

Health and Physical Education

A Teachers' Guide for Class VII



राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

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FOREWORD

The National Council of Educational Research and Training (NCERT) has developed resource material in the form of *Teachers' Guides on Health and Physical Education* for Classes VI, VII and VIII. The Guide on *Health and Physical Education* for Class VI has already been published. The current volume is the second in the series.

As in other subject areas, a teacher plays a vital role in effective transaction of Health and Physical Education. Over the years, the orientation of this subject has undergone a change making it an integrated discipline comprising Health, Physical Education and Yoga. Considering the fresh orientation of this curricular area, the importance of this subject, and also for proper transaction, teachers need resource material and skills to meet the needs of this area.

This material, *Health and Physical Education: A Teachers' Guide for Class VII*, focuses on a holistic understanding of health and physical fitness activities. This Guide discusses different phases of the human growth and development such as 'we are growing' in Unit 1. The Units 2 to 6 discuss the physical fitness activities such as fundamental skills of individual sports and team games, callisthenics, mass fitness, rhythmic activities and yoga for physical fitness, and also the available sports scholarships and awards in India. Environmental pollution, food and nutrition and common injuries, social health as well as consumer health service have been discussed in Units 7 to 11 in this Guide. Experiential learning activities for acquiring skills for healthy living form an integral part to make the material constructivist in terms of pedagogy.

I appreciate the hard work done by Prof. Saroj Yadav, *Dean (Academics)*, NCERT and the team for bringing out this material. Several experts and teachers have contributed towards the review and finalisation of this material. We are grateful to them and their institutions. Based on the feedback of experts and teachers, the material has been reviewed and finalised.

As an organisation committed to systemic reforms and continuous improvement in the quality of its educational material, the NCERT welcomes constructive comments and suggestions, which will enable us to undertake further revision and refinement of this material.

New Delhi
February, 2017

HRUSHIKESH SENAPATY
Director
National Council of Educational
Research and Training

PREFACE

The National Council of Educational Research and Training (NCERT) has developed syllabi and instructional materials for different classes, to facilitate and promote effective transaction of various subjects in school. The present publication, *Health and Physical Education: A Teachers' Guide for Class VII* addresses the needs of teachers transacting Health and Physical Education. The material makes an effort not only to explain various concepts related to different content areas, but also indicates activities in which every learner may be actively involved. Each unit ends with a set of items for assessment. The Unit 6 on *Yoga for Physical Fitness* has been adapted from the textbook titled *Yoga: A Healthy Way of Living* for Upper Primary Stage.

As is reflected in the entire material, the pedagogical approach adopted for the transaction of this curricular area has to be necessarily interactive and truly participatory that promotes experiential learning. It is also addressed to the conditions that must be made available for ensuring that all students of the class get equal opportunities to participate in all games and sports included in the syllabus. For this, the teachers are expected to be responsive to the needs of all the students. All the activities which are to be organised have to be focused on skill development and not simply on providing knowledge about games and sports. It can be done by allowing students to play game of their own choice and on their own.

In view of the above, the role of the teacher in effective transaction of this subject is very critical. The teacher, therefore, has to pay special attention to the following points:

- Health and Physical Education is a core subject like all other subjects, and hence, it has to be ensured that it receives its due recognition and equal status with other subjects, a status which is not being given at present.
- It is essential to ensure that even the minimum essential physical space and equipment are available in the school.
- School space, when available—during vacation or before and after school hours—should be provided to enable children for sports training.
- Leisure-time sports activities and local games should also be promoted.

- This subject does not need to focus on casually organised certain physical games and sports activities for selected students. It consists of health education, physical education and yoga. All these components must be suitably integrated during the transaction process and in an inclusive way.
- A basic understanding of all concerns, activities, games and sports are necessary, but more important is to focus the transaction process on skill development and utilisation of the experiences of learners as a resource.
- In order to develop specific skills of a particular sport, sequential actions are required to improve performance. Some of the actions are general whereas some are specific to a particular game/sport.

A questionnaire has also been given for feedback. Any suggestion(s) for improvement are welcome.

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We acknowledge the contribution of Pardeep Nayak, Fajruddin and Satish Chadar for making illustrations for this Guide. The Council gratefully acknowledges the valuable suggestions and feedback received during the try-out by school teachers.

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Do You Know

According to the 86th Constitutional Amendment Act, 2002, free and compulsory education for all children in 6-14 year age group is now a Fundamental Right under Article 21-A of the Constitution.

EDUCATION IS NEITHER A PRIVILEGE NOR FAVOUR BUT A BASIC HUMAN RIGHT TO WHICH ALL GIRLS AND WOMEN ARE ENTITLED

*Give Girls
Their Chance!*



ANSWER SHEET OF THE ASSESSMENT

Unit - 1 We are Growing

Q.2 Answers - Put a tick mark on [✓] M for Myth or F for Fact

- i. (M)
- ii. (F)
- iii. (M)
- iv. (M)
- v. (F)

Q.3 Answers - Fill in the blanks

- i. Childhood, Adulthood
- ii. Nutrition

Q.4 Answers - Match the terms

- | | | |
|------------------------------|---|--|
| (A) | | (B) |
| (a) Body image | – | (c) Related to one's appearance |
| (b) Experimentation | – | (b) Trying out new ideas |
| (c) Peer-group relationships | – | (a) Valuing opinions of same age group |

Q.5 Answers - Put a tick mark on [✓] Yes/No

- i. No
- ii. No
- iii. Yes
- iv. Yes
- v. Yes

Unit - 2 Fundamental Skills (Individual Sports)

Q.3 Answers - Fill in the blanks

- i. Gymnastics
- ii. Swimming
- iii. 20

Q.4 Answers - Put a tick mark on [✓] Yes/No

- i. No
- ii. No
- iii. Yes
- iv. No
- v. Yes

Q.6 Answers - Match the Columns

Judo	-	Ippon Seoi-nage
Wrestling	-	Pinning Hold
Swimming	-	Back Stroke
Athletics	-	High Jump

Q.7 Answers - Term related to

Judo	-	Tori
Gymnastics	-	Balance
Wrestling	-	Hold Down
Swimming	-	Free Style
Athletics	-	Take-off

Unit - 3 Fundamental Skills (Team Games)*Q.2 Answers - Put a tick mark on [✓] Yes/No*

- i. No
- ii. Yes
- iii. No
- iv. Yes
- v. No
- vi. Yes
- vii. No
- viii. Yes

Unit - 6 Yoga for Physical Fitness*Q.2 Answers - Put a tick mark on [✓] Yes/No*

- i. Yes
- ii. Yes
- iii. Yes
- iv. No
- v. No

Q.3 Answers - Fill in the blanks

- i. Bow
- ii. *Ardhahalasana* and *Supta Vajrasana*
- iii. Stretching exercises
- iv. Legs
- v. Triangle

Unit - 7 Environmental Pollution*Q.1 Answers*

- (vi) Air Pollution
- (vii) All the above

FEEDBACK QUESTIONNAIRE

(A Teachers' Guide on Health and Physical Education
for Class VII)

Please give your comments on the material by filling this feedback questionnaire. You may please send the questionnaire by post, or through email, to Prof. Saroj Yadav, *Dean (Academics)* and *Project Coordinator* of NPEP, AEP, NCERT, Sri Aurobindo Marg, New Delhi-110016. E-mail: deanacademicncert@gmail.com

We also welcome feedback from teachers, students, parents and any other user of the material. You may attach a separate sheet as per your requirement.

Teacher/Student/Parent

Name _____

School Address _____

1. Do you find the Teachers' Guide easy to understand? Yes/No
2. Point out unit/page where the language is difficult to understand.

Unit No.	Page No.	Lines
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Do you think the content of the guide is adequate and meet the requirements of the syllabus? Yes/No
4. (i) Point out units which are lengthy.

(ii) Point out units which are too sketchy.

5. Point out illustrations which are not helpful in understanding the content.

Page No.	Illustration	Caption
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. (i) Certain practical activities and games have been suggested. How many activities and games have you undertaken in your class? Mention them.

(ii) What difficulties did you face in organising these activities and games?

(iii) Would you like to suggest any activity(ies). Mention them.

7. Certain questions have been given at the end of each unit.

(i) Do you try to find out their answers? Yes/No

(ii) Are these helpful in understanding the text of the unit? Yes/No

(iii) Do you find these questions interesting? Yes/No

8. (i) Do you find the exercises given at the end of each unit in the textbook interesting? Yes/No

(ii) Point out the exercises which according to you should be modified

Page No.

Exercise No.

9. Point out the printing errors, if any.

Page No.

Error

10. Any specific comment/suggestion(s) for overall improvement of this book.

We are Growing

Unit

1

INTRODUCTION

We all observe various phases of growth and development among human beings. After birth, the newborn grows through the phases of infancy, childhood, adolescence, adulthood and old age. Although all the phases are significant, adolescence is considered to be the most critical. This stage assumes more significance as growth and development take place at a faster speed during this phase. One will also agree that adolescents do not get authentic knowledge about the changes occurring in them, either from the family or from the educational institutions that they attend. When one is an adolescent, one might have faced many difficulties for want of such authentic knowledge. In fact, adolescents must be given such knowledge and be empowered adequately so that they do not remain ignorant and anxious about themselves and respond to these changes in positive and responsible ways. But, since a number of these facts are culturally sensitive, their effective transaction in schools is likely to suffer. With a view to ensuring effective transaction, the present unit will equip the teachers for transacting important aspects of the process of growing up during adolescence to students.

Objectives

The unit will help the teachers to enable the students to:

- explain the significant aspects of growth and development that take place during adolescence;
- clarify myths and misconceptions regarding growing up;
- identify issues and concerns related to sex abuse;
- appreciate the concept of body image and misconceptions about it; and
- transact effectively the activities delineated in this unit.

Guidelines for the Teacher

- It is important to go through the related material thoroughly, before organising the activities.
- Two activities mentioned below cover critical concerns of adolescence, which are relevant for the age group of students of this class. It is important to note that the process of organising all the activities is based on participatory approach in order to ensure that students do not behave like passive recipients of knowledge, but as active participants in the teaching-learning process.
- Since this unit contains some culturally sensitive topics, it is necessary to ensure that local-specific cultural sensitivities are respected, and at the same time, authenticity of the knowledge is maintained. In order to ensure this objective, it is expected from the teachers that they will employ their respective resourcefulness and transact the activities effectively.

Activity 1.1: Understanding Changes and Developments during Adolescence

Materials required: Activity Sheet, Fact Sheet, Writing Board, Marker/Chalk.

How to Organise the Activity:

- Begin by asking students to write down names and age of their family members. Ask them to analyse the changes according to their progressively increasing age;
- Draw a diagram as shown in Figure 1.1;
- Adopt interactive process to initiate discussion;

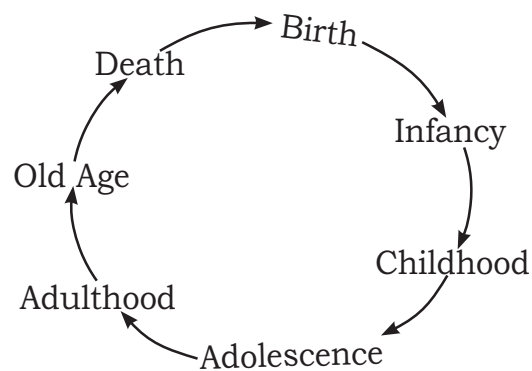


Figure 1.1

- Ask students to think and articulate the changes and developments which are taking place in them individually;
- Let each student speak about only one change so that most of them get the opportunity to participate in the interaction;
- Ensure that their statements are related to the physical, psychological/emotional and relationship changes. In case of deviation, try to bring them around the appropriate points;
- Note down the changes mentioned by the students on the blackboard/chart;
- Summarise the major points of the discussion with the help of Fact Sheet by elaborating the facts about the process of growing up during adolescence.

While summarising, the teacher needs to focus on the following major points and present facts which are suitable to the age group of students in the class:

- ❖ Adolescence is the most critical phase of human growth and development. It begins with the onset of puberty and is a period from the age of 10 to 19 years, during which rapid physical growth and psychological changes occur, culminating in sexual maturity.
- ❖ The changes are different among boys and girls. Also, the process of growth does not begin in all children at the same age.
- ❖ Significant physical, psychological and social relationships are related to the changes that take place during this period.
- ❖ The nutritional needs of adolescents must be appreciated and emphasised along with common nutritional disorders.
- ❖ During this phase, the developments that generally become concerns of adolescents are: body image, attraction towards opposite sex or even same sex, distancing from parents, dependence on peer group and assertion of self-identity.

- ❖ It is essential to take care of sexual health, hygiene, and especially, genital hygiene for both boys and girls. Parents and elders need to make children aware about it.
- ❖ The incidence of sexual abuse among both girls and boys is a matter of grave concern. There is a need to empower adolescents to become aware of and avoid such incidents.
- ❖ Encourage students to ask questions, if they have doubts about any point made by the teacher.

Activity 1.2: Clarifying Myths and Misconceptions

Materials required: Activity Sheet, Fact Sheet, Writing Board, Marker/Chalk.

How to Organise the Activity:

- Organise a question–answer session.
- Encourage students to think about the prevalent myths related to growing up and ask questions related to them.
- Ask students to speak to their peers to find out myths related to: (a) body changes and body image, (b) development of secondary sex characteristics, (c) menstruation and wet dream, (d) peer relationships, and (e) the period of adolescence, etc.
- Let each student speak about only one myth so that most of them get the opportunity to participate in the interaction.
- Ensure that the students focus only on myths and misconceptions. If you find any deviation(s), try to bring them around the appropriate points.
- Note down the myths mentioned by the students on a blackboard or chart.
- Summarise the major points of the discussion with the help of Fact Sheet by elaborating the facts about the myths and misconceptions.
- Encourage students to ask questions, if they have doubts about any point made by the teacher.
- Important information is given for reference in the box given on page no. 5.

FACT SHEET

Adolescence is popularly understood as a phase in the teenage years of the life of a human being. It is a period of transition from childhood to adulthood. It begins with the onset of puberty and is a period of several years, in which rapid physical growth and psychological changes occur, culminating in sexual maturity. The onset of puberty happens at the age of 10 or 11 years for girls and 12 or 13 years for boys. Its distinctiveness is reflected in rapid physical, psychological, cognitive and socio-emotional changes.

The special attributes that mark adolescence include:

- Rapid physical growth and development;
- Physical, psychological and social changes leading to maturity;
- Sexual maturity and onsets of sexual activity and puberty;
- Tendency to experiment/take risks;
- Development of adult mental processes and adult identity; and
- Transition from total socio-economic dependence to relative independence.

PHYSICAL CHANGES DURING ADOLESCENCE

Adolescence begins with the onset of puberty. Hormonal changes initiate the physical and physiological changes in the body. The female hormone, known as estrogen, is mainly responsible for the changes in the females, and the male hormone, known as testosterone, is mainly responsible for the changes in the males. All these changes are correlated with sexual development as significant physical changes take place in terms of development of 'secondary sexual characteristics during this period'. Puberty ends when an adolescent reaches reproductive maturity. The major physical changes in boys and girls during adolescence are tabulated below:

	<i>Major changes in males</i>	<i>Major changes in females</i>
<i>Growth spurt</i>	During puberty the body grows faster than at any other time. The growth spurt occurs relatively later in boys in comparison to girls. The pace of these changes is different in different individuals.	

	The growth-related changes occur when a boy is around 12 years of age. It ranges from 12 to 16 years. The changes observed are growth of arms, legs and penis. He also gains weight.	Growth spurt among girls usually starts at about 10 years of age and peaks at 12. It ends at around 14 years of age. Any further noticeable growth in stature stops at 18. The changes observed are growth of breast, widening of pelvic outlet and broadening of the hips. She also gains weight.
<i>Activation of oil and sweat glands</i>	Because of activation of oil and sweat glands, there is an increase in skin thickness. A pore may get clogged with sebum, dead skin cells and bacteria. This can cause acne. Acne is a skin condition that includes whiteheads, blackheads, pimples and pus-filled cysts. The activation of oil and sweat glands also leads to body odour. Body odour and acne are common concerns for many adolescents.	
<i>Voice</i>	One of the significant developments during adolescence among boys is the deepening of the voice, which results in the enlargement of the larynx, also known as Adam's apple (voice box).	No such change occurs in girls.
<i>Growth of hair</i>	The appearance of pubic hair around the penis and scrotum is usually an early event of puberty. Hair also grows on the chest, the armpits and on the face.	Growth of pubic hair precedes the first menstruation by approximately 6 months to one year. There is growth of hair in the underarms after the growth of pubic hair.

<i>Reproductive and sexual organs</i>	The onset of puberty is marked by the initial enlargement of the testes. The growth of testes and scrotum usually begins between the age 10 and 13 years. The development continues through most of the period, beginning at puberty and is completed sometimes by the age 14 to 18 years. Nocturnal emission can occur.	Menstruation is a normal function of a healthy female body. It occurs at an average interval of 28 days \pm 3 days. It lasts for about 2–3 days and in some cases 4–5 or 7–8 days. The menstrual cycle may be irregular during the initial period (first 2–3 years) and then usually settles down into a pattern. Generally, the age for menarche (first menstrual period) may vary from 9 to 14 years.
<i>Health, hygiene and genital hygiene</i>	It is essential to take care of health and hygiene especially cleanliness of genitals both in boys and girls. Parents and elders need to make children aware about this.	

PSYCHO-SOCIAL AND EMOTIONAL CHANGES DURING ADOLESCENCE

Almost all physical changes are accompanied by marked psycho-social and emotional changes. The adolescents have mood swings. They think about looking nice and impressive to others. ‘Others’ are very significant for them. They do not want to be treated like a child. Some of the key concerns and attributes of adolescence with respect to psycho-social and emotional changes are summarised below:

Body Image

Adolescents may feel inadequate because they look different from their peers. Often, young people’s notions of their appearance are highly influenced by the prevailing fashion and looks of film stars, and also by the social and cultural notions related to these

issues. Media also plays an important role. This impact the 'body image' which is the dynamic perception of one's body like how it looks, feels and moves. Due to rapid changes in their bodies, young people are likely to experience dynamic perceptions of body image. Hence, it is extremely important for parents and teachers to empower young people with appropriate information and skills to enable them to appreciate themselves for who they are. It is important that they have a positive acceptance of themselves. They should be helped to realise that certain attributes cannot be changed (for example, height or complexion).

Curiosity about Sexual Matters and Responsible Sexual Behaviour

Adolescents may feel strong physical attraction. This is a normal process of growing up. However, all attractions cannot be categorised as sexual attraction. Adolescent boys and girls may like to talk to each other, praise one another's intellect and beauty, share their books and notes as gestures of friendship and goodwill. Correct and culturally relevant age-appropriate information on sexual matters can inform and prepare them for responsible relationships in their lives, which are based on equality, respect, consent and trust between partners. In the absence of reliable sources of information, they are likely to be misguided and may either be victims or perpetrators of irresponsible and exploitative relationships.

