns

A shape, image, line, or colour of an object can be repeated to create a pattern. Patterns can be made with shapes, colours and images, as well as with just lines. Patterns can be found on a variety of clothes, handkerchiefs and other items in the market. Patterns keep repeating the same lines, colours and shapes. Patterns are common in Mithila art.



A natural pattern



A pattern in a Maithili painting



A pattern of a fabric

### Activity 10.3

*Look at the pattern on your bedsheets, handkerchiefs, shirts, greeting cards, etc. Then, make a drawing of your favorite pattern and put it on display at school.*

*Look at the patterns on the grass, playground, trees, etc. outside the classroom and talk about them in your class.*

## 10.3 Colour

Light is the source of colour. So, colour is what we see when light hits a surface. When there is light, there is brightness and when there is

brightness, there are colours. We can't tell colours apart when it's dark. We can only see colours when light bounces off a surface. We use paints that look like certain colours when we make art. These paints can be made locally or we get paints made in factories. Locally made colours can be cheaper and easier to find.

There are also many kinds of paints in the market such as watercolour, pastel, poster colour and oil colour. These paints need to be used in a certain way based on the surface we are drawing or painting on.

We can divide colours into three types. Red, yellow and blue are called the primary colours. Orange, purple and green are called secondary colours. When we mix one primary colour with a secondary colour we get a tertiary colour.



### 10.3 Shades and Tints

Black and white play an important role in mixing colours. White is added to a colour to make it lighter while black is added to make it darker. For example, when white is added to blue, it produces light blue. When black is added to blue, we get dark blue. When white is added to any colour, we call it a tint, and when black is added, we call it a shade. The range of tints and shades is called the value of a colour.

**White mixed to make a colour light**



**Black mixed to make a colour dark**



### **Warm colour and cool colour**

Each colour has its qualities and characteristics. Based on how they look and feel, colours are either warm or cool.

#### **Warm colour**

Red, orange and yellow are warm colours. These colours represent energy, heat and coziness. Warm colours give a feeling of happiness and energy.



#### **Cool Colour**

Blue, green and purple are cool colours. These colours have a cold, calming and soothing effect. Cool colours create a calm and peaceful atmosphere.



#### Activity 10.4

**Add white and black to any colour at a time and create its tints and shades.**

**Use warm colours and cool colours in your drawing and display in your classroom.**

### 10.4 Pencil, Crayon, Poster Colour and Pastel Colour

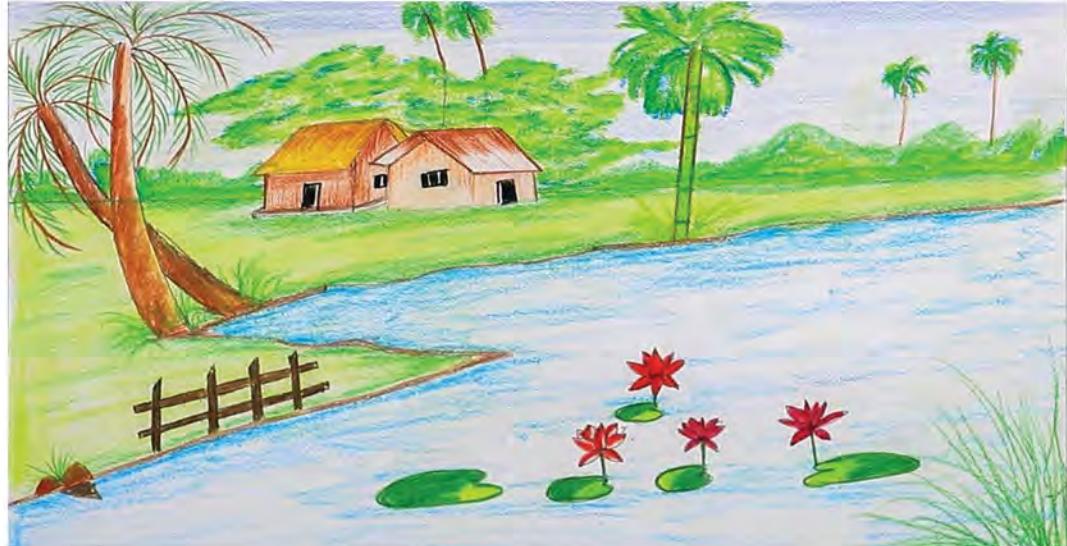
#### Pencil

Pencil is a popular tool because it helps kids learn to write and many use it to draw and make marks. Lead was used by the Greeks and Romans to mark and draw lines. Graphite and clay are used to make pencils these days. People still call it a lead pencil, though. Pencils come in two types: soft and hard. The soft pencil is called B or Black, while the hard pencil is called H or Hard. Soft pencils range from B to 6B and hard pencils go from H to 6H. Pencil we normally use to write are in between hard and black so it is called HB.



pencil drawing

After sketching with a pencil, a shadow can be added. The shadow helps an image look natural. There are many ways of shading, including the block method, hatching, cross-hatching, rubbing, etc. Pencils come in a lot of colours, not just black. One can use these colourful pencils for shading as well. A new kind of colour pencil has colour that dissolves in water so it can be used as a watercolour.



#### Activity 10.5

*Use a soft pencil and a hard pencil to shade a drawing.  
Try drawing various kinds of lines with different pencils.*

*Draw a figure digestive system and colour it.*

*Draw picture to show the steps for washing your hands and fill in the colours.*

## Crayons and Pastel Colour

A crayon is a colourful stick that is used for drawing and painting. Crayons are made of colourful wax or chalk powder. The ancient Egyptians used crayons. Almost every child starts their first drawing with wax crayons because they are softer like wax. Crayons don't fade quickly and it is usually safe. Crayons do not need a medium like water or oil so that students can use them on their own.

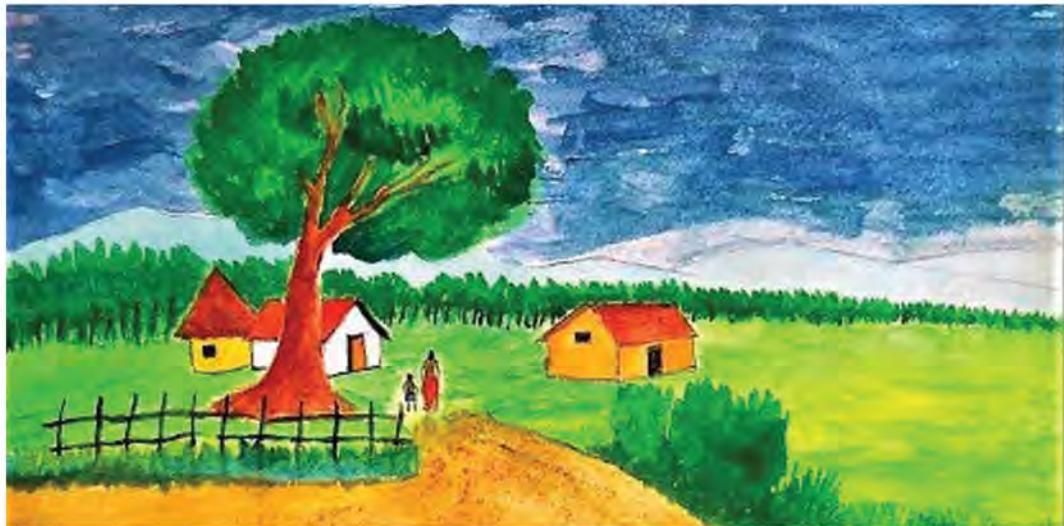


Like crayons, chalk powder can also be mixed with oil. A stick made of chalk powder and oil is called an oil pastel. Chalk dust of different colours is mixed with oil and dried into a stick. Oil pastel is very similar to crayons.



## Poster colour

Chalk powder and glue are mixed to make poster colour. Water is required to paint with it. Designers use poster colour to create different designs. Poster colour, unlike watercolour, needs to be applied thick and opaque. So, white is added to make the colour lighter and black is added to make the colour darker. Students like to use poster colours because they are easy to find and are cheaper. You can use poster colour to make posters, patterns and other kinds of art.