An Age of Experimentation

Adolescents are particularly inclined to try out new ideas. While trying to do this as a positive trait, lack of abilities, particularly life skills to assimilate multiple stimuli from media and peers could encourage them to experiment with risky behaviour. They could engage in smoking, substance abuse, consumption of alcohol, unprotected sex, and while these behaviour may start on an exploratory note, many of them get trapped in them for a lifetime. Therefore, it is important to empower them with correct, culturally relevant and age-appropriate information to enable them to respond to real-life situations effectively.

Distancing from Family and Forming New Relationships

It is true that during adolescence, young people start extending their relationships beyond family and make a special place for peers. They develop a strong sense of selfhood and have their own views and feelings about various issues that may not always be in agreement with their parents. These attributes are important to prepare them for independent and responsible decision-making. While growing up, the adolescents want to act like adults and take independent decisions. In their effort to become independent and develop their own instinctive identity, they slowly distance themselves from their parents and start taking their own decisions and questioning others.

Peer-group Relationships

As adolescents start distancing themselves from their families, they start valuing their peers (friends/acquaintances) more than before. They often look to their peer-group for approval, and may even change their behaviour to win that approval. While the peer influence helps them in establishing their independent identities and may be a positive influence for discovering different aspects of their personalities, however, at the same time, peer influence can also be negative. It has been observed that a large number of those who experiment with smoking or drugs do so under peer-group pressure.

Nutritional Needs of Adolescents

Adolescence is a well-recognised stage of rapid growth and development. Nutrition is an important determinant of growth and development. However, nutritional needs of adolescents are ignored, as adolescents are considered to be naturally healthy. This neglect may lead to a number of health problems related to malnutrition. Although undernutrition, particularly of girls is a more serious problem in India, over-nutrition and obesity are also on the rise. Undernutrition is a more serious health problem among adolescent girls due to prevailing gender discrimination in the families. Adequate nutrition during adolescence enables young people to realise their potential. For example, appropriate

nutrition helps in physical growth, attaining normal bone strength and timely reproductive and sexual maturity. Good nutrition during adolescence may also help in preventing osteoporosis (weakening of bones) later in life.

A well-balanced diet, containing adequate amounts of proteins, carbohydrates, fat, vitamins and minerals, is essential for all adolescents. All these nutrients are present in different types of food items like rice, *chapaati*, *daal* (pulses), green vegetables, milk, fruits, ground nuts, beans, cereals, fish, eggs, meat, etc. It is essential to take these items in right proportions. There are many locally available seasonal low-cost food items that must not be missed out.

SOME COMMON NUTRITIONAL DISORDERS

Nutritional Anaemia

It is important to note that during adolescence the need for iron increases with rapid growth and expansion of blood volume and muscle mass. Hence, adolescents must consume iron-rich food items, green leafy vegetables, jaggery, meat and complement them with Vitamin C sources like citrus fruits [orange, lemon and Indian gooseberry (*Amla*)].

Bulimia Nervosa

Adolescents with this nutritional disorder indulge in bingeing (periods of overeating) and later purging or removing it by vomiting or using laxatives to prevent weight gain. Eating disorders such as bulimia are often caused by anxiety, tension or worry about one's weight.

Anorexia Nervosa

Adolescents with anorexia have a fear of gaining weight and they restrict their food intake by extreme dieting, fasting and indulging in overexercise. Anorexia nervosa is a self-imposed starvation related to a severely distorted body image.



ASSESSMENT

The teacher can assess the students with the help of following questions. The teacher may construct more questions for assessment also.

1. Answer the following questions:

- (i) What are the physical changes that take place during adolescence?
- (ii) Are the changes that take place in boys different from girls? If yes, what are those?
- (iii) What are the major psychological changes that occur during adolescence?
- (iv) Why do adolescents begin distancing from family and start depending on the peer group?
- (v) What are the effects of ignoring nutritional needs of adolescents?
- (vi) Why is right nutrition considered important during adolescence?
Name three food items each of which provide: (a) energy and (b) build body tissues.

2. Which of the following statements are myths (M) and which are facts (F)? Tick on the appropriate one.

- (i) Adolescence is a phase filled with problems and fears. (M/F)
- (ii) Experiencing physical attraction is a part of growing up. (M/F)
- (iii) Adolescents are irresponsible and should not be trusted. (M/F)
- (iv) It is not possible for adolescents to get along with their parents. (M/F)
- (v) During adolescence, girls' bodies mature earlier than boys in the same age group. (M/F)

3. Fill in the blanks:

- (i) Adolescence is the period between and
- (ii) Bulimia nervosa and Anorexia nervosa are related disorders which adolescents may get if they are not careful about eating the right food.

4. Match the terms related to psycho-social and emotional changes in adolescents mentioned in column A with their description in column B.

A	B
(a) Body image	(a) Valuing opinions of same age group
(b) Experimentation	(b) Trying out new ideas.
(c) Peer-group relationships	(c) Related to one's appearance.

5. Tick (✓) mark either Yes/No:

- (i) Genital hygiene is not so essential. (Yes/No)
- (ii) During adolescence, the voice of girls break. (Yes/No)
- (iii) Menstrual cycle in girls is controlled by hormones. (Yes/No)
- (iv) Night emission is normal in an adolescent boy. (Yes/No)
- (v) Pimples form in a teenager due to overactivity of oil glands. (Yes/No)

Fundamental Skills (Individual Sports)

Unit

2

In Class VI, we have already discussed some fundamental skills of different sports events. In this unit, these fundamental skills are discussed in little more detail.

INTRODUCTION

Human beings acquire and develop skills which enable them to perform various functions. These skills are developed and applied in different contexts. There are certain fundamental skills like walking or running which are developed very early during childhood. Though these fundamental skills are acquired, developed and used in day-to-day life, many of these are essentially related to sports and games. The present unit focuses on development and progression of these skills through sports activities.

The duration of sport activities for each class is generally 35–40 minutes. While teaching different skills of individual activities, the teacher should ensure that all the materials required for each class are available in sufficient quantity.

Objectives

After completing this unit, the teacher will be able to:

- help the students to improve the fundamental skills (running, jumping and throwing, etc.) and basic gymnastics;
- help students to develop a sense of rhythm and balance in individual sports and indigenous activities;
- identify talent of students in sports;
- improve techniques of individual students in sports;
- help the students to get opportunities to develop qualities such as confidence, self-esteem, willpower, physical and mental fitness; and
- help students to improve the physical and mental fitness.

Guidelines for the Teacher

- Familiarise the students with the procedure of performing the skills of individual sports and their different phases.
- Take the students through a warm-up session.
- Divide the students into small groups of 8–10.
- Take help of a few students and use them as leaders.
- Ask the students to practise the skill under your supervision or of the student leader.
- Observe the students and make necessary corrections in the technique, if required.
- Motivate the students so that they take a keen interest while learning the skill.
- Sum up at the end of the lesson and clear the doubts, if any.
- Ensure that the students perform a session of limbering down at the end of the class.
- Disperse the class in a proper manner.
- Let the teacher take the individual game, one by one, for developing fundamental skills.

FUNDAMENTAL SKILLS

Track and Field

The teacher explains the fundamental skills of track and field events like running, jumping and throwing. Running events have short distance, middle and long distance, while field events have jumps and throws. In this unit, we are going to cover sprinting, jumping, throwing and relays.

Sprinting

Sprints are running events that include 100 metres, 200 metres and 400 metres run. The technique of sprint consists of start, running and finish. The techniques of 100 metres run have already been discussed in Class VI.

Activity 2.1: 200-metre run

Although the crouch start is used in sprint, students may also be taught standing start.

Materials required: Clapper, Lime Powder, Cord, Starting Block, Writing Pad, Pen.

The techniques of 200-metre run are as follows:

(i) Start, (ii) Running, and (iii) Finish

Start – The teacher gives the command.

- *On your mark* – The students attain a crouch position in which arms are straightened and hands are kept shoulder width apart in high bridge position. The back is kept flat; eyes are focused a few feet ahead of the starting line, as shown in Fig. 2.1.
- *Set* – On this command, ‘set’ hips are raised higher than the shoulders. The angle of front knee is approximately 90° and the rear knee is 120° ; the weight is distributed on both hands and feet, as shown in Fig 2.2.
- *Go/Clap* – On command ‘Go’ (clap), legs are extended forcefully, hands are lifted from the ground and the student starts running. This technique is shown in Fig. 2.3.

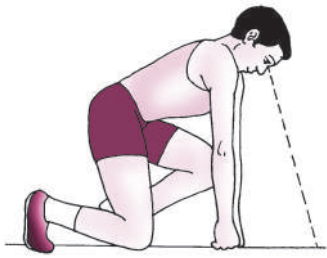


Fig. 2.1 On your mark

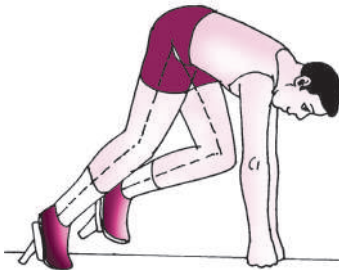


Fig. 2.2 Set



Fig. 2.3 Go

Running – Students are told to maintain forward inclination in the first phase and move the legs as fast as possible. The students, gradually, increase stride length and stride frequency and move arms in a counterbalancing manner.

Finish – For an efficient finishing of the race, advise the students to follow three methods which are commonly used. These are:



Fig. 2.4 Run through



Fig. 2.5 Shoulder shrug



Fig. 2.6 Dip

- *Run through* – In this method, speed is maintained through the finish line as shown in Fig. 2.4.
- *Shoulder Shrug* – In this method, shoulders are thrust nearer to the finish line and moved downwards towards the finish line, as shown in Fig. 2.5.
- *Dip* – In this, arms move backward together and the torso is dipped towards the finish line, as shown in Fig.2.6.

Jumping

Jumping events consist of Long Jump, High Jump, Triple Jump and Pole Vault.

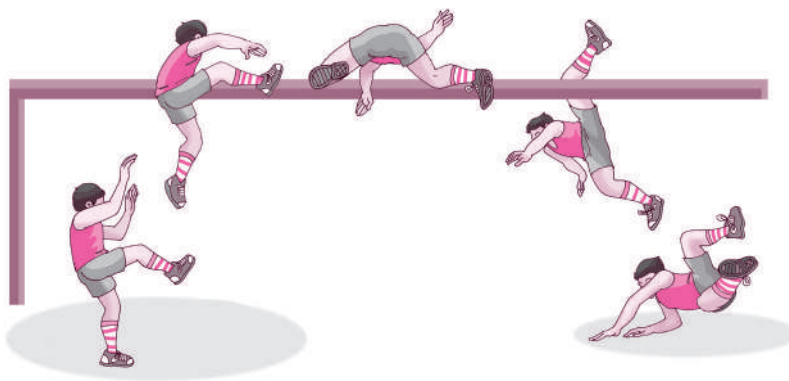


Fig. 2.7 Steps of High Jump

Activity 2.2: High Jump

Materials required: High Jump Pole and Bar, Pit, Measuring Tape, Writing Pad, Pen.

The techniques of High Jump are as follows:

(i) Approach Run, (ii) Take-off, and (iii) Bar Clearance and Landing.

Approach Run – In this run, jumper uses 7–11 strides (single long steps). The approach run is performed at an angle of 20°–40° in a rhythmical manner. In last few strides, the jumper prepares for a take-off. The take-off leg contacts ahead of the body and is kept straight, while the other leg remains flexed. A backward lean is attained. The arms move in a backward direction or naturally.

Take-off – During the take-off, the extension of take-off leg (stronger leg) is accompanied by the swing of non-take-off leg in forward and upward direction. The arms also move upward simultaneously. Due to the coordinated movements of body segments, the jumper's body moves in the vertical direction.

Bar Clearance and Landing – After the take-off in the flight phase, the trunk moves around the cross bar, followed by turning of the take-off leg upward. As a result, the jumper's body rotates around the cross bar. For the left leg take-off, the jumper will land on the right side of the body. The techniques of High Jump are shown in Fig. 2.7.

Throwing

Throwing events consist of Discus Throw, Shot Put, Javelin Throw and Hammer Throw. However, in this unit, only Discus Throw is explained. The teacher needs to explain the rules and techniques before starting the Discus Throw. The teacher should demonstrate the various steps involved in Discus Throw, as shown in Fig. 2.8 (a,b,c,d,e and f) and Fig. 2.9.

Activity 2.3: Discus Throw

The technique of Discus Throw consists of grip and stance, swings, turn, release and reverse.

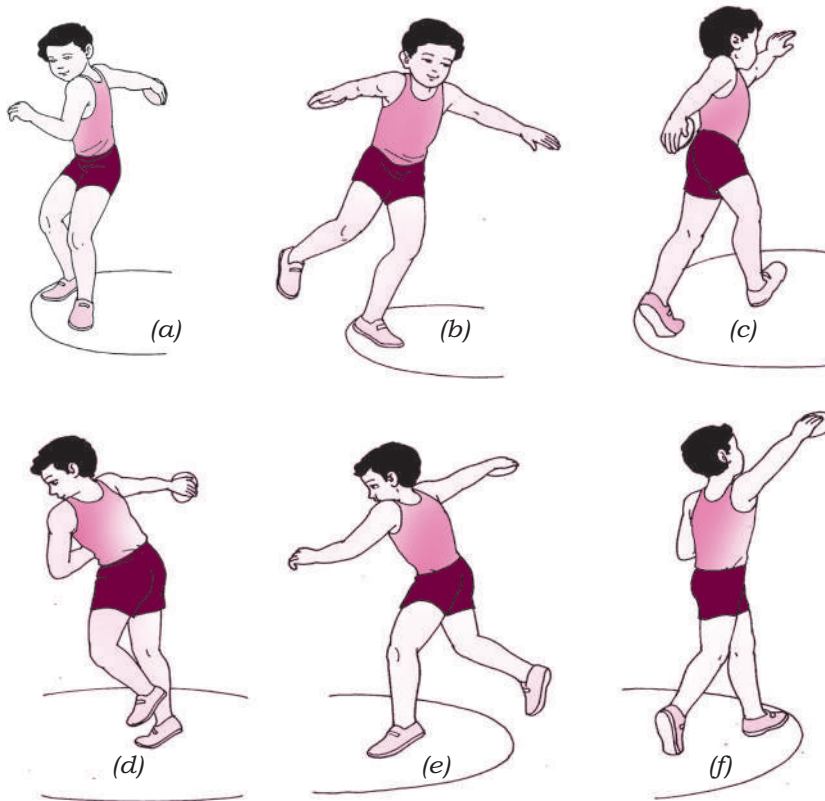


Fig. 2.8 Steps of Discus Throw

Materials required: Ring, Discus, Measuring Tape, Lime Powder, Cord, Writing Pad, Pen.

The techniques of Discus Throw are as follows:

(i) Grip and Stance, (ii) Swings, (iii) Turn, and (iv) Release and Reverse.

Grip and Stance – The thrower attains a stance in the rear half of the circle, while toes touching the inner edge of the rim Fig. 2.9. The legs remain still and about shoulder width apart and flexed.

Swings – The discus is swung twice or thrice across the body followed by a giant swing.



Fig. 2.9 Grip

Turn – The $1\frac{1}{2}$ turn is used to accelerate the discus around the body. The trunk is kept straight and the throwing arm away from the body. The other arm remains flexed in front of the chest. After the completion of the turn, the right foot lands in the centre of the circle. The left foot lands slightly to the left side near the rim. The right leg remains flexed and the left is kept straight.

Release and Reverse – The release is initiated by the extension of the right leg and rotating the right side. The discus is released approximately at the shoulder level. The right leg is brought forward and flexed during the reverse.

Relays

There are two types of relays in track events: (i) 4×100 metres and (ii) 4×400 metres. The teacher needs to explain the relay as given below.

Activity 2.4: 4×100-metre Relay

Materials required: Baton, Lime Powder, Cord, Clapper, Writing Pad, Pen.

The techniques of 4×100-metre relay are as follows:

(i) Start, (ii) Running and Baton Exchange, and (iii) Finish.

In this event of 4×100-metre relay, there are four runners and each runner has to run 100 metres distance to cover a 400-metre distance. The first runner begins the race in his/her own lane using sprint start with a baton, which must be passed on to the second runner, using non-visual exchange method within 20 metres change over zone extended 10 metres on either

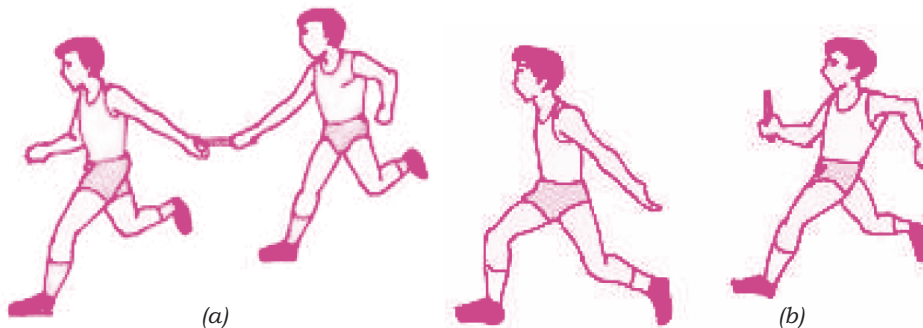


Fig. 2.9 Steps of Baton Exchange

side of the 100 metres mark. Change of baton takes place with the right hand of the passer and left hand of the receiver as shown in Fig. 2.10 (a and b). Similarly, the baton is exchanged between second and third, and third and fourth runner. The fourth runner finishes the race by crossing the finishing line.

INDIVIDUAL SPORTS

As a teacher, make sure that track and field events are made compulsory for all students. However, depending upon the facilities available, any one activity should be chosen out of the following:

1. Gymnastics
2. Swimming
3. Wrestling
4. Judo

Activity 2.5: Individual Sports

Ask the students to share their experience of participating in various games and sports. Also, encourage them to explain why they like to play and which is their favourite game and why?

Note down the responses given by the students and explain the importance of playing games/sports.

Gymnastics

The teacher needs to explain the techniques of gymnastics and ask the students to practise.

Gymnastics is a sport involving performance of exercises requiring physical strength, flexibility, agility, coordination and balance. Internationally, all gymnastic sports are governed by the International Federation of Gymnastics (FIG). Every country has its own national governing body affiliated to the FIG. Competitive Artistic Gymnastics is the best known of the gymnastics sports. It involves women's events like Uneven bars, Balance beam, Floor exercise and Vault. Men's events are Floor exercise, Pommel horse, Roman rings, Vault, Parallel bars and High bar. Gymnastics evolved from exercises used by the ancient Greeks, which included skills for mounting and dismounting a horse, and also circus performance.

Activity 2.6: Balancing (One Leg)

Materials required: Mattress, Writing Pad, Pen.

The techniques of balancing (one leg) are as follows:

(i) Initial Position, (ii) Execution, and (iii) Final Position.

- *Initial Position:* The student is made to practise balancing on one leg till waist level first.
- *Execution:* He/she is then made to hold the stretched position, as shown in Fig. 2.11 for greater accuracy and balance.
- *Final Position:* This posture is graceful when performed effortlessly and accurately.



Fig. 2.11 Balancing (One Leg)

Activity 2.7: Straddle Forward Roll

Materials required: Mattress, Writing Pad, Pen.

The technique of Straddle Forward Roll is divided into three parts: (i) Initial Position, (ii) Execution, and (iii) Final Position.

- *Initial Position:* This is the starting position, in which the student stands erect with legs apart, as shown in Fig. 2.12(a).
- *Execution:* The straddle forward roll includes bending the upper body and placing the palms on the mats with shoulder width apart, bending the arms, placing back of neck on the ground rolling forward, with legs still in stretched apart

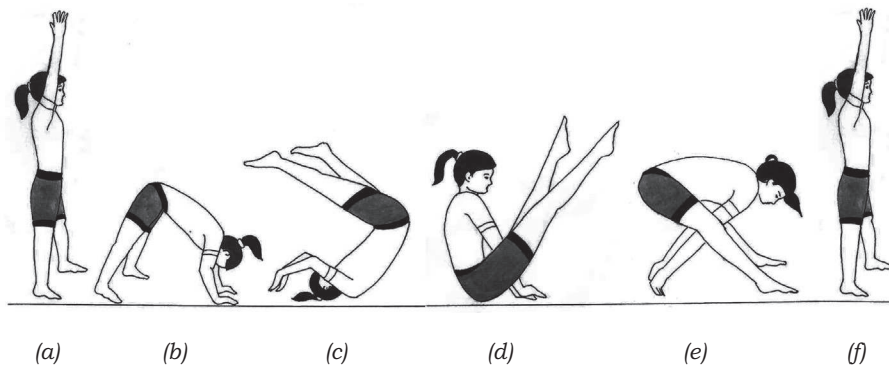


Fig. 2.12 Steps of Straddle Forward Roll

position and finally, bringing the upper body forward to complete the roll as shown in Fig. 2.12 (b, c, d and e).

- *Final Position:* The final position, is similar to the starting position, as shown in Fig. 2.12 (f).

Activity 2.8: Straddle Backward Roll

Materials required: Mattress, Writing Pad, Pen.

The technique of Straddle Backward Roll is divided into three parts: (i) Initial Position, (ii) Execution, and (iii) Final Position.

- *Initial Position:* This is the starting position, in which the student stands erect with legs apart, as shown in Fig. 2.13(a).
- *Execution:* The straddle backward roll includes bending the upper body forward, dropping the piked position backward with palm support on the mat and continue rolling backwards with rounded upper body and placing the palms on the floor by the side of head, lifting the legs and pulling them backwards to complete the roll. Finally, pressing the palms to bring the upper body in standing position, as shown in Fig. 2.13 (b, c, d and e).
- *Final Position:* The final position of is similar to the starting position, as shown in Fig. 2.13(f).

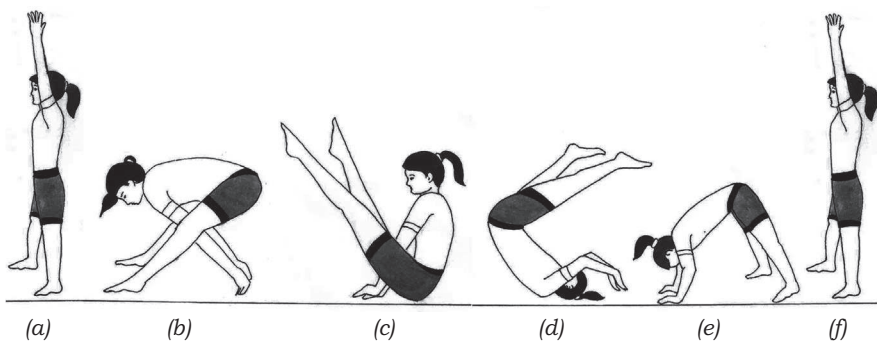


Fig. 2.13 Steps of Straddle Backward Roll

Swimming

Swimming consists of different strokes, i.e., Front Crawl/Freestyle, Back Stroke, Breast Stroke and Butterfly. Front Crawl has already been discussed in the Teachers' Guide for Class VI.

For class VII, only Back Stroke will be discussed.

The teacher needs to explain the techniques of Back Stroke (arm and legs action, and breathing) to students as follows.

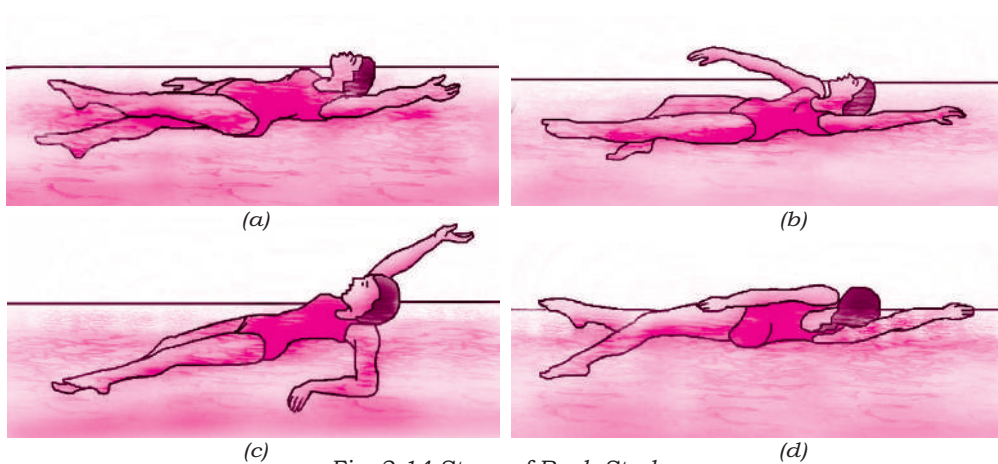


Fig. 2.14 Steps of Back Stroke

Activity 2.9: Back Stroke

The back stroke consists of alternate action of arms with up and down kicking of legs, while the swimmer's face is up, as shown in Fig. 2.14 (a,b,c and d). While turning, the swimmer should bend from the stomach and take a flip turn. Some part of the swimmer should touch the wall and he/she should finish in the back position only.

Wrestling

Wrestling is a traditional combative sport, which involves grappling-type techniques. The sport demands physical fitness and confidence. It is between two players weighing differently. There are many techniques of wrestling such as pins clinch, throw, takedown and joint locks. For Class VII, only pinning hold and Half Nelson is discussed.

Activity 2.10: Pinning Hold

Materials required: Shock absorbing mat of 5–7 centimetres thickness.

Guidelines for the Teacher

- The teacher needs to explain and demonstrate the pinning hold technique as given below.

A pinning hold is also known as a hold down. 'Pinning technique' is a general grappling hold used in ground fighting which is aimed to subdue by exerting superior control over an opponent and pinning the opponent to the ground. Pinning hold where both the shoulders of the opponent touch the ground is considered a winning condition.

An effective pinning hold is a winning condition in many styles of wrestling, and is simply known as a 'pin'. Pinning hold is also used in mixed martial arts, even though the pinning hold itself is not a winning condition. The pinning hold can be used to rest, while the opponent tries to escape or control the opponent while striking. A tactic known as ground and pound or to control an opponent from striking by pinning them to the ground is also known as lay and pray. This technique is shown in Fig. 2.15.

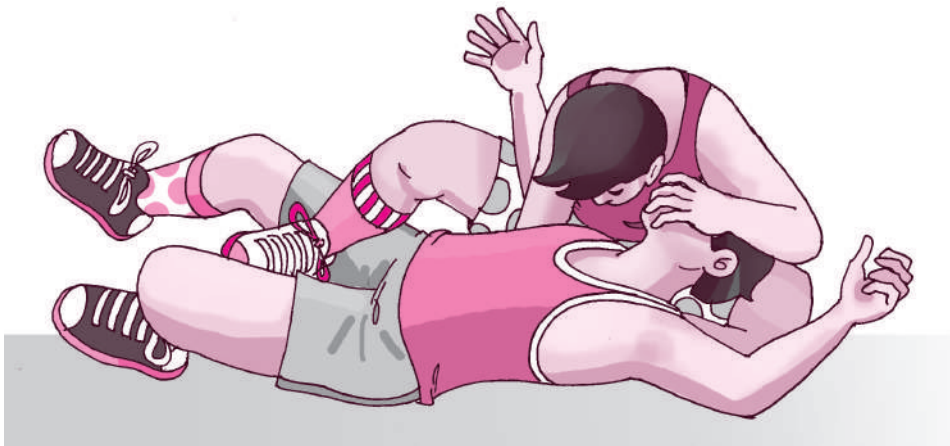


Fig. 2.15 Pinning hold

Activity 2.11: Half Nelson

Half Nelson is a wrestling hold, in which the holder puts an arm under the opponent's arm and exerts pressure on the back of the neck. The teacher will ask students to practise it.

Guidelines for the Teacher

- The teacher needs to explain and demonstrate the Half Nelson techniques.

Judo

Judo meaning 'gentle way'. Judo is a relatively modern martial art. It was developed in Japan in 1882 by Jigoro Kano. Judo was included in the Olympic Games for the first time in 1964 for men and in 1992 for women.

Guidelines for the Teacher

- The teacher needs to explain and demonstrate the Judo techniques.

Activity 2.12: Throwing Technique (*Nage-waza*)

Materials required: Mat, Playroom, Writing board.

Time required: 45 minutes.

Nage-waza include all techniques, in which *tori* attempts to throw or trip *uke*, usually with the aim of placing *uke* on his/her back as shown in Fig. 2.16 (a, b and c). Each technique has three distinct stages:

- *Kuzushi*, the initial balance break;
- *Tsukuri*, the act of turning in and fitting into the throw;
- *Kake*, the execution and completion of the throw.

Nage-waza are typically drilled by the use of *uchi komi* repeated turning-in, taking the throw up to the point of *kake*.

Traditionally, *nage-waza* are further categorised into *tachi-waza* (standing techniques) and throws which are performed with *tori* maintaining an upright position, and *sutemi-waza* (sacrifice techniques) and throws in which *tori* sacrifices upright position in order to throw *uke*.

Tachi-waza are further sub-divided into *te-waza* (hand techniques), in which *tori* predominantly uses arms to throw

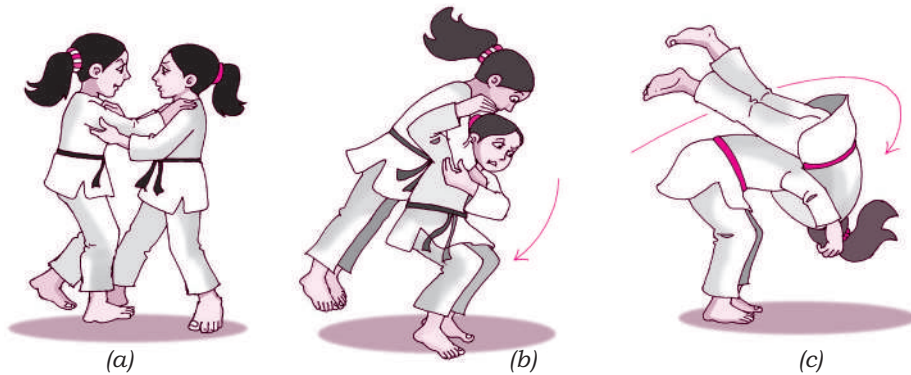


Fig. 2.16 Steps of Nage-waza

uke; *koshi-waza* (hip techniques) and throws that predominantly use a lifting motion from the hips; and *ashi-waza* (foot and leg techniques) and throws in which *tori* predominantly utilises legs.

Nage-waza

Nage-waza throwing techniques consist of: (i) *Te-waza*: hand-throwing techniques; (ii) *Koshi-waza*: hip-throwing techniques; and (iii) *Ashi-waza*: foot-throwing techniques.

Activity 2.13: Throwing Technique (*Ippon Seoi-nage*)

The technique is designed in such a way that it becomes easy to understand the process involved in the application of the technique.

Stage 1: Familiarise the students about the stages in throwing techniques. In this stage, ask each student to place his/her right foot twisting on the left foot.

Shifting body weight on the front foot will make the student take a 180° turn simultaneously bending his/her knees in such a way that the toes come in a single line pointing forward and shoulder width gap between both the feet with weight equally distributed, back straight in an inclined manner and hands resting on thighs.

Stage 2: In this stage, *Tai Sabaki* technique is explained in front of the partner, keeping in mind the same check points, i.e., both the feet should be between the opponent's feet, hips should

touch to the lower thighs of the opponent and there should be no gap between both the players.

Stage 3: *Tai Sabaki* with *kumikata* and *tsukuri* (Turning movement with grip and fitting action). In this stage, ask students to perform the same task with *migi* or *hidari kumikata*, i.e., right or left side grip. For performing two arms shoulder throw, one has to complete the turning action without losing the grip and bending the right arm (if performing from right side otherwise left) from elbow and placing the bent elbow down the right armpit of the opponent, the bent arm should make a 90° from the ground and it should be parallel to the ground. And while completing the *tsukuri*, i.e., fitting action, the subject should be in a position to execute a throw.

Stage 4: The stage 4 is called *kake* (execution of technique). While explaining the importance of the last stage stand, the teacher mentions that one has to complete the throw by compiling all previous stages in continuation. One has to execute the throw by doing several actions simultaneously, i.e., straightening of knees, pulling of opponent's right arm in his/her left downward corner and by looking at left back upward corner for successful application of the technique.

Stage 5: After completing the throw, the student/player should not lose control over himself/herself and over the opponent. In this, one should keep one's right arm under control even after execution of complete throw.

Activity 2.14: Throwing Technique (UCHI-MATA) (inner thigh reaping throw)

Stage 1: *Tai Sabaki* without partner (Turning movement without partner). In this stage, one has to perform the turning action required for the technique, i.e., variation of *migi mae tasabki*-right front turning movement.

- **Count 1** – The student places his/her right foot in front of previous position of his/her own right foot.
- **Count 2** – Taking his/her left leg by the side of his/her right foot making a cross position by legs, then shifting his/

her right foot apart from the left foot, the right foot should be airborne and fully stretched toes pointing downward.

Stage 2: *Tai Sabaki* in front of the partner (Turning movement in front of the partner). The student has to perform the same thing as one has performed in the last stage, keeping in mind some checkpoints, i.e., student should make his/her foot apart in such a way that both of his/her legs stay in between the partner's feet, both the knees should be flexed so that the hips of the subject should be intact with opponent's lower thighs.

Stage 3: *Tai Sabaki* with *kumikata* and *tsukuri* (Turning movement with grip and fitting action). In this stage, the student has to perform the same task with *migi* or *hidari kumikata*, i.e., right or left side grip. For performing inner thigh reaping throw, one has to complete the turning action by taking the right arm of the opponent with his/her left arm in a way as if he/she is watching his/her wrist watch, and placing the right leg at the inner thigh of the opponent's left leg. The leg should be fully stretched and should not bend from the knees.

Stage 4: *Kake* (execution technique). In this stage, one has to compile all the above stages in a sequential manner without breaking the momentum of the technique, and with this, some key points have to be taken care of. Under the category of leg throw, the main emphasis is laid on swinging of the right leg in backward direction as much as one can, for effective application of the technique and pulling, and controlling the right arm of the opponent.

Stage 5: After completing the throw, one has to be in total control holding the opponent's right arm even after the completion of the throw.

The above mentioned are some of the examples for hand, hip and leg techniques, which can be further improvised according to the coach's/teacher's abilities and considering the level of performance of the student.



ASSESSMENT

Try to assess the attitude/interest of the students towards particular game/sport through observation. Assessment in swimming will be carried out by objective and subjective evaluations.

1. Answer the following questions:

- (i) Explain the Start and Finish.
- (ii) Explain the term Half Nelson.
- (iii) Explain the Judo.
- (iv) Describe Back stroke in Swimming.
- (v) Explain the method of Baton Exchange.

2. Perform the following techniques:

- (i) Sprint
- (ii) Discus Throw
- (iii) Balancing
- (iv) Pinning Hold
- (v) Ippon Seoi-nage

3. Fill in the blanks:

- (i) Straddle roll technique is related to
- (ii) The term butterfly is related to.....
- (iii) Baton is exchanged withinmetre(s) change over zone.

4. Tick (✓) mark either Yes/No:

- (i) High jumper runs 20–30 metres in approach run. (Yes/No)
- (ii) In 4×100-metre relay, baton are exchanged by using visual method. (Yes/No)
- (iii) 100-metre sprint is started using crouch. (Yes/No)
- (iv) Half Nelson is related to gymnastics. (Yes/No)
- (v) Non-visual method is used in the technique of baton exchange. (Yes/No)

5. Write short note on the following:

- (i) High Jump
- (ii) Relay Race
- (iii) Discus Throw
- (iv) Pinning Hold

6. Match the columns:

Judo	-	Pinning Hold
Wrestling	-	High Jump
Swimming	-	Ippon Seoi-nage
Athletics	-	Back Stroke

7. Term related to:

Judo	-	Hold Down
Gymnastics	-	Take-off
Wrestling	-	Free Style
Swimming	-	<i>Tori</i>
Athletics	-	Balance

Fundamental Skills (Team Games)

Unit

3

INTRODUCTION

In *Teachers' Guide for Class VI*, various skills of team games have already been covered. In addition to those skills, some more are covered in this unit.

Objectives

The unit will help the teacher to enable students to:

- learn skills of various team games effectively and efficiently.
- sustain their interest in learning skills of team games including indigenous games.
- help students to channelise energy and develop quality of team spirit, cooperation and leadership.
- identify and nurture talent of students.

By now, the teachers become aware that students have developed some sort of coordination with respect to the skills of the game of their choice in Class VI. In this class, some more skills are demonstrated by the teacher before students and are asked to do practice.

Guidelines for the Teacher

- Explain the importance of fundamental skills of selected team games in classroom and on playing field to students.
- Once the skills are made clear to the students, ask them to do warm-up by involving them in general exercises like jogging, running and stretching.
- Take help of some students and use them as leaders, if required. However, ensure that you keep changing the

leader so that every student gets the opportunity to act as the leader.