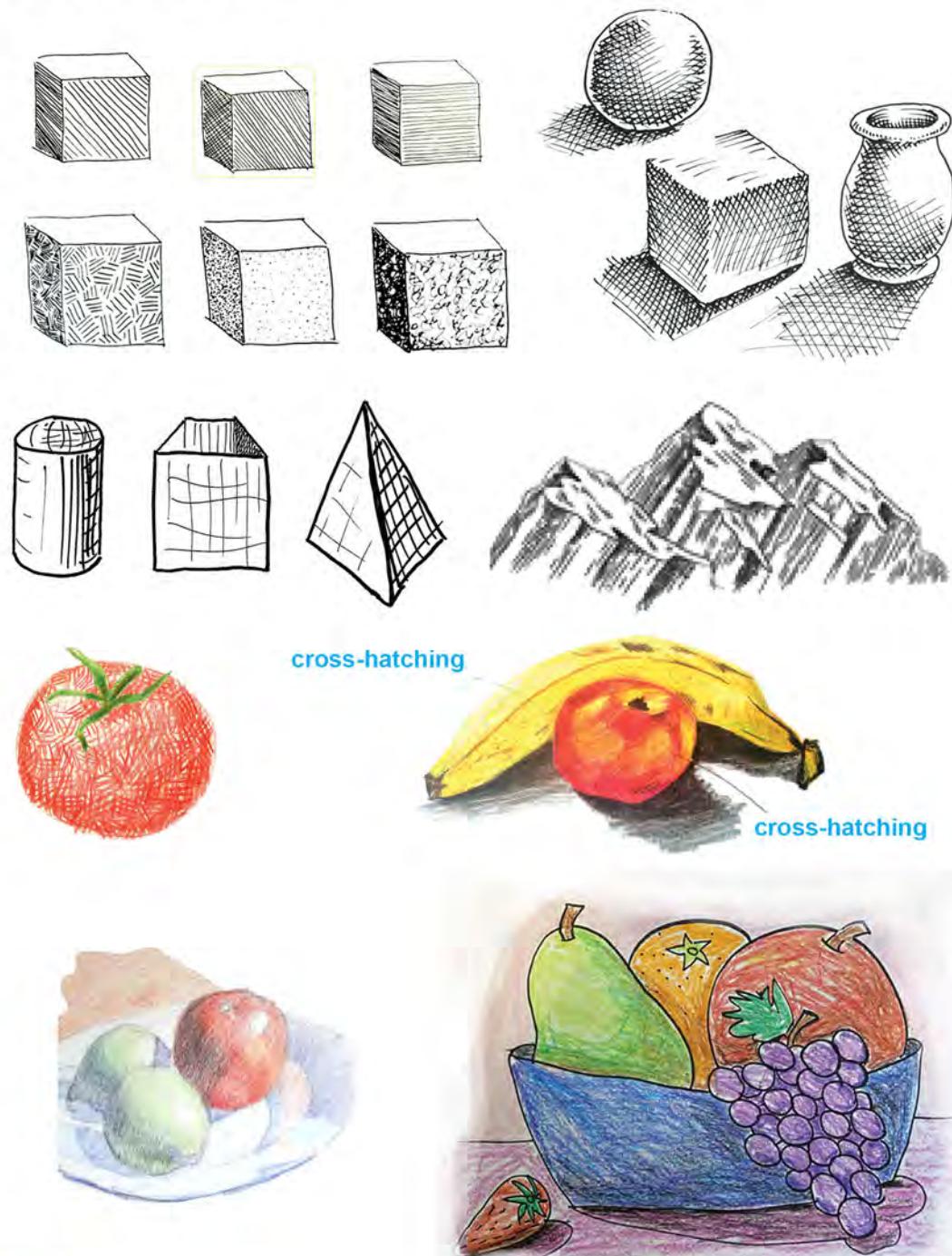


## 10.5 Light and shade

When light hits an object, the shadow of that object falls in the opposite direction or around it. After studying the shadow, one can use different ways of shading in a drawing.

Light and shadow affect an object and can show its depth or third dimension. Shading makes the image look solid and real. There are different ways to add shading to a drawing. Shading can be done by drawing lines in different directions that do not cross. These lines are

called hatching. While using cross-hatching, an artist uses hatching to add shading but lets the lines cross over each other. When lines overlap, the value gets darker.



### Activity 10.6

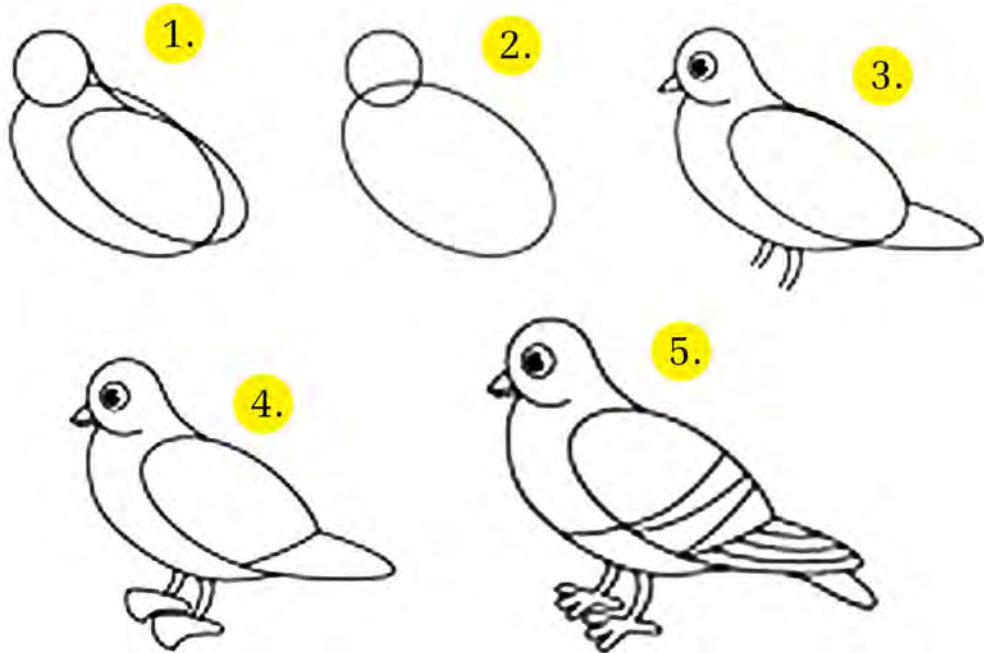
*Collect some objects of geometric shapes. Look at the objects and draw them. Then, you can use the hatching method to add shading.*

*Collect different objects around you. Observe them. Draw your favorite items, like fruits. Use a colour pencil to shade them with the hatching method.*

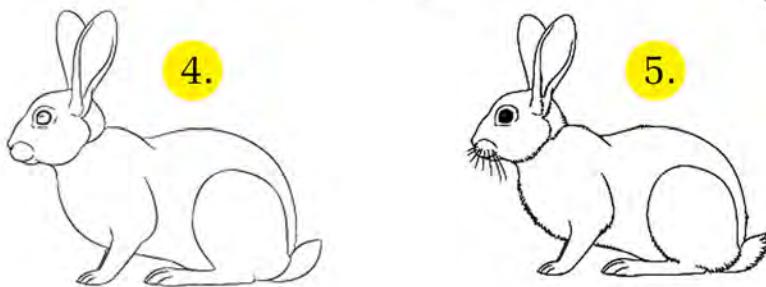
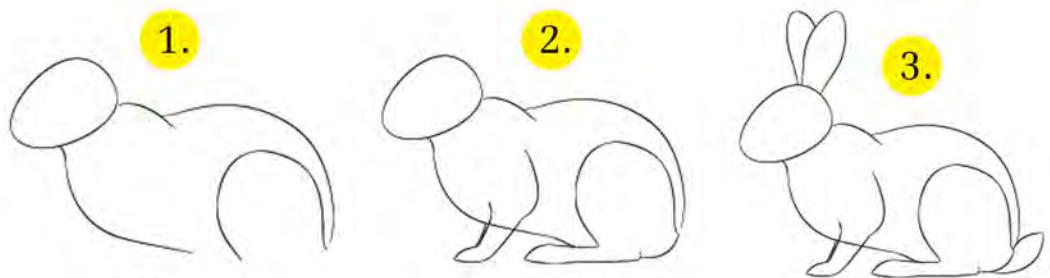
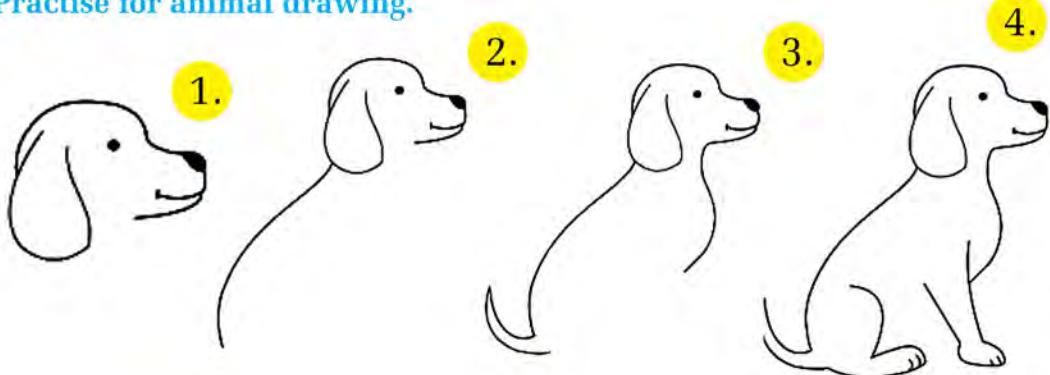
## 10.6 Animal and Bird Drawing

Animals and birds are easy to draw if you use basic shapes like circles, triangles, rectangles, and squares. To get better at these kinds of drawings, you can use photos, sketches, drawings or pictures as a references. Look at the pictures of animals and birds that are shown below.