- Let the students practise the skill under the supervision of the teacher of the selected sport.
- Make necessary corrections in the techniques, if need be.
- Motivate the students so that they take keen interest while learning the skills.
- Make them perform a session of limbering down exercises at the end of the class.
- Sum up at the end of the lesson and clarify doubts, if any.

Duration and Materials required: The duration of each class is 35 minutes and for teaching different skills of team games, the teacher should ensure that all the material/equipments required for each class are available in sufficient quantity.

Depending upon the facilities available, any two games including indigenous games are to be chosen out of the following:

1. **Hockey** – In Hockey, various skills like Holding the Stick, Stance, Straight Hitting, Stopping and Straight Push need to be focused.
2. **Football** – Skills of Football are Dribbling and Kicking (Push Pass, Full Volley, Half Volley).
3. **Cricket** – In Cricket, the students are encouraged to learn Batting (Straight Drive, Hook and Pull), Fielding and Bowling (Pace).
4. **Basketball** – Skills of Basketball are Dribbling (Low) and Shooting (Set Shot).
5. **Volleyball** – In Volleyball, skills like Round-arm Service, Overhead Service, Underarm Pass and Over-head Pass are needed.
6. **Badminton** – Clearing and High Serve are the skills of Badminton.
7. **Kabaddi** – Side Kick, Mule Kick, Knee Catch and Thigh Catch are the skills of Kabaddi to be learnt by students.
8. **Kho-Kho** – In Kho-Kho, students need to develop the skills of running (zig-zag and pole dive) while chasing.

HOCKEY

Activity 3.1: Stance

Instruct the students to bend knees slightly, aim for the ball, which should be in line with the left foot or slightly in front of it. Left foot should point forward, and the right foot should be there for back support. The ball should be at the stick's length away from the body. Provide opportunities, both in the class as well as in the field, for students to share their knowledge and skills of holding, hitting, stopping and straight push related to hockey, and correct them, if they go wrong.

Activity 3.2: Holding the Stick

Ask the students to hold the hockey stick with the left hand at the top and the right hand near the middle of the stick, as shown in Fig. 3.1. Explain how the grip on the hockey stick depends upon the skill. For example, for a free hit, the right hand should be close to the left hand at the top. For the purpose of dribbling and push stroke, the right hand should be approximately in the middle of the hockey stick. In case of dribbling, the grip of the right hand should be loose so that the stick could be moved with the left hand whereas in case of push, the grip of the right hand should be firm.



Fig. 3.1 Holding the Stick

Activity 3.3: Straight Hitting

Explain how the straight hit happens when the stick is moved back from the ball and then brought forward to hit the ball with extra force. This skill is shown in Fig. 3.2. This skill of hitting makes the ball to travel a long distance.

Activity 3.4: Stopping

For teaching the stopping skill, allow the player to change directions quickly. One requires to practise effectively to stop facing both ways, as shown in Fig. 3.3.



Fig. 3.2 Straight Hitting



Fig. 3.3 Stopping

Activity 3.5: Straight Push

For this skill, tell students to use their wrist to force the ball forward. Such skills are typically used to pass the ball to another player or to put the ball into play.

In the next session, take the students to practice in the ground.

FOOTBALL

The skills of Football are Dribbling, Kicking (Instep Kick, Push Pass, Full Volley, Half Volley), Trapping, (by Sole of Foot, Instep of Foot and Thigh).

Activity 3.6: Dribbling

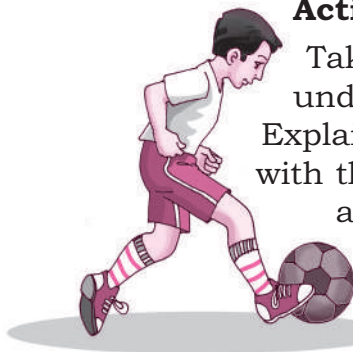


Fig. 3.4 Dribbling

Take students to the field and help them understand the various skills of Football. Explain that in dribbling, the player travels with the ball. Good dribbling using both feet is a fundamental skill of Football as shown in Fig. 3.4.

Dribbling is most often used in offensive situations. One player keeps control of the ball and, as long as he/she does so, he/she has control over the game. He/she uses his/her agility to set up passes and buy time for his/her teammates to position themselves for attack.

Football Kicking Skills

The teacher may demonstrate kicking skill. Explain kicking as the act of propelling a ball by striking it with the foot. Kicking is most common in Football, and only the two goalkeepers are permitted to use their hands.

For the majority of the time, a football is kicked either using the inner side of the foot that runs along from toe to heel, or using the small area around the inside of the big toe (between 11 and 12 o'clock if looking down at your foot as though it were a clock face). This skill is shown in Fig. 3.5.

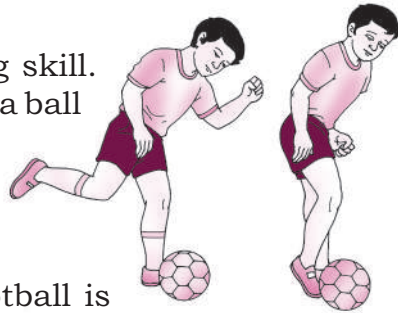


Fig. 3.5 Instep Kick

Activity 3.7: Push Pass

The push pass is without a doubt the most used pass in the game of Football, although it may seem quite simple. Involve students in training to develop accuracy to perform this skill. So, basically it is performed by making contact with the ball, inside of the foot and follow through, 'pushing' the ball with instep as shown in Fig. 3.6.



Fig. 3.6 Push Pass

Activity 3.8: Full Volley

Demonstrate and explain the skill of Full Volley, as shown in Fig. 3.7. A full volley can create a powerful shot which can be difficult to save. The most difficult task with a full volley is to get the shot accurately on the goal. One really needs to hit the ball perfectly and in the right direction. This type of shot is ideal when one has several opponents running while the ball is falling from

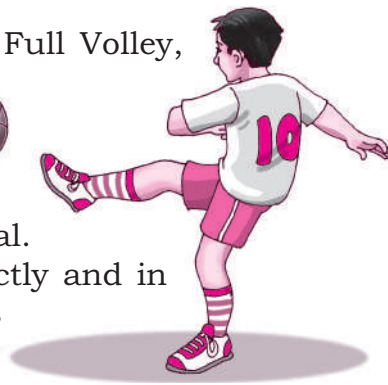


Fig. 3.7 Full volley

the sky. A common situation is when the ball is cleared away from a corner kick and one is standing about 5–10 yards from the penalty box line.

Activity 3.9: Half Volley

A half volley is somewhat similar to the full volley except that one will first get control over the ball and then perform the shot. This is also why a half volley is a better alternative for long-range shots because one will be able to take the shot while the opponents are unprepared. Explain the procedure to students as follows:

Procedure

1. With the ball in possession, the first player in line takes 2–3 jogging steps, drops the ball to the ground, and hits a low, powerful half-volley shot into the goal. The half-volley or drop-kick is kicked as the ball rises from the bounce. The player should not kick the ball on the way down.
2. If the player misses the goal, he/she must retrieve the ball and get back in line.
3. If the ball goes in the goal, the teacher will retrieve the ball and toss it to the player.
4. Then the next player performs a half volley.

CRICKET

In Class VI, we have already covered the basics of batting. The life of a cricketer revolves around the basics. It is important to spend considerable time on basics which have already been explained. Running should be practised by students progressively.

The skills covered in cricket are:

- Batting Straight drive, Hook shot and Pull
- Bowling (Pace)
- Fielding

Activity 3.10: Batting Straight Drive

Explain about the balls ‘in reach’ and ‘out of reach’. Feed the balls yourself telling the student which ball is in his/her reach and also, whenever he/she reaches the ball he/she should drive. In

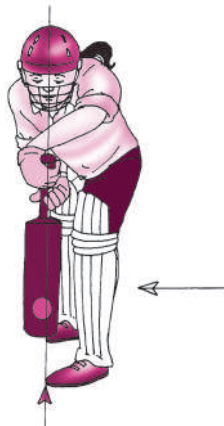


Fig. 3.8 (a) Batting Straight Drive

case the ball is not in player's reach, he/she should defend. The emphasis should be on body alignment and weight transfer. The toe, shoulder, head, neck and top hand are kept in the direction of the ball and bat following the line of the ball. Thus, practice should be given to hit the ball or to play straight drive, off-drive and cover drive.

The straight drive is one of the most classic shots. It is usually played to a full length delivery on or outside off stump. Most of the work is done by the top hand, with the bottom

hand lending support, to keep the ball along the ground of the player. This skill is shown in Fig. 3.8 (a and b).

Familiarise the students with the following steps:

Step 1: With eyes fixed on the ball, lean in with the front shoulder. The front foot and bent front knee form the base for the shot.

Step 2: The head should at least be at the level or ahead of the front knee, with the back foot raised up to the toes. The bat accelerates vertically and makes contact with the ball.

Step 3: The bat accelerates through a straight path, with the wrists relaxing and the face of the bat of the player pointing to wards the sky.

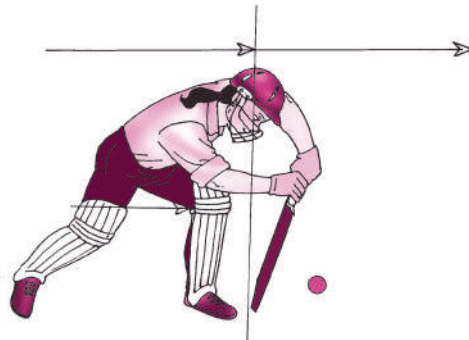


Fig. 3.8 (b) Batting Straight Drive

The teacher should explain volley. Volley is a ball pitched close to bat dropping just in front of bat while hitting the stroke. Batsman's front leg, toe, elbow and head should be in one line in the direction of ball and bat should swing in the same direction.

Activity 3.11: Hook Shot

The term hook shot is used when the shot is played against a ball bouncing at or above the chest level of the batsman. The batsman, thus, 'hooking' the ball behind square leg, either along the ground or in the air. Pull and hook shots can be played off front or back-foot, with back-foot being more typical. The teacher can show it also through demonstration as shown in Fig. 3.9.



Fig. 3.9 Hook Shot

Activity 3.12: Pull Shot

Explain how the pull shot is a cross-batted shot played to a ball bouncing around waist height by swinging the bat in a horizontal arc in front of the body, pulling it around to the leg side towards mid-wicket or square leg, as shown in Fig. 3.10.

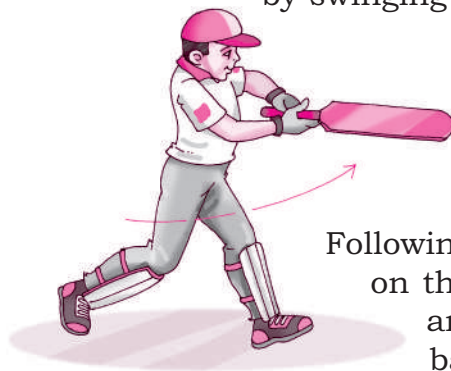


Fig. 3.10 Pull Shot

Activity 3.13: Off-drive

Following all the above steps, the ball is fed on the off-stump, feet reaching the ball and elbow, straight in the line of the ball, shoulder, head in the line of the ball, bat swings in the same direction of the ball and completes the stroke.

Activity 3.14: Cover Drive

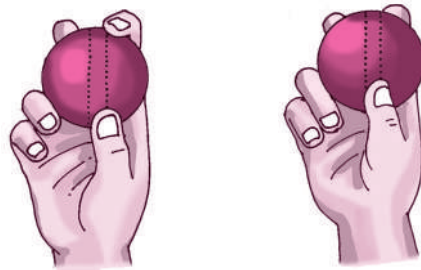
For teaching cover drive, demonstrate how the feet reach the ball pitched outside the off-stump and body aligned straight to the ball with front leg, elbow, shoulder and head all in one line and body weight transferred from back leg to front leg. It is important to demonstrate that the bat follows the line of the ball.

Activity 3.15: Bowling (Pace)

Explain what is bowling, how to take short steps, move towards the stumps slowly and at the delivery side, generate maximum momentum with back foot parallel to popping crease, with batsman's rock back the bowler should lift the non-bowling arm up and pull down straight in the line of the batsman and pulling the body towards the batsman.

The bowler should be told to keep the wrist straight. As shown in Fig. 3.11(a), the bowler should be told to keep seam the way he/she wants to bowl (out-swing, in-swing, etc.)

One should be very careful about leading the ball from close to chest straight keeping arm high and then deliver it. As



Grip for In-swing. The seam is pointed towards fine leg. Grip for out-swing. The seam is pointed towards first or second slip.

Fig. 3.11(a) Bowling (Pace)

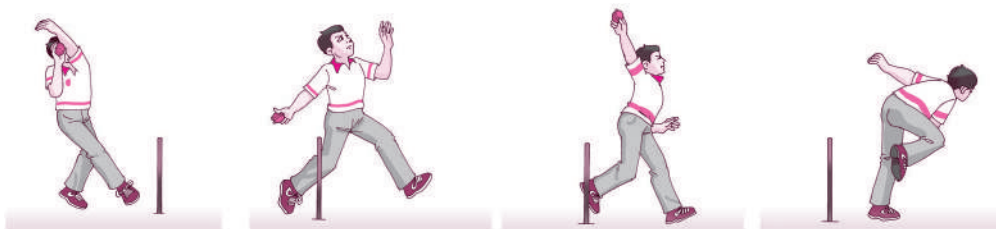


Fig. 3.11(b) Steps of Bowling (Pace)

depicted in Fig. 3.11(b), the students should be told to follow the basics of bowling and also see which way the ball will face in case of out-swing/in-swing. With the help of given figures, the students should be explained about the length of the ball. Matches should be organised by the teacher between students once a week for transfer of training.

Activity 3.16: Fielding

As it has already been taught in the previous class, basics of fielding will remain the same. The emphasis should be on the speed. There are different types of catches, i.e., short, long and slip which need to be practised. Tell students to hold the catches by making a soft cup by joining both hands. They should be shown how they should always hold the catch close to the body. Explain the skills of Fielding to them with the help of Fig. 3.12 (a and b), the over-arm and the under-arm throw.

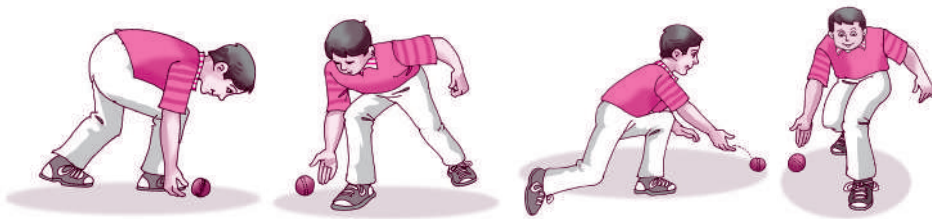


Fig. 3.12 (a) Steps of Fielding (Under-arm throw)

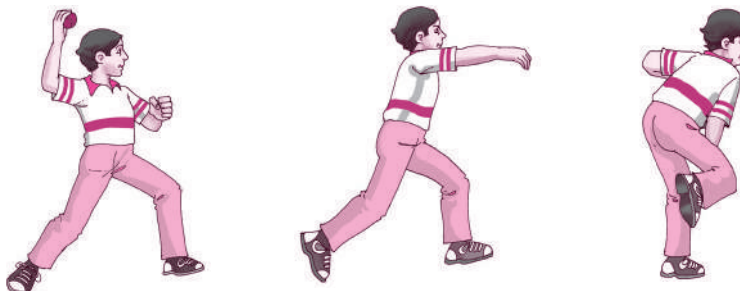


Fig. 3.12 (b) Steps of Fielding (Over-arm throw)

BASKETBALL

Explain the skills of Basketball and ask students to practice. The skills of basketball are stance (holding the ball), dribbling (low), shooting (set shot).

Activity 3.17: Stance (Holding the Ball)

Explain the skills of Basketball as follows:

A good 'basketball position' or 'stance' is a basic starting position since it is easier to start and stop, change direction and

pace, jump, shoot, pass, catch and dribble after the 'stance', as shown in Fig. 3.13.

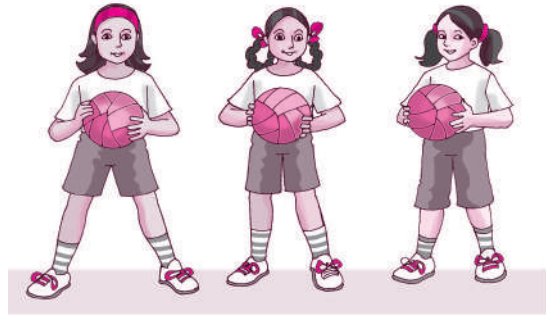


Fig. 3.13 Stance

The body weight should be on the ball of the feet and the feet should be shoulder width apart with the knees bent, as shown in Fig. 3.14.

The head is centred above the lower body, and hands are about chest high with elbows bent and arms close to the sides.

Activity 3.18: Dribbling (Low)

In dribbling, the ball is kept low to the floor, thus decreasing the area between the hand and the floor.

The low dribble is to be used whenever one is closely guarded. This type of dribbling simply entails keeping the ball low to the floor and in control, as shown in Fig. 3.14. Direct the students to extend the dribbling hand and arm down as much as possible to shorten the distance which the ball has to travel. Keep the elbow of the dribbling hand close at one's side.



Fig. 3.14 Dribbling

You can tell students to dribble the ball on the side of their body away from the defender. The palm of the dribbling hand is kept over the ball. Students should not watch the ball as one dribble and look over the court and prepare options. Students should use other forearm to shield the ball from the defender. While being tightly guarded, one should be careful not to blatantly push or shove the defender with forearm.

Activity 3.19: Shooting (Set Shot)

This shot is used when one is standing still and close to the basket, as shown in Fig. 3.15.

Step 1: It is also the technique used for a free throw — an unopposed shot awarded after an opposing foul, and taken from the free-throw line. To begin the shot, crouch down with the knees apart and face the basket. The shooting hand should be behind the ball with the wrist cocked. If one is a right-hand shooter, the right leg should be just ahead of the left as one's knees bend.

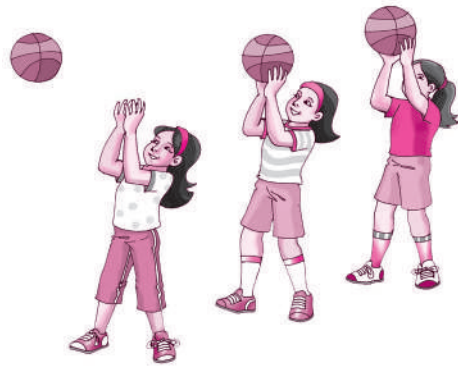


Fig. 3.15 Steps of Set Shot

Step 2: Make sure the shooting hand is facing the basket. Start the shot by straightening the legs and transfer the weight slightly forward. With the ball in front, one should see as springing up towards the basket.