Practise for bird drawing.



### Practise for animal drawing.



### Exercise

1. What is art? Why is art called a universal language?
2. Write about both geometric shapes and organic shapes.
3. Explain what a colour is . What are warm colour and cool colour?
4. Describe the ways to make light colour and dark colour. Describe with an example.
5. Draw any picture based on your imagination and colour it.

# Print making, Clay work, Collage and Construction

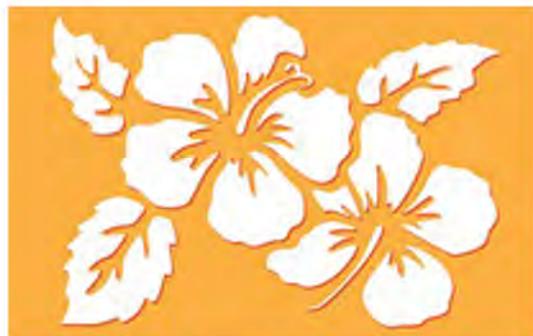


## 11.1 Print making

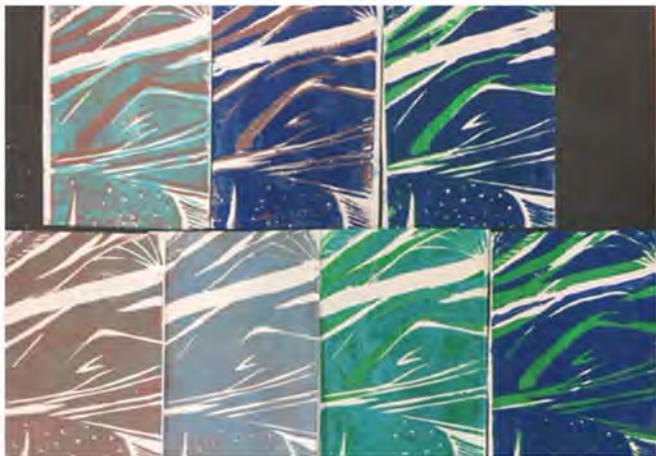
Printmaking is an art process that transfers impressions from one surface to another. Printmaking can involve anything from a simple woodcut to complicated techniques like printing a bank note. You can get the texture of an inked surface on a piece of paper by gently rubbing on the paper. This is called the rubbing method. Relief printing is the process of making blocks to print on. Here are some examples of prints. Look how they have been done.



Impression of plants



Stencil prints



Woodcut prints

## 11.2 Clay work

We use many different kinds of potteries in our daily life. Clay can be used to make different kinds of vessels such as jugs, bowls, piggy banks and other items. Pottery is made with well-mixed, loose, malleable clay. After clay is carefully kneaded, sand, stones and other unwanted materials are removed. If the clay isn't kneaded well, the pottery might break.

### Coiling

Various clay items can be made by rolling out clay into a long, thin rope-like shape and by winding it around like a spring. This method is called coiling. As a vessel develops, more coils need to be added. Coiling is used to make the basic shape of a vessel, which is then refined using other methods.

### Steps of making a vessel with coiling

1. Take a lump of clay and knead it well with your hands. Spread the clay out to make a rectangular or a circular slab, depending on what you need. The image below shows that you can use a bread roller to make the clay smooth and even.



2. Take another piece of well-kneaded clay and roll it out into a long, thin coil like a rope.



3. Now, take the coil and place it on the edge of the slab. If you are finished with the coil, roll another one and keep going.



4. A round slab makes a cylinder-shaped vessel, and a rectangular slab makes a rectangle-shaped vessel. Your pot can be of whatever shape and size you want. Once you have the size and shape you want, you can stop adding more coils.



5. If you don't stick the coils neatly together , your vessel will break. Mix some clay with water until it is the consistency of a creamy soup. Use this slip to cover the inner wall of your vessel.



6. When the vessel is finished and dried well, you can paint it.
7. Don't put the finished vessel under the direct sunlight to dry. Your clay pots might break in the sun. Here are the picture to show some examples of vessels that have been made using coil method.



## Pinching Technique

By pinching clay, you can make a variety of clay items. Using the pinch method, we can make clay vases, pots and lamps.

### Steps of making a vessel with pinch method

1. Roll a small ball of clay about the size of an orange.



2. Hold the ball in one hand and slowly press your thumb into the centre of the clay.



3. Slowly turn the ball of clay in your hand while gently pinching it with your thumb and fingers on the inside. Apply even pressure as you turn the clay and make sure the walls and rim of the pot are all the same thickness. You can gently tap the pot on a table to make the bottom flat or use a knife to cut off the base.



4. Once a pot comes to a shape, smoothen inside and outside surfaces with a wooden spoon or your fingers.



5. Pinch pots can be decorated with different patterns.



6. Let your pinch pot dry for about three days, now it's ready to be painted.



7. Do not dry your painted pot under the sun. The sun can cause the colour to fade and the surface to crack.

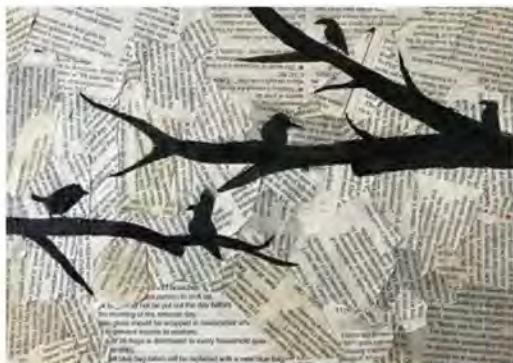


#### Activity 11.1

*Make pottery using coil and pinch methods and put it on display in your class.*

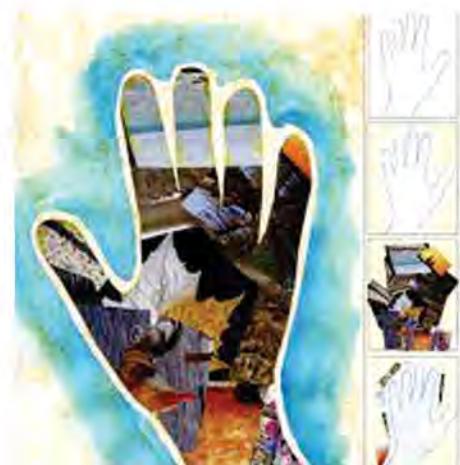
### 11.3 Mixed-media collage

Mixed-media collage is an art work made by pasting, painting or adding different mediums and materials on a surface. A mixed-media art can be made with poster paint, marker pens and pastel colours. Collage is also a form of mixed media. Mixed-media art is made by pasting colourful magazine cutouts, photos, fabrics and other materials to a sturdy surface like canvas, cardboard or a piece of wood. Collage with different materials can also be three-dimensional. Digital mixed-media college is becoming more popular these days. Several kinds of software can be used to make a digital mixed-media collage.



To make a mixed-media collage, you can follow these steps:

1. Set up a strong base like cardboard, plyboard or canvas and draw on it.
2. Apply glue on the surface where you want to stick lintels, paper cutouts, sand, sawdust, cotton, etc.
3. Put your work somewhere safe and let it dry.
4. Your collage is ready.



## Some example of collages



### Activity 11.2

*Collect various materials to create a mixed-media collage.  
Talk to your friends about what colours and materials you want to use for your collage.*

## Exercise

1. What is printmaking? Write down why printmaking is important.
2. Explain how relief printing works and use it to make some patterns.
3. Explain how clay works are made using coil method.
4. Write down the steps you need to follow to make a mixed-media collage.
5. Make a collage by using different materials.

# Singing and Playing Instrument

# 12

Art is a way to present any work beautifully. Singing, playing instruments and dancing belong to art. Music comprises these all. Besides, acting, composing poetry, reciting, drawing and sculpting, decorating, etc. also belong to art. Music is considered as a supreme art. In compared to any other arts, music has the potential to impress the viewers and listeners. Celebrations are futile without music. We will discuss and practise singing and playing instruments among various aspects of music in this unit.

## 12.1 Terminology of music

### A. Sound

We hear varieties of sounds in our surrounding. Such sounds are caused by the vibration due to the collision, touch or friction of two objects with each other. In music, such sounds are divided into two types: musically useful and useless sounds. The sounds that are regularly vibrated and remain stable for a while sound melodious and catchy. They are useful in music. Some examples of musically useful sounds include sounds of various instruments such as sitar, guitar, or sarangi, madal etc. On the other hand, the sounds that are hoarse, and cannot be used in music are considered as musically useless sound. Some examples include, the sound of factories, vehicles, noise, etc., which do not have stability and regularity.

### B. Naad (Musical Sound)

The useful sound in music is called musical sound or naad. Such sounds are produced by melodious, steady and regular vibrations. In music there are two types of nad: Ahat Nad and Anahat Nad

The sounds that are produced regularly and steadily are called ahat naad. The sound produced by sitar, guitar, sarangi, madal etc. are ahat naads. Sounds that arise spontaneously in nature are anahat nads, which are heard by Yogis while meditating.

### **Activity 12.1**

*Make a sound by colliding any object available in school or at home and listen to the sound. Also, listen to the sound by playing the available instrument. Listen to both sounds. Discuss in the class whether the sounds are melodious and useful or hoarse or noisy.*

#### **Features of Naad**

##### **A. Magnitude of Naad**

When we play any musical instrument gently, it sounds small and the sound is heard in a small area. On the other hand, if we play a bit louder it sounds big and can be heard in a large and wide area. This feature of the nad is called magnitude of naad.

##### **B. Pitch of Naad**

Each sound on its surface (pitch) is below or above another sound. Re is higher than Sa, and Ga is higher than Re. The Sa of higher octave has double frequency of the Sa of lower octave. This is also called the high pitch of the naad. In the same way, each note below the Sa of the higher octave is lower than each sound. This is called the low pitch of the nad. As the pitch increases the number of vibrations also goes higher and vice versa.

##### **C. Timber**

Even without observing by eyes and just by hearing, we can identify which instrument or person produced the sound. For example: when flute, guitar, madal, etc. are played, we can tell the name of the instruments without observing by our eyes. This is called timber.

### **Activity 12.2**

*Among the students of the class, some of you close your eyes and be seated as in meditation and let other friends to play musical instruments. Now listen to the sound and identify the musical instruments. Discuss whether the listened sounds are identified or not.*

## D. Shruti

The sound that is useful in music is called Naad. Such nads are innumerable and it is difficult to tell the difference by simply listening. In order to bring them into musical use, it has to be detected its level by listening. In this way, only the naads that is clearly audible and have clear distance between each other is called shruti. There are 22 shrutis in musical scripture (sangeet shastra).

## D. Note

Among the 22 shrutis mentioned in Sangeet Shastra, selected seven are called notes (swars). They are practically named as Sa, Re, Ga, Ma, Pa, Dha, Ni. Music is created by combining these notes.

## E. Count

The smallest unit of a taal is called count. It is denoted by numbers, just like: 1, 2, 3.

## (F) Bar

Dividing the quantities of count into different segment is called bar. In each bar. The first count of each bar shows clapping (taali) or blank (khali). It is indicated by a straight line: |

## (G) Sam

Sam is the first clap of the taal. To indicate this, a multiplication sign is given, such as X

## (H) Beat (Taali/clapping)

Striking two hands together and making sounds is called beat (taali). Considering Sam as the first clap of the taal, rest of the clap after that is indicated by 2, 3, 4 numbers respectively. For example: the first clap is written sam (X) whereas the remaining are written as 2, 3, 4.

## (H) Wave (khali)

Where the hand is only waved to the right without clapping, it is called khali (wave). It is given zero to express in notation, for example: 0.

## 12.2 Singing (Gayān)

The feelings of any subject, incident, experience, emotions or of patriotism, religion, culture and cultural activities performed in various festivals are expressed through singing. Similarly, there are various moments and occasions like fares, festivities, agricultural activities such as cultivation and harvesting, fetching water (pani padhero), and expression of love and tragedy, etc. Our emotional words that come to mind in moments of happiness or sorrow is expressed through our own voice. This is called singing. A person who sings a song is called a singer. We can sing simply by our vocal or with musical instruments. We can sing in a group or individually. Songs have many forms: folk, classical, modern, Grade songs, National anthems, etc. Here we practise grade songs and local/regional songs.

### (A) Grade Song

The grade song of grade 7 is played and song in kaharawa taal with dholak and tabla and Khyali Taal on madal. Its scale is F Major (FAC) in which F Major's other relative Chords: Bb Major (BbDF) and C Major (CEG) are also used.

हत्केलामा माटो राखौं हृदयमा रारा  
विहानीको धाम बनौं अँधेरीको तारा  
सुन फल्ने फाँट सँगै गुरांस फुल्ने पाखा  
एकताको माला गाँसी छुन्छौं सगरमाथा  
उन्नतीको बाटातिर नौला पाइला चाली  
चम्काउछौं हाम्रो देश ज्ञानको दियो बाली  
रितिथिति भाषा धर्म संस्कृतिका धनी  
भावनाले एकै हामी कति स्वभिमानी  
ज्ञान सिकौं सिप सिकौं काम लारने गरी  
उन्नतिको ढोका खुल्छन् हाम्रै वरिपरि  
हत्केलामा माटो राखौं हृदयमा रारा  
विहानीको धाम बनौं अँधेरीको तारा

## Local and Patriotic Song

Scale- F

Scale: Kaharawa / Khyali (2/4)

Since Kaharawa Taal is used in quadruple rhythm (chaugun), it takes 4 times to play or speak in 1 count. We have to play or speak 4 counts together during the time period. For this, while writing more than one alphabet (bol samuha) in table or madal, it is placed inside the crescent/ semi circle.

For example, (Dha = dhagenati). It takes the same amount of time to speak the dha and the same time to speak or play the (dhagenati). Practise these along with the song mentioned below.

मात्रा	१	२	३	४	५	६	७	८
समान लय	धा	गे	न	ती	न	क	धि	ना
मादलको बोल	धिं	-	ना	ती	फत्	धि	धिं	ताड
चौमुन लय	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द
तबलाको बोल	धागे नति	नक धिना						
मादलको बोल	धिंनाती	फत्धिंधिताड	धिंनाती	फत्धिंधिताड	धिंनाती	फत्धिंधिताड	धिंनाती	फत्धिंधिताड
ताल चिह्न	X				0			

### स्वरलिपि – कक्षागत गीत – हत्केलामा माटो राखौं

स्वर	प - म ग	रे - - -	म - ग रे	सा - - -
कोरस	ल S ल ल	ल S S S	हैं S हैं हैं	हैं S S S
स्वर	प प म गम	रे रेग म म	ग रे नि रे	ग सा - -
शब्द	हत् के ला माS	मा टोS रा खौं	ह द य मा	रा रा S S
स्वर	प प म गम	रे रेग म म	ग रे नि रे	ग सा - -
शब्द	वि हा नि कोS	घा S म व नौं	अँ धे री को	ता रा S S
स्वर	सा निधु रे -	म गरे प -	ध मम ग रे	गम प - -
शब्द	सु नफ ल्ले झ	फाँ टोS सं गै	गु रॉस फुल् ने	पाS खा S S
स्वर	ध -ध म ध	प म ग रे	नि सा रे गरे	ग सा - -
शब्द	ए S क ता को	मा ला गाँ सी	छुन् छौं स गरे	मा था S S

In the same way, keep singing the rest of the lyrics of song by using its notation.

## (B) Local and Patriotic Song

### (A) Malashree Song / Tune

You might have heard Malashri songs/tunes on radio and television. This song/tune indicates starting of autumn, at the time of Navaratri (BadaDashain), great festival of Nepale. It praises and describes Goddess Bhairavi.