Step 3: Pump the arm upwards so it straightens and aim to lift oneself up on toes.

Use the non-shooting hand to guide the ball and release it by flicking the wrist and fingers of the shooting hand. Ask them to aim for the ball to loop quite high and concentrate on having a smooth and continuous action.

VOLLEYBALL

In Volleyball, the skills covered are – Round-arm Service, Under-hand Pass and Overhead Pass.

Activity 3.20: Round-arm Service

The teacher needs to explain the round-arm service to students as given below.

As one toss the ball with the left hand, bring the right hand up and back so that the palm faces the net and the forearm is perpendicular to the floor. Step straight forward with the left foot and as one swing the arm, bring the hips around until they are square to the net to get a little more power.

The teacher explains to students that when they are hitting, they do not need to contact the ball at the top of their reach and swing in a downward motion. One needs to hit the ball to travel 30 feet forward just to get to the net. To hit the back line, it needs to travel 60 feet. One needs to contact the ball with a slightly bent elbow and put enough power behind it to get it up and over the net but inside the line.

Tell students to keep eyes on the ball and strike it just above and in front of the head with the palm. When one contacts the ball, it is important to make sure to spread one's fingers, keep hand and wrist stiff, and strike the middle of the back of the ball firmly.

Activity 3.21: Overhead Service

Explain the following steps to students:

- Put your left foot in front of your right, about shoulder-width apart.
- Hold the ball in your left hand palm at about eye-level.
- Your left hand should only be high enough so that when you pull back your right arm, the right hand contacts the ball on its downward swing, as shown in Fig. 3.16.

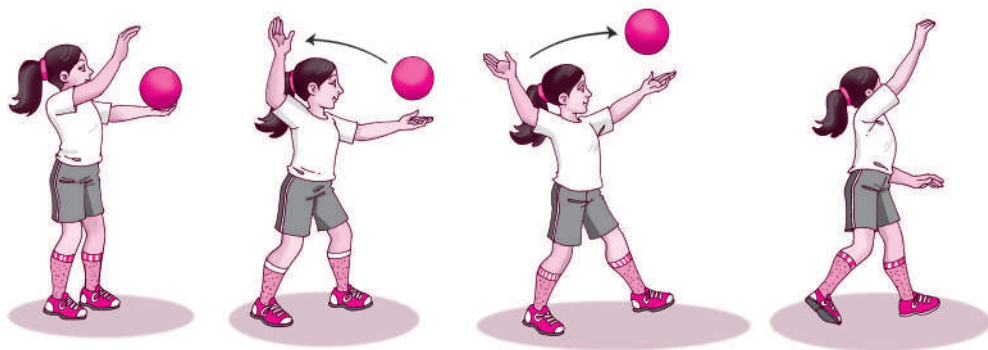


Fig. 3.16 Steps of Overhead Service

Activity 3.22: Under-hand Pass

The student or player positions himself/herself in the line on the coming ball. Arms are kept together, extended and in front of the body and legs are kept flexed, eyes are focussed on the ball. The ball is received on the elbows closer to the wrist and legs are extended in the forward and upward direction. The ball is passed to other team member or to the other side of the net.

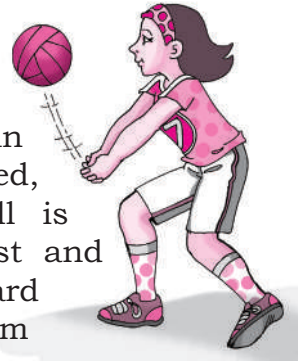


Fig. 3.17 Under-hand pass

This skill is shown in Fig. 3.17.

Activity 3.23: Upper-hand Pass (Overhead Pass)

To develop this skill, the player should position himself or herself under the coming ball. The legs are flexed and ball is received in overhead position. The fingers remain spread. The legs and hands are extended and the ball is passed to the teammates or other side of the net, as shown in Fig. 3.18.



Fig. 3.18 Overhead pass

Activity 3.24: Setting

This skill is used when the ball is over one's shoulders. This skill is also called an

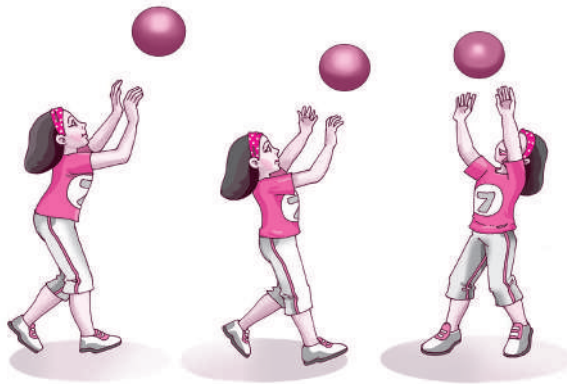


Fig. 3.19 Steps of Setting

overhead pass. During practice, make sure that students contact the ball with their fingertips (as it is easier to control that way). Students should make sure that the ball is high enough so that the spiker can get the ball over the net. This skill is shown in Fig. 3.19.

BADMINTON

The skills of Badminton covered are: Clearing and High Serve.

Activity 3.25: Clearing

Explain the techniques of clearing to students. Clearing is a technique used to return the shuttlecock with an emphasis on simply getting the shuttlecock back on the opponent's side rather than scoring. Clearing under-hand uses the same technique as a 'serve' — the only difference is that one needs to move the shuttlecock instead of dropping it to the desired position. To clear over-hand, draw the racket over one's shoulder and shift the weight back. One needs to draw it over shoulder, shifting the weight forward while striking the shuttlecock at an upward or open-faced angle. One can also clear with a backhand, using the backside of the racket on the opposite side of the body. This skill is shown in Fig. 3.20. The teacher should take the students to the ground and ask them to practise.

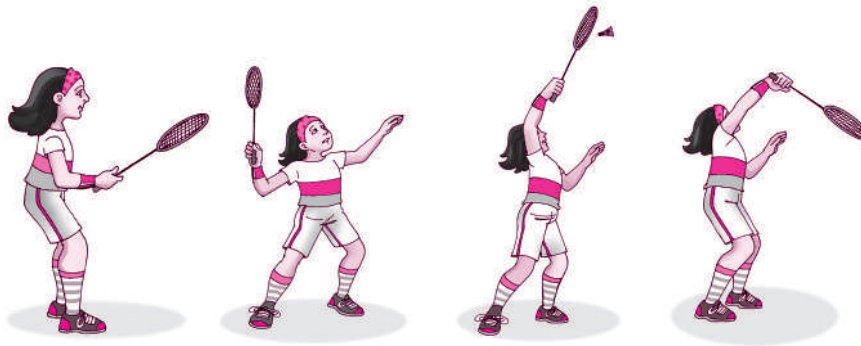


Fig. 3.20 Steps of Clearing High Serve

Activity 3.26: High Serve

The high serve is used to move the opponent to the back of his or her side of the court. The shuttlecock is lofted high and away from the neck towards the opponent's side. The objective is to loft it sufficiently high and with accurate speed for the

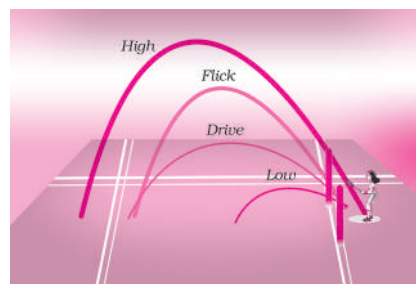


Fig. 3.21 Badminton High Serve

opponent player to get back and clear (return) this serve, as shown in Fig. 3.21. While doing practice or during practice of badminton, observe the students and help them to develop the skills correctly.

KABADDI

The teacher needs to help the students in learning the following skills.

In Kabaddi, the skills covered are: Raiding (Side kick, Mule kick), Catching (Knee and Thigh Catch). Some basics skills of Kabaddi have already been explained in Class VI.

Kabaddi is one of the indigenous games that demands agility, muscular coordination, breath-holding capacity, quick response and a great deal of presence of mind. The game can be played on a mat, a plane and soft surface (sand or ploughed field).

Activity 3.27: Side Kick

In this skill, the raider tries to touch the opponent by side kicking, as shown in Fig. 3.22. Care is taken that opponent should not hold the leg.

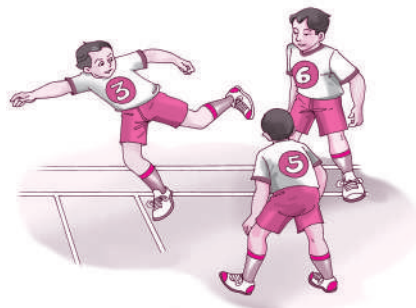


Fig. 3.22 Side Kick

Activity 3.28: Mule Kick

It is a deceiving kick by showing back to the opponent. It is kicking back while returning to own half. This skill is shown in Fig. 3.23.

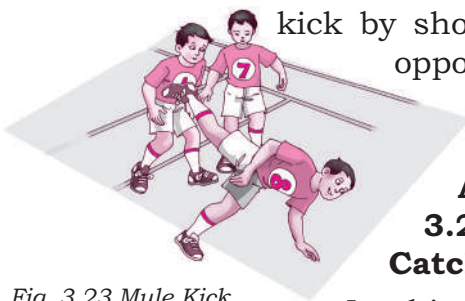


Fig. 3.23 Mule Kick

Activity 3.29: Knee Catch

In this skill, the catcher catches or grabs both or one of the knees of raider so that the raider is unable to escape from the grip of catcher, as shown in Fig. 3.24.

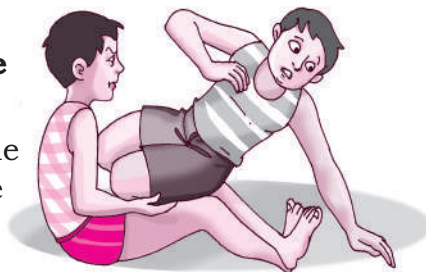


Fig. 3.24 Both Knee Catch

Activity 3.30: Thigh Catch

It is catching or holding the raider from thighs. The skill has variation like one thigh catch or double thigh catch. This skill completely restricts the raider to move.

KHO-KHO

The skills of *Kho-Kho* covered are: Running (zig-zag), Diving, Pole Dive.

Activity 3.31: Running (zig-zag)

This is a defensive running technique. The runner runs through the seated players in a zig-zag manner, making figure of eight to escape from being caught. He/she has to be very careful about the chaser's movement while running. This skill is shown in Fig. 3.25.

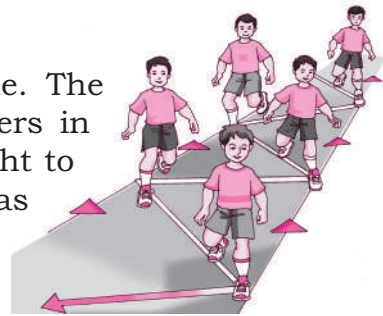


Fig. 3.25 Running (zig-zag)

Activity 3.32: Diving

The chaser, in order to catch the runner, sometimes has to extend his/her reach by jumping and extending his/her arms. This process is called diving. The chaser has to be proficient in diving by regular practice to perform this skill without injury, as shown in Fig. 3.26.

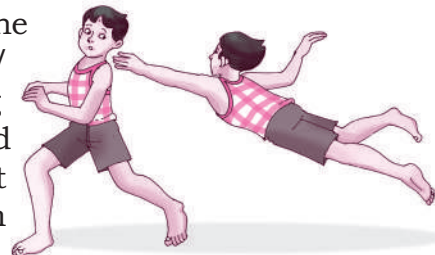


Fig. 3.26 Diving

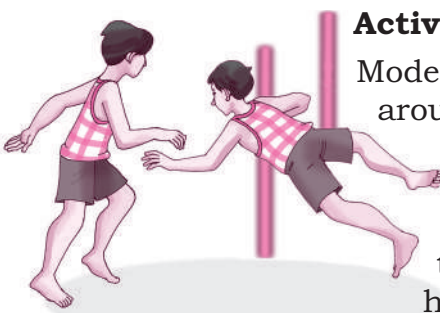


Fig. 3.27 Pole Dive

Activity 3.33: Pole Dive

Modern *Kho-Kho* is believed to revolve around the post. The post has become important from the strategic point of view. Incidentally, an attacker changes direction when he/she turns round the 'post' and a defender has no escape but to go to the 'post'.

This skill is shown in Fig. 3.27.

Extension of the body to the maximum in the other half of the playing field is possible only at the 'post' for an attacker. At times, a defender at the post is not chased around but is intercepted near it. The post can be held at elbow joint or even with the palm. The latter gives longer reach, but it is a difficult skill and requires constant practice.

There is an improvement over this, where in addition to the palm, the arm is also made use of. It is safer to put the foot touching the ground and nearer to the post in the rectangle but it restricts the reach of an attacker. In practice, the leg should be in the field only, which helps to swing the hand for more reach, while the other foot is up in the air. The action of holding the post and swinging the other arm should be simultaneous. The position from where this skill can be adopted depends on the individual. The most common are first and second square from the post. The player on the first square gets up after a Kho, leaps forward in either two or three steps and enacts this skill. From the second square, the player either rushes directly on to the post or halts momentarily at first square, takes a position of giving a Kho but enacts the skill. The entire action is good to watch, if done swiftly. A defender must be chased immediately, wherever he/she is, if the desired result is not achieved by enacting this skill.

ASSESSMENT

The teacher can assess the students on the basis of questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- (i) Describe the technique of straight hitting in Hockey.
- (ii) Write the importance of dribbling in Basketball.
- (iii) Describe the technique of half volley in Football.
- (iv) Explain the skill of hook shot in Cricket.
- (v) Describe the role of good fielding in a match.
- (vi) Mention the qualities of a good batsman.
- (vii) Describe the technique of set shot in Basketball.

- (viii) Write the role of passes in Volleyball.
- (ix) Mention the technique of round-arm service in Volleyball.
- (x) Describe the technique of high serve in Badminton.
- (xi) Explain the technique of mule kick in Kabaddi.
- (xii) Mention the role of defensive techniques in Kabaddi.
- (xiii) Explain the technique of pole dive in *Kho-Kho*.

2 Tick (✓) Mark Yes/No on the given statements.

- (i) The term stopping is used in Football game. (Yes/No)
- (ii) The skill of half volley is associated with Football. (Yes/No)
- (iii) Catching is important skill in the game of Hockey. (Yes/No)
- (iv) Pace bowling is associated with only Cricket game. (Yes/No)
- (v) There is only one way of doing dribble in Basketball. (Yes/No)
- (vi) High serve is associated with Badminton game. (Yes/No)
- (vii) Thigh catch is the skill of *Kho-Kho* game. (Yes/No)
- (viii) Zig-Zag is associated with the *Kho-Kho* game. (Yes/No)

3. Hands on Activities (Execution/Performance)

- (i) Demonstrate the skill of straight push in Hockey.
- (ii) Perform the ready position with hockey stick.
- (iii) Execute the straight hit when ball is in rest.
- (iv) Perform the dribble by using only one foot.
- (v) Demonstrate the push pass in Football.
- (vi) Perform the straight drive in Cricket.
- (vii) Execute the close fielding in Cricket.
- (viii) Demonstrate the position for stopping the ball near boundary in Cricket.
- (ix) Execute the pace bowling action.
- (x) Perform the technique of set shot in Basketball.
- (xi) Demonstrate the low dribble in Basketball.
- (xii) Perform the technique of under-hand pass in Volleyball.
- (xiii) Execute the skill of overhead pass.
- (xiv) Demonstrate the skill of clearing in Badminton.
- (xv) Perform the skill of high serve in Badminton.
- (xvi) Perform the technique of side kick in Kabaddi.
- (xvii) Demonstrate the skill of knee catch in kabaddi.
- (xviii) Execute the technique of pole dive in *Kho-Kho*.
- (xix) Demonstrate the technique of thigh catch in Kabaddi.
- (xx) Perform zig-zag running in *Kho-Kho* used by runner.

Sports Scholarships and Awards

INTRODUCTION

The scholarships and awards in sports hold great prominence. These awards and scholarships not only encourage the participations of young sportspersons but, also bestow honour on those who have demonstrated exceptional performance in sports.

Objectives

After going through this unit, the teacher will be able to:

- encourage and motivate students to participate in games and sports.
- create awareness about the various incentives available for their achievement in games and sports at different levels.
- enable students to recognise achievements of young sportspersons and their outstanding performance at international, national, state and inter-district levels.

Materials required: Information sheets about various sports scholarships and awards.

Activity 4.1: Sports Scholarships

Ask students to:

- Collect information from different sources about various sports scholarships and awards available at zonal, district, state and national levels. Give them one week to do this task.
- After a week, ask them to discuss in groups of 6–8 students.
- Ask students to prepare charts showing different awards.
- Ask them to share information in the larger group.
- With the help of Fact Sheet, supplement the information about different scholarships and awards given at different

levels, announced by different organisations such as National Sports Award, State Awards, scholarships and incentives.

Activities 4.2: Sports Awards

- Divide the students in groups of 6–8.
- Give each group one sport award given at the national level.
- Ask each group to prepare a chart showing the award, name, amount, eligibility, decoration, etc.
- Ask students to share the information in the larger group.
- Summarise them with the help of the Fact Sheet.