#### Activity 12.3

*Malashri song and its notation are given below. Observe the notation carefully, practise singing along with playing tabala.*

Scale Cm

Taal - Kaharawa / Khyali Taal (2/4)

In this song too, Kaharawa Taal is used in quadrupal rhythm (chaugun), We have to play 1 count or 4 counts simultaneously within a speaking time period. For this, more than one alphabet (swar samuha) of tabala or madal (bol) while writing in notation, the crescent/semi circle  is placed in it. For example, (Dha =  dhagenati). It takes the same amount of time to speak the dha and the same time to speak or play the  (dhagenati).

मात्रा	१	२	३	४	५	६	७	८
समान लय	धा	गे	न	ती	न	क	धि	ना
मादलको बोल	धिं	-	ना	ती	फत्	धि	धि	ताड
चौगुन लय	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द	१ २ ३ ४	५ ६ ७ द
तबला बोल	धागे नति	नक धिना						
मादल बोल	धिंनाती	फतधिंधिताड	धिंनाती	फतधिंधिताड	धिंनाती	फतधिंधिताड	धिंनाती	फतधिंधिताड
ताल चिह्न	X				0			

Notation: Malashri song /tune

## स्वरलिपि – मालाश्री गीत/धुन

स्वर	- पप प सां	सां नि ध प	- रेम पध प	म ग रे सा
शब्द	S जय दे वी	भै S र वी	S गोS रS ख	ना S थ S
स्वर	- नि नि नि	सा सा रे म	- रेम पध प	म ग रे सा
शब्द	S द र्ष न	दे S ऊ भ	S वाS SS नि	हे S S S
स्वर	- रे रे रे	गं - रे सां	- सां रे सां	नि नि सां -
शब्द	S प्र थ म	दे S वी S	S उत् पन् न	भ ई हे S
स्वर	- प ध म	प नि सां रे	नि - धसां निध	प - - -
शब्द	S ज न्म लि	ए S कै S	ला S SS Sस	हे S S S
स्वर	- म म म	म प ग म	- प प ध	नि नि सां -
शब्द	S आ S उ	दे S वी S	S पा S उ	छ म छ म
स्वर	- निसां रेंगं रे	सां नि ध प	- रेम पध प	म ग रे सा
शब्द	S चौ॒ स टठी॑	यो S गि नी	S साS SS थ	हे S S S
स्वर	- पप प सां	सां नि ध प	- रेम पध प	म ग रे सा
शब्द	S जय दे वी	भै S र वी	S गोS रS ख	ना S थ S
स्वर	- नि नि नि	सा सा रे म	- रेम पध प	म ग रे सा
शब्द	S द र्ष न	दे S ऊ भ	S वाS SS नि	हे S S S

जय देवी भैरवी गोरखनाथ, दर्शन देऊ भवानी हे  
 प्रथम देवी उत्पन्न भई हे, जन्म लिए कैलास हे  
 आउ देवी पाउ छमछम, चौसटी योगिनी साथ हे

### (B) Song: Asare Mahinama

#### Activity 12.4

*The song Asare Mahinama is notation below. With timing and observing the notation practise singing Kaharawa or Selotaal carefully. Observe the time and its notation*

असारै महिनामा, पानी पच्यो रुझाउने ।  
 एकलो यो मेरो मन, कसरी वुझाउने ।  
 भन्थिन है मैच्याडले, रुदै धरर ।  
 नौ डाँडा पारी छ, कम्पनी सहर ।  
 विछोडको बेलैमा २

मनै वराल्ने, न्याउलीको बोली २  
 यहि बेला मैच्याड, के गदै होली २  
 पिङीमा बसेर, के के कुरा गन्दी हो ।  
 कहिले हाँस्दी हो, कहिले रुँदी हो ।  
 मलाई नै सम्भेर २

छड़ छड़ बग्ने, खहरे खोला २  
 अब त छोरा, कुद्ने भो होला २  
 दिनभरि खेल्दो हो, मलाई नै भुल्दो हो ।  
 साँझ परेपछि, आमालाई सोध्दो हो ।  
 खै बावा भनेर २  
 असारै महिनामा, पानी पन्यो रुफाउने ।  
 एकलो यो मेरो मन, कसरी वुभाउने ।  
 भन्थिन है मैच्याडले, रुदै धरर ।  
 नौ डाँडा पारी छ, कम्पनी सहर ।  
 विछोडको बेलैमा ३

**Song: Asare Mahinama**

**Scale: Am**

**Taal: Kaharawa / Selo (2/4)**

In this song, like in kaharawa taal, the use of selo taal with the same count and bar is done with quadruple rhythm (chaugun laya). It takes 4 counts within the single time period while playing or speaking. Alphabets (bol samuha) of tabala, madal or damphu is written, placing inside a crescent/ semi circle. For example, the time that takes to speak the Dha and the time it takes to speak or play the Dha Ge Na Ti should be in equal time interval.

मात्रा	१	२	३	४	५	६	७	८
समान लय	धा	गे	न	ती	न	क	धि	ना
सेलोको बोल	धुम्	-	पाक	धुम्	धुम्	-	पाक	धुम्
चौंगुन लय	१ २ ३ ४	५ ६ ७ ८	१ २ ३ ४	५ ६ ७ ८	१ २ ३ ४	५ ६ ७ ८	१ २ ३ ४	५ ६ ७ ८
तवला बोल	धागे नति	नक धिना						
सेलाको बोल	धुम् -	पाक धुम्						
ताल चिन्ह	X				0			

Practise it with the song mentioned below.

### स्वरलिपि – असारे महिनामा

स्वर	ग ध - निसां	नि धप ग	ग ध - निसां	नि धप ग
शब्द	अ सा S रैS	महि नाS मा	पा नी S प्यो	रु भाउ नै
स्वर	ग ध - निसां	नि धप ग	ग ध - निरं	नि धप प
शब्द	एक लो S योS	मे रोS मन्	क स S रीS	वु भाउ ने
स्वर	ग ग ध - प	ग गरे ग Sरे	सा साध् रे रेसा	सा -
शब्द	भ न्हिन है SS	मै च्याड ले SS	रुं दैS ध रS	र S
स्वर	ग ग ध - प	ग गरे ग Sरे	सा साध् रे रेसा	सा -
शब्द	नौ डाँ डा SS	पा रीS छ्ह SS	कम् पनी श हS	र S
स्वर	ग ध - निसां	नि धप धनि	ध -	- -
शब्द	वि छ्हो Sड कोS	वे लैS SS	मा S	S S

### D. National song

#### Activity 12.5

*A national song is given below. It is composed by Natikaji, and its lyrics is written by Bhupi Sherchan and sung by Premdhwaj Pradhan and Tara Devi. Practise singing it with the rhythm of madal in jhyaure taal.*

यो नेपाली शिर उचाली संसारमा लम्किन्छ,  
जुनकिरी भै ज्योति वाली अन्धकारमा चम्किन्छ,  
चाहे भुकोस् निलो आकास यो नेपाली भुक्दैन  
चाहे रुकोस् चिसो बतास यो नेपाली रुक्दैन  
एकातिर तराईको चारकोसे भाडी छ  
अर्कोतिर उच्च शीर ठुल्ठुला पहाडी छ  
जन्मे यहाँ गौतम बुद्ध शान्तिका अग्रदूत  
सगरमाथा विजय गर्ने यही देशका हुन् सपूत

## Rhythm

### Scale - C

#### Taal: Jhyaure (6/8)

In this song too, as in Dadara taal, jyaure taal has the same counts and bar. It is used in triple rhythm (tigun laya) in a single count, we have to play or speak 3 alphabets (swar samuha) together while singing this song. At the time of writing notation in tabala or madal, more than one alphabet in the notation are placed inside the crescent/semi circle. For example, Ghin = Tak Ghin Tang. Practise with the song mentioned below.