SPORTS AWARDS AND SCHOLARSHIPS IN INDIA

1. Rajeev Gandhi Khel Ratna Award

The award was launched in the year 1991 with the objective of honouring the most outstanding sportspersons to enhance their general status and to bestow upon them with great dignity and place of honour in society. This award holds the highest rank in the national sports awards of India, for the most spectacular and outstanding performance in the field of sports by an individual sportsperson or a team. Apart from a medal and certificate, a cash prize of ₹ 7,50,000/- (Seven lakhs fifty thousand only) is given to the awardee. The recipients of the award in the year 2016 were:

S.No.	Recipient(s)	Discipline(s)	Year
1.	P.V. Sindhu	Badminton	2016
2.	Dipa Karmakar	Gymnastics	2016
3.	Jitu Rai	Shooting	2016
4.	Sakshi Malik	Wrestling	2016

2. Arjuna Award

The *Arjuna Award* was instituted in 1961 as the highest national recognition of distinguished sportspersons. The awardee is given a bronze statuette of *Arjuna*, scroll, and cash prize of ₹ 5,00,000/- (Five lakhs only) along with a monogram, blazer and a tie. The recipients of the award in the year 2016 were:

S.No.	Recipient(s)	Discipline(s)	Year
1.	Rajat Chauhan	Archery	2016
2.	Lalita Babar	Athletics	2016
3.	Sandeep Singh Maan	Athletics	2016
4.	Sourav Kothari	Billiards & Snooker	2016
5.	Shiva Thapa	Boxing	2016
6.	Ajinkya Rahane	Cricket	2016
7.	Subrata Paul	Football	2016
8.	Rani	Hockey (Women)	2016
9.	Raghunath V.R.	Hockey (Men)	2016
10.	Apurvi Chandela	Shooting	2016
11.	Gurpreet Singh	Shooting	2016
12.	Soumyajit Ghosh	Table Tennis	2016
13.	Amit Kumar	Wrestling	2016
14.	Vinesh	Wrestling	2016
15.	Virender Singh	Wrestling (Deaf)	2016

3. Dronacharya Award

The *Dronacharya Award* was instituted in 1985 to honour eminent coaches who have done outstanding and meritorious work consistently, to motivate them to dedicate themselves with a singularity of purpose for raising the standards of sports-persons to the highest performance in international events and to bring glory to the country. The award is given to those who have produced outstanding achievements consistently during the three years preceding the award year. Those who have contributed their lifetime to sports and sports promotion are also considered for this award. Every awardee is given a cash prize of ₹ 7,00,000/- (Seven lakhs only) alongwith a bronze statuette of *Dronacharya*, scroll, suit, blazer and a tie. The recipients of the award in the year 2016 were:

S.No.	Recipient(s)	Discipline(s)	Year
1.	Nagapuri Ramesh	Athletics	2016
2.	Sagar Mal Dhayal	Boxing	2016

3.	Raj Kumar Sharma	Cricket	2016
4.	Bishweshwar Nandi	Gymnastics	2016
5.	Pradeep Kumar	Swimming	2016
6.	Mahavir Singh Phogat	Wrestling	2016

4. Dhyan Chand Award for Lifetime Achievement in Sports and Games

This award is given to the veteran sportspersons of India for their lifetime achievement in their respective field of sport, named after the famous hockey player *Major Dhyan Chand*. This is relatively a new award that was instituted by the Government of India in the year 2002. The main objective of the award is to give honour to those sportspersons who have demonstrated exceptional performance in their respective sports and still continue to contribute to the promotion of sports even after shifting their career. The recipient of the award in the year 2016 was Shankar Lakshman in the discipline of Hockey.

5. Tenzing Norgay Adventure Award

The objectives of the award are:

- To recognise the achievements of persons in the field of adventure.
- To encourage young people to develop the spirit of endurance, risk-taking, cooperative teamwork and quick, ready and effective reflexes in challenging situations.
- To provide incentive to the young people for getting exposed to the adventurous activities.

Usually not more than one award each is given for adventure activities on land, sea and air. A lifetime achievement award may also be conferred in a year. The award consists of a blazer with a silken tie/saree and a cash award of ₹ 5,00,000/- (Five lakhs only) or the same amount as for Arjuna Award for that particular year (These awards are presented to the winners at the Arjuna Award ceremony by the Government of India).

The recipients of this award in the year 2015 were:

S.No.	Recipient(s)	Discipline(s)	Year
1.	B. Rajkumar	Air Adventure	2015
2.	Debasish Biswas	Land Adventure	2015
3.	Nungshi Malik	Land Adventure	2015
4.	Tashi Malik	Land Adventure	2015
5.	Ritu Kishor Kedia	Water Adventure	2015

6. The Maulana Abul Kalam Azad (MAKA) Trophy

Maulana Abul Kalam Azad Trophy is given primarily to the top overall winner university in the inter-university tournaments, as these tournaments are an integral and important part of games and sports in the universities and colleges. It is awarded to the winning university for retention. These tournaments also play a very important role in identifying and nurturing the talents of the country. The award consists of a rolling trophy and a small replica of the trophy. A committee was constituted by the Association of Indian Universities which recommended the award of the MAKA Trophy. The Committee sends their recommendation to the Union Ministry of Youth Affairs and Sports each year. The names of four universities according to the order of merit mentioning their score and giving the calculation sheet were recommended. The recipient of the award in the year 2015–16 was Punjabi University, Patiala.

OTHER SPORTS AWARDS IN INDIA

Apart from the awards that have been discussed so far, there are some other special awards given by the Government of India to the medal winners in the international sports events. In this category, the government gives cash awards. These cash awards are given for winning medals in the international championships like the Olympics or the World Cup or World Championships or the Asian and Commonwealth Games or Championships. The players who become victorious in the games of chess, billiards and snooker, as well as the junior sportspersons who win medals in the World, Asian or Commonwealth Championships, are also

given these awards. Sports awards in India are bequeathed by the Government of India to honour the players who have performed very well in their field of sports. In addition to this, different state governments and Union Territories and also Public Sector Undertakings (PSU) and Corporates, etc., also honour outstanding sportspersons by giving them awards and cash incentives.

MAIN SCHEMES IN INDIA BY THE SPORTS AUTHORITY OF INDIA

The main programmes and activities of the Sports Authority of India (SAI) consist of schemes drawn up and approved within the SAI and schemes of the Departments of Sports which are implemented through the SAI on an agency basis. The main schemes of the SAI are given below:

1. National Sports Talent Contest (NSTC)
2. Special Area Games (SAG)
3. Sports Projects Development Area (SPDA)
4. Sports Hostel Scheme (SHS)
5. Army Boys Sports Companies (ABSC)
6. National Coaching Scheme (NCS)
7. Scheme of Human Resource Development in Sports (SHRDS)
8. Centre of Excellence (COE)
9. Sports Academics (SA)
10. Come and Play Scheme (CPS)

DISCIPLINES COVERED

The sports disciplines covered under the scheme for scholarships are:

(a) Priority Disciplines

Archery, Athletics, Badminton, Basketball, Boxing, Cycling, Football, Gymnastics, Handball, Hockey, Judo, Kabaddi, *Kho-Kho*, Tennis, Shooting, Swimming, Table Tennis, Volleyball, Weightlifting and Wrestling.

(b) Other Disciplines

Baseball, Billiards and Snookers, Bowling, Carrom, Chess, Cricket, Equestrian, Fencing, Golf, Kayaking and Canoeing, Karate, Powerlifting, Rowing, Softball, Squash, Taekwondo, Wushu and Yachting.

**ASSESSMENT**

The teacher may assess the students on the basis of questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- I. Mention the area/field in which the following awards have been instituted?
 - (i) Arjuna Award
 - (ii) Dronacharya Award
 - (iii) Rajiv Gandhi Khel Ratna Award
 - (iv) Dhyan Chand Award
- II. Name any two sportspersons who have been conferred with following awards.
 - (i) Arjuna Award
 - (ii) Dronacharya Award
 - (iii) Rajiv Gandhi Khel Ratna Award
 - (iv) Dhyan Chand Award
 - (v) Tenzing Norgay Adventure Award

Callisthenics, Mass Fitness and Rhythmic Activities

Unit

5

INTRODUCTION

The callisthenics, mass fitness and rhythmic activities involve a variety of bodily movements performed repeatedly in a coordinated manner in tune with music. It involves variety of free hand exercises, exercises with light apparatus, marching drills, aerobics, action song and folk dances. For the purpose of light apparatus, equipment like balls, dumbbells, hoops, umbrellas, wands, etc., are required.

Objectives

After completing this unit, the teacher will be able to develop among students:

- The ability to listen, understand and response to commands.
- The sense of time and use of space.
- Coordination of movements.
- Understanding the benefits of mass participation.
- Neuro-muscular coordination.

CONTENTS

The following activities are included in this unit for the students of Class VII.

- Follow the instructions (signal/command/drumbeats/music beats/visual).
- Marching drills.
- Callisthenics (free hand exercises).
- Exercises with light apparatus (dumbbells, hoops, balls, umbrellas, wands, etc.).
- Rhythmic activities (folk dances, lezim and aerobics).

MARCHING DRILLS

Marching drill is such a coordinated movement by a group of students which requires a regular measured tread. The few marching drills and commands are included to teach the sense of rhythm to the students. The essential commands/drills are as follows: attention, stand-at-ease, right turn, left turn, about turn, mark time, quick march and halt while marching.

Activity 5.1: Attention

The students should assume the attention position on the command 'Attention'. For this, bring the heels together, with the toes pointing slightly outward equally forming an angle of about 30° between the toes. Body weight must rest equally on both the legs. Hold the body erect with the hip level, chest lifted upward and shoulders square and eyes forward. Arms hung straight by the side of the body without stiffness. Curl the fingers so that the tips of the thumbs are alongside and touching the first joint of the forefingers. Keep the thumbs straight by the side of the thigh, as shown in Fig. 5.1.



Fig. 5.1
Attention



Fig. 5.2 (a)
Stand at Ease



Fig. 5.2 (b) Stand
at Ease

Activity 5.2: Stand-at-Ease

Ask the students to adopt a relaxed position with feet about shoulder width apart, hands clasped behind

the back but with upper body half still in position of attention (Chest out, Shoulder back), as shown in Fig. 5.2 (a and b).

Activity 5.3: Right turn

On the command of 'Right Turn', the students should turn 90° sharply and quickly to the right side by turning the upper body by heel of the right

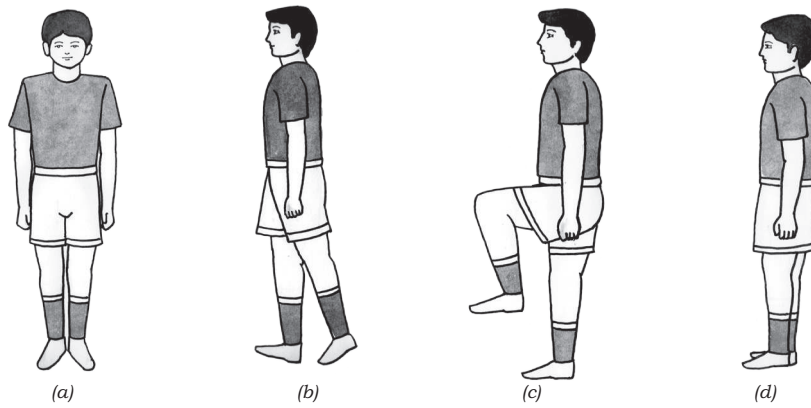


Fig. 5.3 Steps of Right Turn

foot and ball/toe of the left foot. The left knee is then brought upto thigh parallel to the ground and stamped onto the ground in the position of attention, as shown in Fig. 5.3 (a,b,c and d).

Activity 5.4: Left Turn

On the command of 'Left Turn', the student should turn 90° sharply and quickly to the left side by turning the upper body by heel of the left foot and ball/toe of the right foot. The right knee is then brought upto thigh parallel to the ground and stamped onto the ground in position of attention, as shown in Fig. 5.4 (a,b and c).

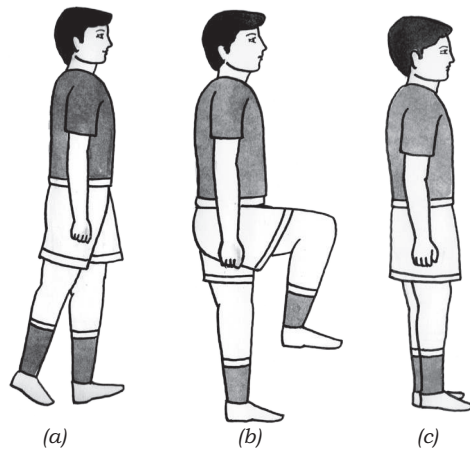


Fig. 5.4 Steps of Left Turn

Activity 5.5: Mark Time

On the command of 'Mark Time', ask the students to lift the left knee with flexed leg upto the thigh parallel to the ground, and on command 'One' stamp the left foot on the ground and simultaneously lift the right knee up. Further on command 'Two', stamp the right foot on the ground and lift the left knee upto the thigh parallel to the ground, as shown in Fig. 5.5 (a,b and c).

Repeat the same movement as the counting goes on as 1-2-1-2-1-2 and so on. The position of upper body and arms should be same as required in attention position.

Activity 5.6: Quick March

It is an important drill of marching, where a group of students march forward for a distance in rhythmic and

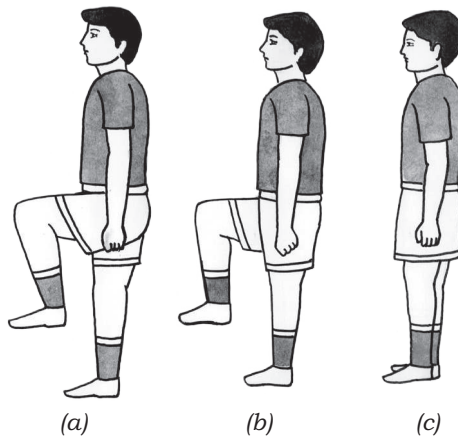
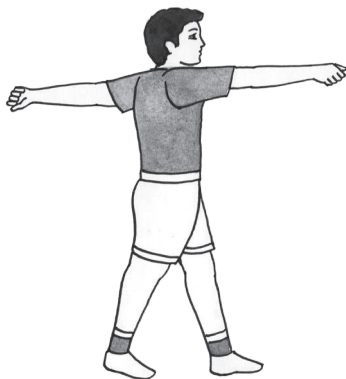


Fig. 5.5 Steps of Mark Time



(a)



(b)

Fig. 5.6 Steps of Quick March

synchronised manner. Most of the saluting drills are performed in marching position. Explain the quick march to the students in the following steps as, shown in Fig. 5.6 (a and b):

Step I: The movement start when the command 'Quick March' is given by the teacher/leader/commander.

Step II: Once the command is given, the students quickly throw the left leg and right hand forward up to shoulder level and place the left heel on the ground by the time count 'One' command is given by the teacher.

Step III : On the command 'Two' the student will shift the body weight on left leg from right leg and simultaneously bring the right hand forward up to shoulder level and left hand stretched backward.

The commands may continue for several repetitions.

Activity 5.7: Halt While Marching

This command is important to bring the quick march to the stopping position that too in a synchronised manner. Ask the students to learn the skill in few steps:

Step I: On command of 'Halt', the left heel should strike the ground with marching position, as shown in Fig. 5.7.



Fig. 5.7 Halt While Marching — Step I

Step II: On command 'Check', the students should continue the march by striking right heel on the ground and check the arm movement upto 50 per cent, as shown in Fig. 5.8 (a and b).

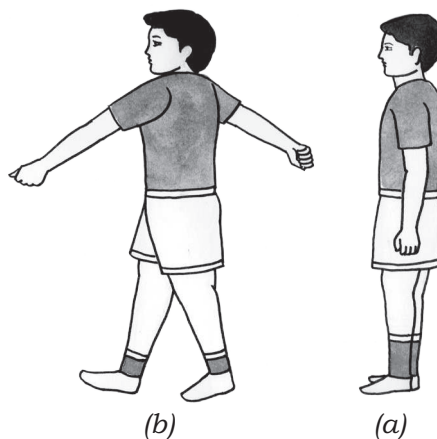


Fig. 5.8 Halt While Marching — Step II

Step III: On command ‘One’, the students put left foot forward (half step) and simultaneously check the arm movement, as shown in Fig. 5.9.

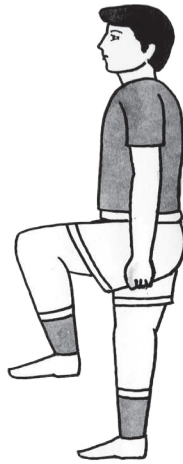


Fig. 5.9 Halt While Marching — Step III

Step IV: On command ‘Two’, the students stamp right foot along with left foot on the ground and come in the attention position, as shown in Fig. 5.10.



Fig. 5.10 Halt While Marching — Step IV

Guidelines for the Teacher

- Familiarise the students with the concept of Callisthenics exercises and their starting positions.
- Divide the class into groups of 15–20 students.
- Demonstrate each exercise first continuously, followed by in parts with a brief explanation.
- Ask the students to perform first by count, and make the necessary correction after which the exercise can be performed continuously.
- Motivate the students, so that, they get fully involved in the learning process.
- Ask every student to follow the counting correctly and in time, so that, impact of the whole performance can be improved.
- Take help of quick learners as leaders and use them to provide practice to the rest of the group.
- Finally, combine all the groups, so that the performance turns into a mass display.

CALLISTHENICS

Callisthenics are the form of physical exercises comprising a variety of rhythmical gross body movements. Generally, free hand exercises are called Callisthenics. They lead to empowerment of fitness components such as strength, endurance, flexibility, balance, coordination, etc.

Callisthenics exercises can be performed in standing, kneeling, sitting and lying body positions. Even during demonstration, different formations as well as body positions are included in the total presentation.

Materials required: Drum, Public Address System (PA System), etc.

Guidelines for the Teacher

- Familiarise the students with the concept of Callisthenics exercises and their starting positions.
- Divide the class into groups of 15–20 students.
- Demonstrate each exercise first continuously, followed by in parts with a brief explanation.

- Ask the students to perform first by count, and make the necessary corrections after which the exercise can be performed continuously.
- Motivate the students, so that they get fully involved in the learning process.
- Ask every student to follow the counting correctly and in time, so that the impact of the whole performance can be improved.
- Take help of quick learners as leaders and use them to provide practice to the rest of the group.
- Finally, combine all the groups, so that the performance turns into a mass display.

Light Apparatus Exercises

Such exercises are performed with light equipment in both the hands or one equipment in both the hands. Position of equipment is important in every count. Such exercises may have different starting positions with equipment/apparatus (such equipment are held in front and close to the chest or held in attention position). Various equipment are utilised as light apparatus like balls, hoops, umbrellas, dumbbells, wands, etc. These exercises can be performed in various positions like standing, sitting, kneeling and lying as well as in various formations like circle, square, star, arrow, double line, double square and so on.

Materials required: Drum with stick, audio system, light apparatus such as wands, umbrellas, hoops, dumbbells, balls, charts, boards, marking cones of various sizes.

Activities: Various activities/exercises can be developed depending upon the maturity of students in mass display.

Guidelines for the Teacher

- Familiarise the students with the concept of Callisthenics exercises and their starting positions.
- Divide the class into groups of 15–20 students.
- Demonstrate each exercise first continuously, followed by in parts with brief explanation.

- Ask the students to perform first by counts, and make the necessary corrections after which the exercise can be performed continuously.
- Motivate the students, so that they get fully involved in the learning process.
- Ask every student to follow the counting correctly and in time, so that impact of the whole performance can be improved.
- Take help of quick learners as leaders and use them to provide practice to the rest of the group.
- Finally, combine all the groups, so that the performance turns into a mass display.

RHYTHMIC ACTIVITIES

Such activities/exercises are performed in a continuous manner (without the gap between two consecutive counts). The difference between rhythmic activities and light apparatus activities is that the former is performed without break/gap during movement of various counts and the latter is performed with break/gap during movement of various counts. Such exercises are required to develop a sense of rhythm in children. Various exercises/activities are the part of rhythmic activities at the school level. Some of them are as follows:

1. Action Song
2. Lezim
3. Aerobics
4. Folk Dances of various states/UTs

Materials required: Music system, CDs of songs, musical instruments, smooth surface, costumes, etc.

Activity 5.8: Action Song

Ask the students to perform some rhythmic movements by involving only hand/only legs/only head/body movements with the lyrics of the song.

Ask the students to learn the lyrics of the song and add actions gradually to perform the action song.

Activity 5.9: Lezim

This is an important rhythmic activity of Maharashtra where they have to play lezim with energy, spiritualism and power on the beats of music (Recorded or Live). This apparatus can also be used in demonstration as well as the considered as the main fitness activity.

It consists of two wooden rods: one small and another long, chained at both the ends in a circular manner. While performing, this connecting chain produces sound. Various movements such as *Char Thoke*, *Aath Thoke*, *Aaghe Pave*, *Picche Pave*, *Baithak*, etc., are the fundamental skills of lezim.

It is important to have proper learning and understanding to deal with the class of lezim.

Materials required: Lezim, drum with stick, music players, music CD, musical instruments, etc.

Exercise 1. Char Thoke

- Count 1: On count one, from the starting position, give circular swing (clockwise direction) and open the Lezim in front of the thigh.
- Count 2: On count two, continue swing and click the Lezim towards the left side of the waist and click both the wooden rods.
- Count 3: On count three, reverse the swing (anti-clockwise) and open the Lezim again in front of the thigh.
- Count 4: On count four, continue swing and click the Lezim towards the right side of the waist and join both the wooden rods.

Exercise 2. Aath Thoke

- Count 1 to 4: Same as Char Thoke
- Count 5: On count five, bring the Lezim in front of forehead in circular way and open it, while pulling the wooden rod forward, parallel to the ground, elbow slightly bent.
- Count 6: On count six, click the Lezim near the left ear.
- Count 7: On count seven, bring Lezim with downward swing and open in front of the body in circular way.

Count 8: On count eight, bring and click the Lezim at the starting position.

Exercise 3. Aaghe Pave

Count 1 to 4: Same as Char Thoke

Count 5: On count five, bring the Lezim in front of the forehead in circular way and open it, while pulling the wooden rod forward, parallel to the ground, elbow slightly bent and simultaneously bring the right foot one step forward.

Count 6: On count six, click the Lezim near the left ear.

Count 7: On count seven, bring Lezim with downward swing and open in front of the body in circular way and simultaneously bring the right foot backward to original position.

Count 8: On count eight, bring and click the Lezim at the starting position.

Exercise 4. Picche Pave

Count 1: On count one, from the starting position, give circular swing (clockwise direction) and open the Lezim in front of the thigh and simultaneously shift the right foot backward.

Count 2: On count two, continue swing and click the Lezim towards the left side of the waist and click both the wooden rods.

Count 3: On count three, reverse the swing (anti-clockwise) and open the Lezim again in front of the thigh and simultaneously bring the right foot forward to original position.

Count 4: On count four, continue swing and click the Lezim towards the right side of the waist and join both the wooden rods.

Count 5 to 8: Same as Aath Thoke.

Exercise 5. Baithak

Count 1 to 4 : Same as Char Thoke

Count 5: On count five, bring the Lezim in front of forehead in circular way and open it, while pulling the wooden

- rod forward, parallel to the ground, elbow slightly bent and simultaneously go to full squad position.
- Count 6: On count six, click the Lezim near the left ear and simultaneously come to standing position.
- Count 7: On count seven, bring Lezim with downward swing and open in front of the body in circular way.
- Count 8: On count eight, bring and click the Lezim at the starting position.

Activity 5.10: Aerobics

Materials required: Music CD, video CD, CD player, drum with stick, charts, boards, smooth surfaces, stage or hall.

A combination of few exercises performed on the beats of music is called aerobics. It is not necessary to perform one exercise only up to 8 beats or 16 beats. In the beginning, ask the students to perform the exercises on counts. Once the movement required in each count is clear to the students, then introduce beats and later on music for presentation of exercises.

Sometime during Aerobics, the student may use equipments like steps, pom-pom, etc., to increase the impact of total presentation. Synchronisation of movements/exercises is very important in Aerobics.

Activity 5.11: Folk Dances

Materials required: Audio CD, video CD, CD player, surfaces, stage or hall.

Folk dances are the advanced stage of aerobics, wherein more complex body movements are involved. Every state has its own popular folk dances. During early days of civilisation, various communities



Fig. 5.11 Folk Dance

used to perform folk dances to maintain their physical fitness and unity to save the status of tribe. Ask the students to add some bodywaves, eye expression, face expression, etc., to convey the meaning in a particular folk dance. At the higher level, a dance teacher takes the responsibility to teach dances to the students.

There are many folk dances, however the teacher decides which dance is to be taught to the students. One of the folk dances is shown in Fig. 5.11. As per the interest of the school, location of school, schools in the state or choices of the people to be considered for selection of the particular dance. Some dances along with their states are as follows:

1. Kuchipudi	Andhra Pradesh
2. Bihu	Assam
3. Garba	Gujarat
4. Kathakali	Kerala
5. Jawara	Madhya Pradesh
6. Ghumura	Odisha
7. Bhangra	Punjab
8. Kalbelia	Rajasthan
9. Bharatnatyam	Tamil Nadu

Guidelines for the Teacher

- Familiarise the students with the concept of rhythmic exercises and its starting positions.
- Divide the class into small groups of 15–20 students.
- Demonstrate each exercise first continuously, followed by in parts with brief explanation.
- Ask the students to perform first by counts, and then make the necessary corrections so that the exercise could be performed continuously.
- Motivate the students so that they get fully involved in the learning process.
- Ask every student to follow the counting correctly and in time, so that impact of the whole performance could be improved.

- Take help of quick learners as leaders and use them to provide practice to the rest of the group.
- Finally, combine all the groups, so that the performance turns into a mass display.



ASSESSMENT

The teacher may assess the students on the basis of questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- (i) List down different apparatus that can be used in performing Rhythmic Activities.
- (ii) Describe the body posture in Stand-at-Ease position.
- (iii) Perform two Dumbbell Exercises, one each of four and eight counts.
- (iv) Perform a set of 4 to 5 Aerobics Exercises with music.
- (v) Explain the technique of Right Turn.
- (vi) Perform the Mark Time on command.
- (vii) Practice the command for Quick March.
- (viii) Perform a few steps of the Folk Dance of your state.

Yoga for Physical Fitness

Unit

6

INTRODUCTION

Flexibility is an important component of physical fitness. It is crucial for performing even the most basic activities such as walking, bending, squatting, running, etc. Though flexibility can be enhanced by exercises which stretch our body, yoga plays an important role in this regard. The concept of flexibility and the contribution of yoga are discussed in this unit.

Objectives

The unit will help the teachers to enable students to:

- describe the concept and importance of flexibility for physical fitness;
- explain the relationship between flexibility and stretching;
- perform the yogic practices which are helpful in enhancing flexibility and general physical fitness.

Materials required: Charts, Posters of various asanas and other yogic practices, Case Studies, Durry/Mat, CDs and Projector wherever available.

Guidelines for the Teacher

- Follow the general guidelines before performing yogic practices. For this, it is advised that you consult the book ‘Yoga: A Healthy Way of Living’ for upper primary stage.
- Familiarise the students with the concept of flexibility. Tell them that flexibility is an important requirement for physical fitness.

CONCEPT AND IMPORTANCE OF FLEXIBILITY

Flexibility is an essential ability which is required for all kinds of physical activities.

Activity 6.1: Importance of Flexibility

- Ask the students to think and prepare a list of the day-to-day activities which require flexibility.
- Examples of the activities are given below. Ask the students to add some more activities to the list.

Activity 6.1

- Picking up a book from the table.
- Walking
- _____
- _____
- _____
- _____
- _____

UNDERSTANDING RELATIONSHIP OF FLEXIBILITY AND STRETCHING

Flexibility is very important as it enhances our physical fitness. Without it, one cannot perform even simple tasks. Flexibility can be developed by stretching.

Activity 6.2: Role of Stretching

Guidelines for the Teacher

- Present the following case study to the students:

Ravi is a student of Class X. He is a good player of football. However, he could not play football for the last few months, as he was preparing for the examinations. After remaining indoors for a long time, he went out to play football one day.

But he could not play well. After playing, he also felt pain in his leg muscles for the next few days.

- Ask the following questions to the students and write down their responses on the blackboard.

- ❖ Identify the probable cause why Ravi could not play well.
- ❖ Since Ravi had pain in his leg muscles, suggest some ways so that he does not face this problem in future.
- After discussion, explain how playing a game requires flexibility. For this, a person should practise some form of stretching before playing. In this case, Ravi went to play a football game after a long time. His body had become stiff. He should have done some stretching exercises before playing the football game to develop flexibility. Demonstrate some stretching exercises and ask the students to practise them. While summing up, mention that flexibility and stretching go hand in hand. Therefore, it is essential to do stretching exercises for enhancing flexibility.

YOGIC PRACTICES FOR ENHANCING FLEXIBILITY AND GENERAL PHYSICAL FITNESS

There are several yogic practices which are very useful for physical fitness. Some of them are given below.

Micro-yogic activities and Surya Namaskara

Yogic practices especially micro-yogic activities, *Surya Namaskara* and asanas are very useful for developing flexibility as these practices involve stretching. Other practices like kriya, pranayama and meditation also help us to remain physically fit.

Surya Namaskara

Guidelines for the Teacher

- Follow the general guidelines before performing yogic practices. For this, it is advised that you consult the book '*Yoga: A Healthy Way of Living*' for upper primary stage.
- Take the students to an open space or in a well-ventilated room.
- Ask the students to start with the micro-yogic activities like neck bending, neck and shoulder rotation, finger and

hand movements, toes and feet movements, etc. This will prepare the body to perform further practices.

- Explain the benefits of *Surya Namaskara* in the context of flexibility and ask students to perform it. For instruction, benefits and limitations of *Surya Namaskara*, you may consult the book '*Yoga: A Healthy Way of Living*' for upper primary stage.
- You could also demonstrate it in front of the students.

Asanas

Asana can be referred to as physical postures. Asanas are very helpful for increasing flexibility as these stretch muscles in specific parts of our body.

Guidelines for the Teacher

- Explain the concept and importance of asanas for flexibility.
- Introduce and demonstrate the following asanas, one by one, and tell students about their benefits and limitations before asking them to perform the asanas.

Activity 6.3: Tadasana

Tell the students that they have already learnt the technique of *Tadasana* in Class VI. In *Tadasana*, one stretches the whole body, as shown in Fig. 6.1. Therefore, it is very useful for flexibility. For the technique benefits and limitations, refer to the above mentioned book.

Activity 6.4: Hastottanasana

Hastottanasana is made of three words: *hasta*, *uttana* and *asana*. *Hasta* means 'arms'; *uttana* means 'stretched up' and *asana* means 'posture'. In this posture, as shown in Fig. 6.2 (a,b,c and d), the arms are stretched upwards, hence, it is called *Hastottanasana*.



Fig. 6.1 Tadasana

Ask the students to perform *Hastottanasana* by following the steps given below:

Starting position:

1. Stand erect on the ground, keep both feet together.
2. Slowly inhaling, raise both arms over the head.
3. Turn your palms raising them up. Now interlock your fingers.
4. Exhaling, bend from the waist towards the right side as much as possible.
5. Maintain this position comfortably for 5–10 seconds.

Releasing position:

1. Inhaling, come to the centre.
2. Now practise it from the left side as well.

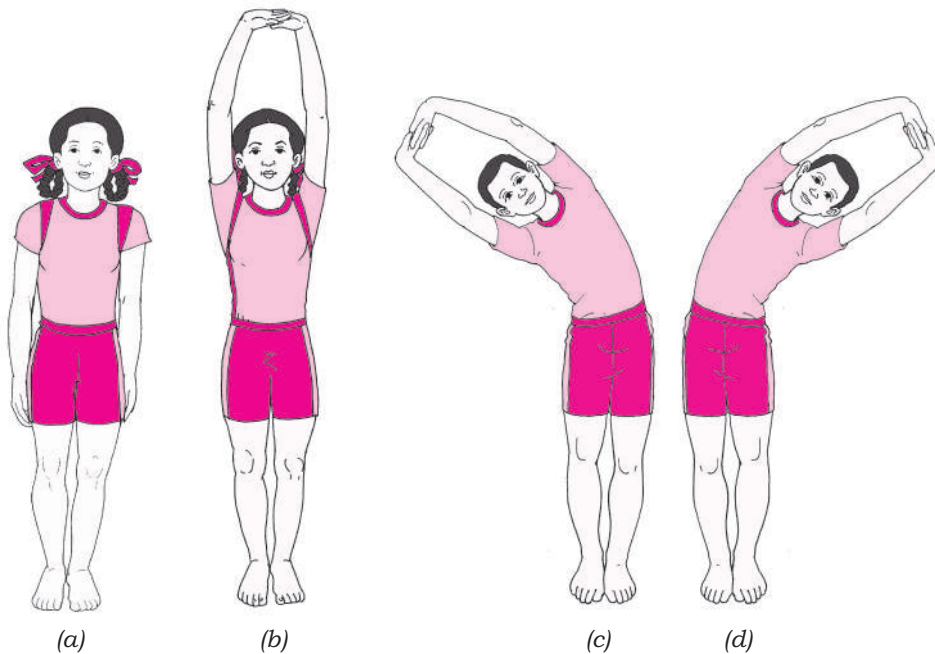


Fig. 6.2 Steps of *Hastottanasana*

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Bend from the waist only. • Stretch the arms up as much as possible. • Keep the arms straight. 	<ul style="list-style-type: none"> • Do not bend forward or backward.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It stretches the muscles of the back.
- It reduces pain in neck, shoulders and arms.
- It is beneficial for increasing the height of growing children.
- It increases the flexibility of spine.

Limitation

- During severe backache, hernia and abdominal inflammation, this asana should not be performed.

Activity 6.5: *Trikonasana* (Triangle Posture)

Trikona, a Sanskrit word, means 'triangle'. In this asana, the body makes the shape of a triangle, as shown in Fig. 6.3 (a, b and c), hence, it is called *Trikonasana*.

Ask the students to perform *Trikonasana* by following the steps given below:

Starting position:

1. Stand erect, legs together and hands by the side of the thighs.
2. Move your legs 1–2 feet apart.
3. Stretch the arms sideways and raise them to the shoulder level. The arms should be parallel to the floor in one straight line.
4. Bend to the left side from the waist.
5. Place the left hand on the left foot.



(a)

Fig. 6.3 Steps of *Trikonasana*

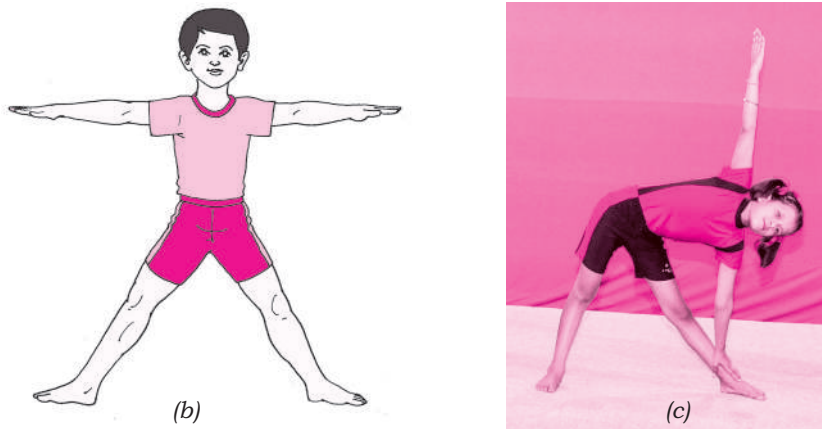


Fig. 6.3 Steps of Trikonasana

6. Stretch the right arm up. Here, the two arms will be at 180° angle. Maintain this position with normal breathing comfortably for 5–10 seconds. Optimally, the right arm can be further bent toward left side, keeping arms at 90° angle.

Releasing position:

1. To come back, lift the left palm. Straighten your trunk and bring the arms in line with shoulders.
2. Bring down your arms and keep hands by the sides of thighs.
3. Bring your feet together and relax. Repeat it from the opposite side.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Bend from the waist only. • Maintain the final posture with normal breathing. • Bend as much as possible. 	<ul style="list-style-type: none"> • Do not bend the knees while turning sideward. • Do not lean forward or backward while performing this asana. • Do not bend beyond capacity.

Make sure you conclude the asana by stating the benefits and limitations as given next:

Benefits

- It stretches up the muscles of trunk, legs and hips.
- It improves the flexibility of spine.
- It helps to increase the height of growing children.
- It relieves the pain in the neck and back.

Limitation

- Do not practise this asana in case of severe backache.

Activity 6.6: *Katichakrasana* (Lumber Twist Posture)

Katichakrasana is made of three words: *kati*, *chakra* and *asana*. *Kati* means 'waist', *chakra* means 'wheel' and *asana* means 'posture'. In this asana, the waist and arms move like a wheel as shown in Fig. 6.4. Hence, it is called *katichakrasana*.

Ask the students to perform *Katichakrasana* by following the steps given below:

Starting position:

1. Stand erect on the ground with feet 12 inches apart.
2. Now inhaling, raise your arms and bring them in front of the chest, with palms facing each other.
3. While exhaling, take the arms slowly towards the right side of your body. Simultaneously, twist your body from the waist to the right side and take your arms back as far as possible.
4. While swinging towards the right side, keep the right arm straight and left arm bent. Look in the back.

Releasing position:

1. Inhaling, bring the arms to the front.
2. Repeat the practice by swinging towards the left side as well.

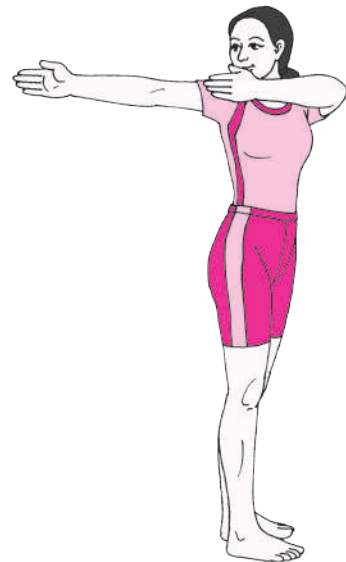


Fig. 6.4 *Katichakrasana*

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Keep right arm straight and left arm bent while twisting to the right side and vice versa. • Exhale, while twisting towards the back and inhale while coming back to the centre. 	<ul style="list-style-type: none"> • Do not bend forward or backward. • Do not move the lower part of the body. • Do not jerk the body.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It stretches the waist region and makes lower back strong.
- It strengthens shoulders, neck, arms, abdomen, back and thighs.

Limitation

- Persons suffering from severe spinal problems should not practise this asana.