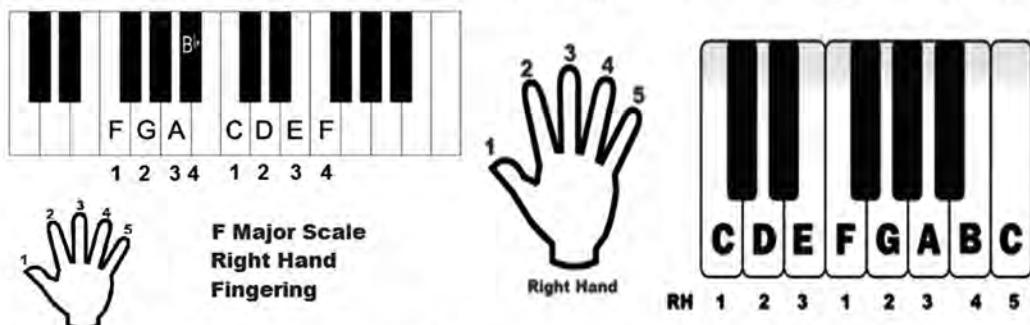
मात्रा	१	२	३	४	५	६
समान लय	धा	धि	ना	धा	तु	ना
समान लय	धिं	-	ताड़	तक	धिं	ताड़
तिगुन	१ २ ३	४ ५ ६	१ २ ३	४ ५ ६	१ २ ३	४ ५ ६
तवला	धाधिना	धातुना	धाधिना	धातुना	धाधिना	धातुना
मादल	धिन-ताड़	तकधिनताड़	धिन-ताड़	तकधिनताड़	धिन-ताड़	तकधिनताड़
चिन्ह	X			0		

#### स्वरलिपि – यो नेपाली शिर उचाली

स्वर	सा - रे ग प -	ध - सां रे सां रे	गं - - - -	- - - - - -
शब्द	यो S नै पा ली S	शि र उ चा S S	ली S S S S S S	S S S S S S
स्वर	रे - रे सां ध -	सां - गं रे - सां	सां - - - -	- - - - - -
शब्द	सं S सा र मा S	ल S मि क न छ	छ S S S S S S	S S S S S S
स्वर	ध - रे सां ध प	प ध प ग रे सा	रे - - - -	- - - - - -
शब्द	जु न कि री झैं S	ज्यो S ती वा S S	ली S S S S S S	S S S S S S
स्वर	ग - ध प - ग	रे - सा रे - सा	सा - - - -	- - - - - -
शब्द	अ न ध का र मा	च मि S क न S	छ S S S S S S	S S S S S S
स्वर	सा - रे ग प -	ध - सां रे सां रे	गं - - - -	- - - - - -
शब्द	यो S नै पा ली S	शि र उ चा S S	ली S S S S S S	S S S S S S
स्वर	रे - रे सां ध -	सां - गं रे - सां	सां - - - -	- - - - - -
शब्द	सं S सा र मा S	ल S मि क न छ	छ S S S S S S	S S S S S S

## 12.3 Playing harmonium and keyboard

We should recognize the rhythm to practise grade songs, local songs, national songs and Sargam (alankars) included in the curriculum by playing on harmonium / keyboard including popular beats such as jhyaure, Khyali, Dadara and Kaharawa. For that, we should have the basic information about these taals. The song's scale included in the textbook are F Major, C Major and A minor. It is necessary to know the order of the sounds in these scales and the position of the fingers used. Here are the notes and fingers used for F and C major shown in the picture below.



The notes are denoted by C D E F G A B respectively in English. On the C major scale, all the natural notes are used in respectively Sa Re Ga Ma Pa dha Ni Sa or C D E F G A B C which is shown in the order of finger movement in Fig. Similarly, the notes used in the F Major scale are either Ma Pa Dha NiSa Re Ga Ma or F G A Bb C D E F respectively which is shown in the picture. In both of these scales, the movement of the fingers is given a straight and up-and-down order of ascent (aroha) and descent (abroha). In addition, the name and tone of the finger may differ. In this case, the closest finger can be used to make it easier to play the finger.

### Activity 12.6

*Practise the scales mentioned above. Practise playing with taal slowly and then gradually increase the speed. When the natural state of finger movement develops, try to play the notation of the song and, if necessary ask friends and teachers who know how to play it.*

### Questions for discussion

- According to Activity 12.6, what other scales can be played like one you've played?
- Is it possible to know about 12 scales using the same rule?

### 12.4 Practise of Sargam (alankar)

According to the scriptures, the regular character set of notes is called alankar (ornament) in music. The practise of alankar helps to identify the voice and make the voice melodious and flexible. The ornaments should first be practised slowly and then raised gradually. For this, first, sing each of the notes in the ornament by mixing your own voice with the harmonium first. It helps to develop the knowledge and skills of playing harmonium is developed along with voice practise. Gradually, you should practise recognizing other notes by pressing only the Sa and Pa note of the harmonium.

#### Activity 12.7

Practise the following alankar's ascents (aroha) and descents(abaroha) in Kaharawa taal.

1. GaSa MaRe PaGa DhaMa NiPa SaDha ReNi GaSa  
DhaSa PaNi MaDha GaPa ReMa SaGa NiRe DhaSa
2. SaSaReGa ReReGaMa GaGaMaPa MaMaPaDha PaPaDhaNi DhaDhaNiSa  
SaSaNiDha NiNiDhaPa DhaDhaPaMa PaPaMaGa MaMaGaRe GaGaReSa
3. SaReGaSa ReGaMaRe GaMaPaGa MaPaDhaMa PaDhaNiPa DhaNiSaDha  
NiSaReNi SaReGaSa.  
SaNiDhaSa NiDhaPaNi DhaPaMaDha PaMaGaPa MaGaReMa GaReSaGa  
ReSaNiRe SaNiDhaSa.

#### Activity 12.8

Practise the following alankar's ascents (aroha) and descents (abbaroha) in Dadara taal.

1. SaReSa ReGaRe GaMaGa MaPaMa PaDhaPa DhaNiDha NiSaNi SaReSa.  
SaNiSa NiDhaNi DhaPaDha PaMaPa MaGaMa GaReGa ReSaRe SaNiSa

2. SaGaRe ReMaGa GaPaMa MaDhaPa PaNiDha DhaSaNi NiReSa.  
SaDhaNi NiPaDha DhaMaPa PaGaMa MaReGa GaSaRe ReNiSa.
3. GaReSa MaGaRe PaMaGa DhaPaMa NiDhaPa SaNiDha ReSaNi GaReSa.  
DhaNiSa PaDhaNi MaPaDha GaMaPa ReGaMa SaReGa NiSaRe DhaNiSa.

## 12.5 Introduction to Taal and its Practise

### A. Kaharawa Taal

Kaharawa taal is one of the most popular taals. It is made up of eight counts. It consists of two bars. It has 1 clap and 1 wave. Many folk and modern songs and ghazals are composed in this taal. In folk music, similar to Kaharawa Taal, Khyali, Samala, Chhoti and Selo Taal also have 8 counts. For example: *Gauchha Geeta Nepali Jyotiko Pankha Uchali, Rato Ra Chandra Surya, Resam Phiriri* etc.

Counts (matra)	1	2	3	4	5	6	7	8
Theka/ bol	Dhaa	Ge	Na	Ti	NaKa	Dhi	Na	
Sign of clap and wave	x				0			
(Taali khali chinha )								

### Activity 12.9

*Practise the alphabets(bol) of Kaharawa Taal. Play the tabala or dholak and practise singing by identifying the songs composed in this taal.*

### Activity 12.10

Practise the following alankars or play the song in Kaharawa taal (4/4 beat).

Aroha: SaReGaMa ReGaMaPa GaMaPaDha MaPaDhaNi PaDhaNiSa DhaNiSaRe.

Awaroha: ReSaNiDhaSaNiDhaPaNiDhaPaMa DhaPaMaGaPaMaGaRe MaGaReSa.

Aroha: SaReMaGa ReGaPaMa GaMaDhaPa MaPaNiDha PaDhaSaNi  
DhaNiReSa

Awaroha: ReSaDhaNiSaNiPaDhaNiDhaMaPaDhaPaGaMaPaMaReGa  
MaGaSaRe

### (B) Dadara taal

Dadara taal is one of the popular taal. This taal is made up of 6 counts. It consists of two bars. It has 1 clap and 1 wave. Many folk and modern songs, and ghazals are composed in this taal. For example, *Bihana Uthne Bitikai Himal Dekhna Paiyos*, *Desh le Ragat Maage*, *Baneko Chha Paharale*, etc.

Counts (matra )	1	2	3	4	5	6
Theka/ bol	Dhaa	Dhi	Naa	Dhaa	Tu	Naa
Sign of clap (taali) and wave (khali)	x			0		

#### Activity 12.11

Play the following alankars on Dadara taal or play any song.

Aroha: SaReGa ReGaMa GaMaPaMaPaDha PaDhaNiDhaNiSa.

Aroha: SaNiDha NiDhaPaDhaPaMa PaMaGa MaGaRe GaReSa.

Aroha: SaGaRe ReMaGa GaMaPa MaDhapa PaNiDha DhaSaNi.

Avaroha: SaDhani NiPaDhaDhaMaPa PaGaMa MaReGa GaSaRe.

#### Activity 12.12

Practise the alphabets (bol) of dadara taal and timings. Play it in madal as well. While playing in Madal, play in Asare Taal. The lyrics is given below.

Counts- 1 2 3 | 4 5 6

Bol- Ghin GhinTang|Phat GhinTang

## 12.6 Local instruments

Different types of local folk instruments are played in different parts of Nepal. Among these instruments, we will practise playing wind (Shushir instrument, which are played by blowing air) Bansuri and rhythmic instrument (percussion) khaijhadi in this lesson, which are more commonly used in Nepali music.

### A. Flute

The flute is a popular instrument under the wind (Shushir) instrument. It is usually made from malingo or bamboo. It is also called baansuri because it is made of natural bamboo (baans). When making a flute, all the block inside the bamboo pole are removed and seven holes are made in a row at a certain distance. The mouth is ventilated through the first hole while the remaining holes are closed or opened with the fingers of both hands alternately to produce different scales and melodies. It is often used in Nepali folk music. The flute comes in three sizes: short, long and medium. The flute is also known as Venu, Vanshi etc.



From ancient times to the present day, the flute is considered as the main instrument of folk and other music. The flute and Lord Krishna are considered to be synonymous with each other. The form of the Lord Krishna including Vanshi is known by the Vedic Sanatanis and people all over the world.

#### Playing Technique of Sargam on Flute

1. In order to play the flute, we have to keep the balance from the ventilation hole, blow air gently and close the six holes where the finger moves so that no air leaks. Then every note will be played in right way on the flute.
2. The six holes in the flute are closed with both hands and opened alternately using three fingers: index, middle and ring.

3. Sa note is produced while all the holes are closed and blown out, while the ring finger, middle finger and the index finger of the right hand are opened from the bottom respectively then Re Ga Ma notes are produced.
4. In the same way, while opening the ring finger, middle finger and the index finger of the right hand, Pa Dha and Ni notes are produced. The hole should open only half to produce Ni note.
5. In order to play the high octave Sa, the last hole should be opened completely and the other holes should be closed.
6. When it is played in this way, all the eight notes of ascent (aroha) are produced respectively: Sa Re Ga Ma Pa Dha Ni Sa. When it is returned in the same way, the descent sounds (awaroха) are also produced.

### Activity 12.13

*Practise playing alankars on flute given below.*

- A) Sa. Re. Ga. Ma. Pa. Dha. Ni. Sa  
Sa Ni Dha Pa Ma Ga Re Sa
- (B) SaSa ReReGaGa MaMa PaPa DhaDhaNiNi SaSa  
SaSa NiNiDhaDha PaPa MaMa GaGa ReRe SaSa.
- (C) SaReGa ReGaMa GaMaPa MaPaDha PaDhaNi DhaNiSa  
SaNiDha NiDhaPa DhaPaMa PaMaGa MaGaRe GaReSa.
- (D) SaReGaMa ReGaMaPa GaMaPaDha MaPaDhaNi PaDhaNiSa  
SaNiDhaPa NiDhaPaMa DhaPaMaGa PaMaGaRe MaGaReSa.

Practise playing alankars given above on the flute. Try to play your favourite song on the flute too.

## B. Khaijadi

Khaijadi is a rhythmic instrument. This instrument, which is easily available in our rural areas, is played in various festivals and celebrations. It is especially used in folk songs and folk hymns (Bhajan). To make a Khaijadi, a wooden round mat is used, usually made by drilling hole about six or eight inches in the middle, with the animal's leather on one side and tightened it with a bamboo nail on the edge surface of the khaijadi and other side of the khaijadi are left as it is. It is also made of metals. Specially, six and eight counts of rhythms of jhyaure and khyali taals are played in khaijadi.



### Technique of playing Khaijadi

Holding the khaijhadi on the left hand parallel to the chest, except the thumb to four fingers of the right hand when openly played Dhin bol is produced. By closing the fingers Taak bol is produced. From the combination of these two bols, different bols could be elaborated.

#### Activity 12.14

*Practise playing Khaijhadi in jhyaure and khyali taal using the bols and counts given below. Bols and Counts of tabala, madal, and khaijhadi are given For your convenience. Practise playing based on it.*

## 12.7 Playing rhythm in song

6 counts bols of jhyaure taal in khaijadi

६ मात्रा	१	२	३	४	५	६
बोल	घिन्	-	-	ताक	घिन्	-

खैजडीमा ६ मात्राको ख्याली तालको बोल

८ मात्रा	१	२	३	४	५	६	७	८
बोल	घिन्	घिन	ताक	घिन	घिन्	घिन	ताक	घिन

खैजडीमा ८ मात्राको ख्याली तालमा ताल काट्ने बोल

८ मात्रा	१	२	३	४	५	६	७	८
ताल काट्ने बोल	घिनघिन	ताकघिन	घिनघिन	ताकघिन	घिनघिन	ताकघिन	घिन्ताक	घिन्स

Kaharawa taal is used in the grade songs and its counts, bars, claps, waves and bols are mentioned above. Based on this songs can be sung by playing Madal, Damphu, flute and khaijhadi in any rhythm or melody. For this, listen to the song over and over and notice how the rhythm of the music is combined. With your own effort and the help of the teacher, first learn to play the easy sargam and rhythm from the simple bol and then play with the singing. For this, practise the following bols.

८ मात्रा भएको ताल	१      २      ३      ४	५      ६      ७      ८
तबलाको बोल	धा      गे      न      ती	न      क      धि      ना
ताली, खाली चिन्ह	X	0
मादलको बोल	घिन् - ना ती	फत् घिन् घिन् ताड
खैंजडीको बोल	घिन् घिन् ताक घिन	घिन् घिन ताक घिन
ताल काट्ने बोल	घिन्-घिन ताक-घिन घिन्-घिन ताक-घिन	घिन्-घिन ताक-घिन घिन्-ताक घिन
६ मात्रा भएको ताल	१      २      ३	४      ५      ६
तबलाको बोल	धा      धि      ना	धा      तु      ना
ताली, खाली चिन्ह	X	0
मादलको बोल	धिं - ताड	तक् धिं ताड
खैंजडीको बोल	घिन् - -	ताक घिन् -

## Excerise

### 1. Tick (O) the best answer.

- Which one of the following is called useful sound in music?
  - Naad
  - Shruti
  - Sam
  - Swar
- What is the first count of the taal (rythm)?
  - Naad
  - khaali
  - Sam
  - Bibhag
- The art of combining the emotional words that arise in heart and presenting the art through your voice is called.....
  - Naad
  - Badan
  - Shruti
  - Singing (gayen)
- Which is the melodic intrument?
  - Madal
  - Damphu
  - Flute
  - Tabla
- Which is rethymic (Taal) instrument?
  - Khaijhadi
  - Harmonium
  - Flute
  - Keyboard

### 2. Fill in the appropriate words in the empty space below:

- /dha .....na ti / ..... ka dhin naa /
- / .....dhi ..... / ..... ..... naa =
- / ghin ghin ..... ghin /ghin ..... taak ghin /

### 3. Answer the following questions.

- What is singing? Write the importance of it.
- Define the following musical terminologies:  
Sound, Naad, shuti, Swar, Taal, Matra, Tali, khaali
- Differentiate between kaharwa and Dadara taal.
- How do we play Kaharwa and Dadra Taal? Explain the

- playing technique including bol, matra, taali and khaali.
- e. Introduce sushir instrument flute and rhythm instrument khaijhadi.
  - f. Make a list of melodic instruments and rhythm instrument that are played in your local level and explain the techniques of playing them.

#### 4. Practical Assessment

- a. Pronounce and show dadara taal by clapping your hands at the same time.
- b. Which beat is used in the grade song? Show it by hands or by playing with instruments.
- c. How many holes are there in the flute? Show how the seven notes are produced.
- d. Play a small part of any alankar or song that you have learned in harmonium and show it.
- e. Play alankar or the rhythm used in a song that you have learned.
- f. Sing any alankar or song that you have learned and show it with matching gestures.

#### Glossary

Karkash : husky sound which is disliked in music.

## Dance and Acting

# 13

### 13.1 Dance

Dance is about presenting our body movement. There is not any compulsion of having proper knowledge while dancing in a balance of tone, rhythm and melody, but following these makes dance interesting and organized. Dancing is a spontaneous activity (nature or quality). Dance is a beautiful art performed by the movement of body parts, limbs, including gestures, costumes and acting according to the mood of the song with tone, rhythm and melody. Dance is the art of performing body parts in an artistic way with beautiful postures along with music.

#### Activity 13.1

*Watch video of Maruni dance using the internet. Practise dance and perform it in the classroom.*

### Types of dance

#### A. Folk dance

Folk dance is a form of entertainment that is performed according to the traditional religion, culture, customs and beliefs of community living in the society. Folk dance is performed in association with own's place, dress, religion, rites and culture. Different castes/ethnic groups living in different places and geography of Nepal including Mountain, Hill, Terai, Kathmandu Valley have their own styles of dance. Dance also consists of decorations, gestures and costumes. It has rules based on its own originality and folk behaviour. The examples of folk dances are Jhyaaure, Maruni, Sorathi, Dhime, Kauda, Tamang, Bhojpuri, Maithili, Tharu, Sangini, Jhangad, Tappa, Deuda, Hudkeli, etc.



### Activity 13.2

*Perform local folk dance in classroom. While dancing, play local folk instruments and dance in local folk songs as far as possible.*

#### B. Modern dance

Modern dances are new dances that change over the time. Such dances vary according to the country, time, situation and demands of the audience and are presented in new forms. The basis for the creation of modern dance is folk dance and classical dance. Lyrical hip pop, lyrical b boing, lyrical contemporary dance are examples of modern dance. The dance is presented by focusing on the meaning of each word.

### Activity 13.3

*Watch the modern dance videos using the Internet. Demonstrate the dance in classroom.*

#### C. Classical dance

The dance developed from the tradition of guru and performed with prescribed music and posture within the limits of various rules, regulations and disciplines is classical dance. It is composed within the limits of various organs,



melody, rhythm, timing, count, posture, acting etc. The composition of this type of dance is bound to a certain guideline by moving the limbs according to the rhythm of the music.

#### **Activity 13.4**

*Watch videos related to classical dance using the Internet.  
Practise and demonstrate the dance in the classroom.*

#### **Dance components**

The means or tools of the dance are anga, upanga and pratyanga. Different emotions are expressed through its performance or operation. The major means/components of dance are given below:

##### **A. Anga (Organs)**

Different parts of the body are mobilized while performing the dance. Dance involves the six basic organs of the body. Head, arms, chest, lateral (abdomen), waist (hips) and legs (legs) are the organs of dance.

##### **B. Upaanga (limbs)**

Other organs within the main organ are called upanga. The eyes, eyebrows, nose, lips, cheeks and jaw are the upaanga (limbs).

##### **C. Pratyanga**

The body includes both shoulders, both hands, back, abdomen, both thighs and chest. These are under the Upaanga (limbs). These are considered as components of dance as it expresses the meaning of dance from the above mentioned organs. Anga, upanga and pratyanga play an important role in dance as they evoke a variety of emotions and gestures.

#### **Activity 13.5**

*Practise the dance using the anga, upanga and pratyanga.*

#### **13.2 Practise of gestures and postures in dance**

Gestures and postures are the ornaments of dance. They create charm,

artistry and beauty in dance. Different hand and foot gestures are used in dance and drama. This is called hand gesture and foot gesture. There are different types of postures which are especially used in classical dance. The most important role in dance is of hand gestures. The dancers express their feelings by making various gestures with their hands and fingers.



The act of conveying the meaning of flowers, water, waterfall, path, livestock, etc., according to the volume of the song to the audience through hand is called hand gesture. We signal many things by hand in our daily work. Gesture is created by hand movement in dance as well. According to the ancient scriptures, there are varieties of gestures. Postures exchanged together with both hands are called joint hand posture (sanyukta hasta mudra). One hand posture is called a single hand posture (asanyukta hasta mudra). Let's look at some of these postures and practise:

### **Asanyukta hasta mudra**

#### **A. Pataak**

This posture is used in dance to bless, swear, forbid, close doors, etc.



#### **B. Peak (shikhar)**

This posture (mudra) is used in the sense of Kamadev, holding the bow, asking questions, embracing etc.

### C. Suchi

This posture is used to show the cycle (Chakra), the hair saffron, and to indicate certain things, etc.

### D. Aalpadam

Aalpadam mudra is used to show the blossoming flower (lotus flower), to ask questions, to show the beauty and to show the surroundings of their own village, etc.

#### Sanyukta Mudra (Joint Postures)

##### A. Kapot

This mudra is used to indicate the humble salutation, unity, obedience, respect, peace, respectful acceptance or inheritance of something.



##### B Utsang

This posture is used to indicate hugging, in the sense of shame, jewelries etc.

#### Activity 13.6

*Dance with gestures using hand and foot postures with costumes.*

### 13.3 Introduction to Local Dance

The dance which are based on local folk songs and instruments are called local dances. Kauda, Jhyaure, Maruni, Mayur, Sorathi, Dhime, Tamang, Bhojpuri, Maithili, Tharu, Sangini, Jhangad, Tappa, Deuda, Hudkeli etc. are local dances. Here is an introduction to Kauda dance:

#### Introduction of Kauda dance

Kauda is a popular folk dance of Gurung and Magar communities. This dance is popular in Palpa, Nawalparasi Bardhaghat Susta Purwa (Nawalpur), Nawalpur Bardhaghat Susta Paschim (Parasi), Tanahu,

Syangja, Lamjung and Gorkha districts of western Nepal. This dance is a kind of religious and social folk dance. There is a tradition of singing love songs and dancing together with the youth.

### **Activity 13.7**

*Practise popular local folk dance at your local level.*

## **13.4 Introduction to dance/ acting with adornment and costumes**

Acting is the art of imitating the behaviour and lifestyle of a character. According to the nature of dance and acting, it is beautiful to decorate the face in a beautiful way using various tools and objects. Most of the time, the face is adorned with gajal, tika, lipstick, powder etc. Costumes are also needed along with facial makeup. Depending on the nature of dance and acting, it is best way to wear clothes related to different castes, cultures and characters such as: chaubandi, gunyo, cholo, patuki, ghalek, saari, pachyauri, daura surwal, dhaka topi, kaxad, stacot, galabandi, etc. like wise it is best way to put Dhungri, Jhumka, Phuli, Churapote, Bala, Tilhari, Marwadi, Shirbandi etc.

Adornment, costumes, etc complete the dance and acting. Everyone in society has their own qualities, dispositions, emotions, character, responsibilities, and roles. The art of imitating these various aspects of adornment, the art of expressing body parts, appendages, limbs, sight, posture and signs etc. with costumes is called aharya or adornment acting.

### **Activity 13.8**

*The students in the class are divided into different groups. Find out the events or stories that happened in your community's village or town as a group. Collect materials such as the various dialogues used for that and the costumes used by those characters. In the basis of this, practise drama or acting and perform in cultural program in the school.*

## The importance of drama and acting

Presenting drama and acting helps in personality development. It inspires a person in the field of art. Drama and acting develop the skills of speaking, considering, singing, dancing and make able to understand the condition of their village. To express the suffering realities of society, family, community and school problems through art and helps to improve and move forward.

### Activity 13.9

*Prepare for acting based on an event on your area or a play or story in a textbook of grade seven. Prepare dialogues and costumes for the characters in it and act.*

## Excercise

1. Tick the correct option of the following questions.
  - A. What is the name of the art of expressing through the movement of body parts (anga, upanga and pratyanga)?  
(a) Posture (mudra)                         (b) Acting  
(c) Drama   (d) Dance
  - B. Which dance is performed with prescribed music and body posture within the limits of certain rules and discipline?  
(a) Modern dance                                  (b) Classical dance  
(c) Folk dance    (d) North modern dance
  - C. Which one of the following is an example of upanga?  
(a) Thighs    (b) Chest  
(c) Stomach   (d) Eyebrows

- D. Which one of the following is an example of pratyanga?
- (a) Lips                                  (b) Nose
- (c) Stomach                              (d) Eyebrows
- (E) Which one is the factor of imitating the meaning of story as it is?
- (a) Acting                                (b) Dance
- (c) Playing an instruments            (d )Drama

**2. Answer the following questions:**

- A. What is dance? Briefly describe the types of dance.
- B. Explain the difference between folk dance and modern dance with examples.
- C. What is classical dance? Describe with examples
- D. Explain anga, upanga and pratyanga with examples.
- E. What are gestures and postures? Write down their importance in dance.
- F. Introduce the kauda dance.
- G. Introduce and clarify importance of acting with adornment and costumes with examples.
- H. Dance and acting develops a person's creativity. Explain this statement logically.
- I. What is local dance? Describe with examples.
- J. Mention the importance of local dance.