Activity 6.7: Padmasana (Lotus Posture)

Padmasana is made of two words: *padma* and *asana*. *Padma* means 'lotus'. The legs in the sitting position of this asana give the appearance of a lotus, as shown in Fig. 6.5. This is a meditative asana.

Ask the students to perform *Padmasana* by following the steps given below:

Starting position:

1. Sit on the ground.
2. Slowly fold the right leg and place right foot on the left thigh close to the pelvic bone. The right heel should press the lower part of the abdomen.



Fig. 6.5 Padmasana

3. Slowly and carefully fold the left leg and place it on the right thigh. The heel should press lower part of abdomen.
4. Form *jnana mudra* with your hands. For *jnana mudra*, fold index finger and join the tips of your thumb and index finger. Keep other fingers straight.
5. Keep the hands in *jnana mudra* on knees. Keep the body straight and maintain the position.

Releasing position:

1. Remove left leg from the thigh and then remove right leg and come to the starting position.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Knees should touch the ground in the final position. • Keep head and spine erect and shoulders relaxed. • Keep the arms relaxed in the final position. 	<ul style="list-style-type: none"> • Do not bend forward and backward in the final posture. • Do not tense the arms.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It is good for concentration and memory.
- It brings calmness and peace.
- It is good for digestion.
- It stretches leg muscles and brings flexibility in legs.

Limitation

- Person suffering from pain or injury in knees or sciatica should not practise this asana.

Activity 6.8: Yogamudrasana

Yogamudrasana is a further extension of *Padmasana* as shown in Fig. 6.6 (a,b and c).

Ask the students to perform *Yogamudrasana* by following the steps given below:

Starting position:

1. Sitting in *Padmasana*, take both arms behind the back.
2. Hold the right wrist with palm of the left hand.
3. Exhaling, bend forward and bring forehead or chin to the floor. You may stay in the final position inhaling and exhaling normally. Maintain the position for 5–10 seconds.

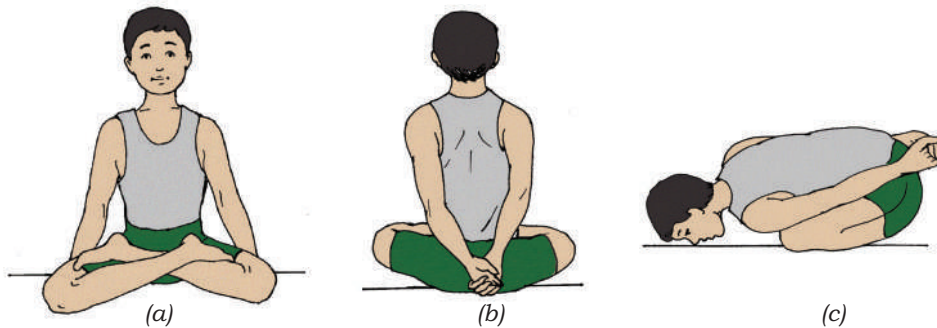


Fig. 6.6 Steps of *Yogamudrasana*

Releasing position:

1. Raise your body, release the hands, and inhaling come to the starting position.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Keep the back straight while bending. • Bend as much as possible. 	<ul style="list-style-type: none"> • Do not strain the body. • Avoid jerking the body.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It stretches spine and makes it flexible.
- It improves digestion.
- It helps in improving concentration.
- It tones spinal nerves.

Limitation

- Persons with heart problems and back problems should not practise this asana.

Activity 6.9: *Pashchimottanasana* (Back-Stretching Posture)

Pashchimottanasana means stretching the posterior region. In Sanskrit, *Pashchima* means ‘posterior’ and *uttana* means ‘stretch-up’. In this posture, posterior muscles of the body get stretched, as shown in Fig. 6.7 (a,b and c), hence, it is called *Pashchimottasana*.

Ask the students to perform *Pashchimottanasana* by following the steps given below:

Starting position:

1. Sit with the legs extended together.
2. Bend the elbows. Make hooks with the index fingers.
3. Bend the body forward and catch hold of the toes with the hooks of the fingers.
4. Place the head between the arms.
5. Keeping a little bend in the elbows and without bending the knees, try to touch the forehead with the knees. Maintain the position for 5–10 seconds.

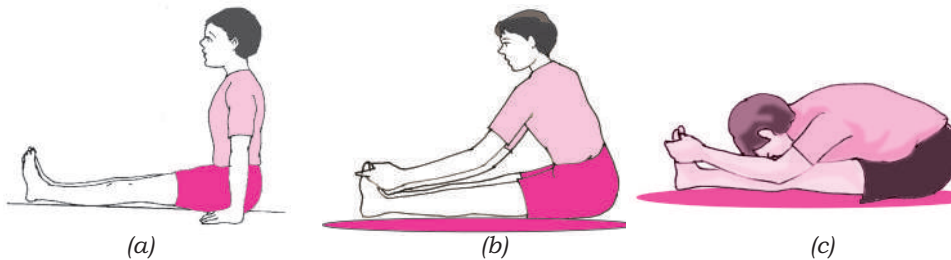


Fig. 6.7 Steps of *Pashchimottanasana*

Releasing position:

1. Raise the head slowly.
2. Release the hold of the toes and keeping the body erect, bring the hooks of the fingers near the chest.
3. Place the hands on the respective sides of the body.
4. Sit with the legs extended together.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Exhale while bending forward. This will help in bending. • Relax the muscles while bending forward. • Maintain the final position at your comfort level. This will gradually help in further progress. 	<ul style="list-style-type: none"> • Avoid jerks and strain while assuming and releasing the posture. • Do not allow the knees to bend while touching the forehead with the knees.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It gives a good posterior stretch to the spinal column.
- It helps to increase the flexibility of the spinal and abdominal muscles.
- It helps to improve the blood circulation in organs situated in the abdominal region.
- It helps to correct postural deformities.

Limitation

- Those persons suffering from heart diseases, ulcer in abdomen, slipped disc, sciatica should not practise it.

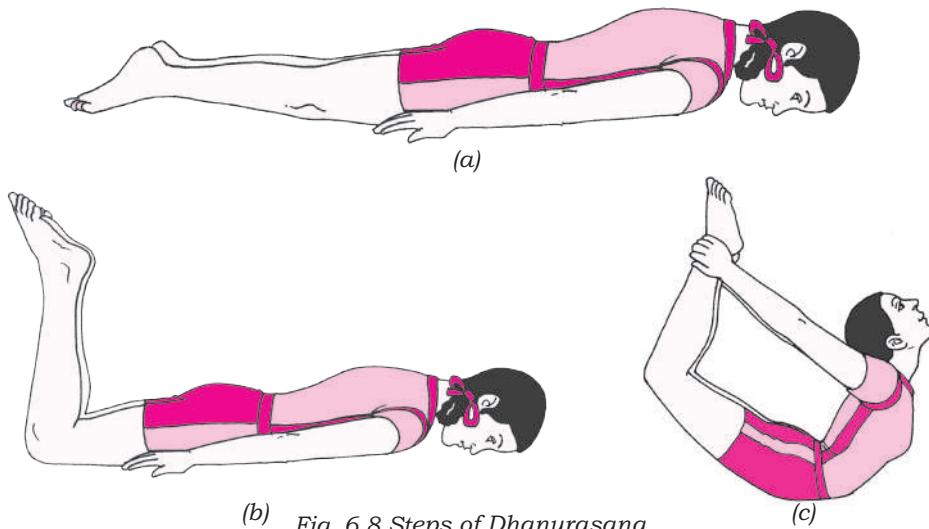
Activity 6.10: *Dhanurasana* (Bow Posture)

In Sanskrit, *dhanur* means 'bow'. This is called the bow posture because in this posture the body resembles a bow with string attached to it, as shown in Fig. 6.8 (a,b and c).

Ask the students to perform *Dhanurasana* by following the steps given below:

Starting position:

1. Lie down flat on stomach.
2. Exhaling, slowly bend the legs backwards at the knees.
3. Hold the toes or ankles firmly with hands as per your capacity.



(b) Fig. 6.8 Steps of Dhanurasana

- Inhaling, raise thighs, head and chest as high as possible. Stretch and bring the toes or ankles towards head. Look upward. Maintain the position comfortably for 5–10 seconds.

Releasing position:

- Release the hands and keep the arms beside the body.
- Straighten the legs. Bring the legs, head, shoulders and torso slowly on the floor and relax.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> Arch the back, as much as possible. The arms should be straight. 	<ul style="list-style-type: none"> Do not jerk or strain, take the position slowly. While acquiring the posture, do not lean over to a side.

Make sure you conclude the asana by stating the benefits and limitations as given next:

Benefits

- Dhanurasana* is a good practice for joints of the shoulders, knees, ankles and entire backbone.

- It is beneficial for management of diabetes mellitus as it massages the liver and pancreas.
- It helps to reduce excess fat around the belly, waist and hips.
- It removes stiffness of the ligaments, muscles and nerves in the back, arms, legs, shoulders, neck and abdomen.
- It stimulates and regulates the functioning of glands.
- It helps in reducing backache/back pain.
- It is good for the conditions of hunched back and drooping shoulders.

Limitation

- Persons with high blood pressure, hernia, peptic ulcer, appendicitis, slipped disc and lumber spondylitis should not practise this asana.

Activity 6.11: Makarasana (Crocodile Posture)

Makarasana is a relaxing asana. The posture is called *Makarasana* as the body resembles the shape of *makara*, which means 'crocodile'. *Makarasana* is a relaxing asana, as shown in Fig. 6.9.

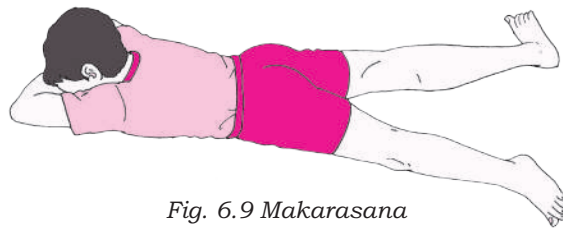


Fig. 6.9 Makarasana

Tell the students that they have already learnt it in Class VI. For instructions, you could consult the book '*Yoga: A Healthy Way of Living*' for upper primary stage.

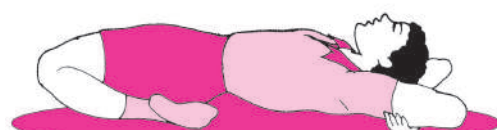
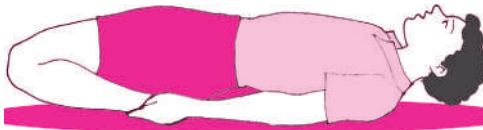
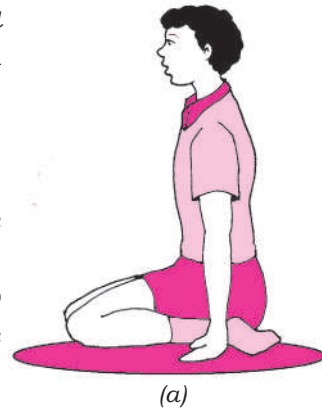
Activity 6.12: Supta Vajrasana

Supta Vajrasana means 'lying backward' in *Vajrasana*. This asana is the extension of *Vajrasana*, as shown in Fig. 6.10 (a,b and c).

Ask the students to perform *Supta Vajrasana* by following the steps given below:

Starting position:

1. Sit in *Vajrasana*.
2. Slowly bend backwards taking the support of the elbows.
3. Lie on the back in *Vajrasana*. Keep the hands on thighs or take the arms behind and hold the elbow/arm with the hand of another arm.



(b) Fig. 6.10 Steps of *Supta Vajrasana*

Releasing position:

1. Place your hands by the side of your body. Come to the *Vajrasana* with the support of elbows and arms.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Take support of elbows and arms while bending backwards and coming back to the sitting position. • Keep the knees together and shoulders on the ground. 	<ul style="list-style-type: none"> • Do not strain the ligaments and muscles of the thighs by forcing the knees to touch the ground. • Do not come back by straightening the legs.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It stretches abdominal muscles.
- It makes the back flexible.

- It reduces backache.
- It is useful in controlling high blood pressure.
- It gives relief in constipation.

Limitation

- Persons suffering from knee complaints, slipped disc, sciatica and pain in the hip should not practise this asana.

Activity 6.13: Chakrasana (Wheel Posture)

Chakra means 'wheel'. In this asana, the body assumes the shape of a wheel, hence it is called *Chakrasana*. This asana improves flexibility of the whole body especially the back, as shown in Fig. 6.11.

Ask the students to perform *Chakrasana* by following the steps given below:

Starting position:

1. Lie on your back. Bend the legs at knees, heels touching the buttocks. Keep the feet 12 inches apart.
2. Raise the arms up, bend them at the elbows, take them behind over the head. Place the palms on the floor beside the head, fingers pointing towards the shoulders.
3. Slowly, raise the body and arch the back.
4. Straighten the arms and legs. Move the hands further towards the feet as far as you feel comfortable. Maintain the position comfortably for 5–10 seconds.



Fig. 6.11 Chakrasana

Releasing position:

1. Slowly lower the body in the manner so that the head rests on the floor. Lower down rest of the body and lie flat on your back and relax.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Raise your body carefully. • Keep the arms and legs straight as much as possible in final position. 	<ul style="list-style-type: none"> • Do not stretch too much while bringing the hands towards feet. • Do not give jerk to the spine. • Try not to bend the arms and legs in final position.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It makes the spine flexible.
- It removes rigidity of the bones and joints in the middle part of the back.
- It is good for digestion.
- It improves the functioning of heart.

Limitation

- Persons suffering from weak wrist, high blood pressure, vertigo, hernia and abdominal problems should not practise this asana.

Activity 6.14: Ardhalasana (Half Plough Pose)

Ardha means 'half' and *hala* means 'plough'. It is a preparatory practise of *Halasana*, as shown in Fig. 6.12 (a,b and c).

Ask the students to perform *Ardhalasana* by following the steps given below:

Starting position:

1. Lie in supine position with legs together, hands by the side of the body, palms placed on floor.
2. Raise your both legs up stopping at 30°, 45° and 60° angles respectively.
3. Further raise and bring the legs up to 90° angle without bending the knees. Maintain the posture comfortably for 10 seconds.

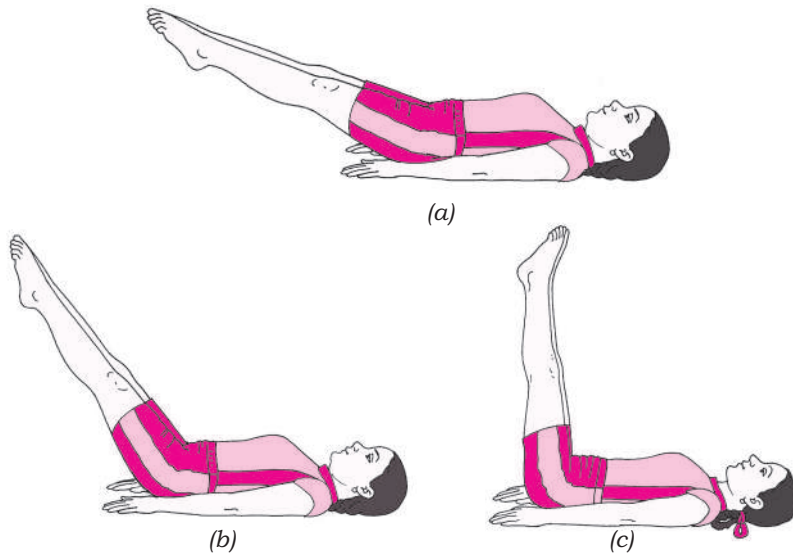


Fig. 6.12 Steps of Ardhalasana

Releasing position:

1. Lower down the legs stopping at 60°, 45° and 30° angles respectively.
2. Lower down the legs on the floor slowly. Keep hands by the sides of the body.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Keep the legs straight. • Stop at 30°, 45°, 60° and 90° angles respectively. • While raising the legs up, palms should be on the floor. 	<ul style="list-style-type: none"> • Do not shake the body. • Avoid jerky movement. Do not bend the legs at knees. • Do not haste while releasing the posture.

Make sure you conclude the asana by stating the benefits and limitations as given below:

Benefits

- It stretches muscles and ligaments of legs.
- It improves digestion and removes constipation.
- It helps in bringing about stability in body and mind.

Limitation

- Persons having complaints of hernia, slipped disc, high blood pressure and sciatica should avoid the practice of this asana.

Activity 6.15: *Shavasana* (Corpse Posture)

Shavasana is a relaxing posture, as shown in Fig. 6.13. Ask the students to perform *shavasana* by following the technique which they have already learnt in Class VI. The book ‘*Yoga: A Healthy Way of Living*’ for upper primary stage could be referred.

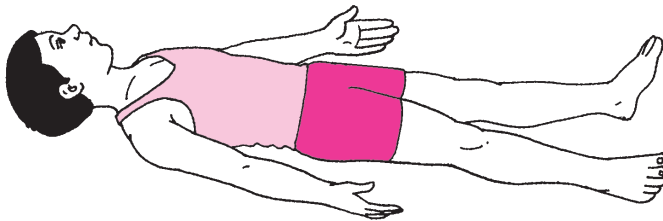


Fig. 6.13 *Shavasana*

Kriya

Kriya refers to the techniques which cleanse our body. There are several *kriyas*, each aimed at a specific part of our body.

Guidelines for the Teacher

- Familiarise students with the concept of *kriya* and its importance for physical fitness.
- Ensure that the guidelines for *kriya* given in the book ‘*Yoga: A Healthy Way of Living*’ for upper primary stage are followed.
- Introduce the following *kriya* and then ask the students to perform it.

Activity 6.16: *Kapalabhati* (Frontal Brain Cleansing)

Kapalabhati is considered as a *kriya* (cleansing practice). In Sanskrit, *Kapala* means ‘skull’ and *bhati* means ‘shine’. *Kapalabhati* is supposed to cleanse frontal brain. Please see Fig. 6.14.

Ask the students to perform *Kapalabhati* by following the steps given below:

Starting position:

1. Sit straight in *Padmasana*, *Ardhapadmasana* or *Vajrasana*.
2. Take deep breath through the nostrils.
3. Now, exhale with a forceful contraction of the abdominal muscles. Do not make any effort to inhale. This is one stroke of *kapalabhati*. Begin with 10 strokes at a time. This is one round. One can practise one to three rounds in a session.
4. Release the asana and relax.



Fig. 6.14 Kapalabhati

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Exhale forcefully and inhale passively. • Focus on exhalation only. • Contract the abdominal muscles while exhaling. 	<ul style="list-style-type: none"> • Do not move the chest or shoulders while exhaling. • Do not distort the face.

Make sure you conclude it by stating the benefits and limitations as given below:

Benefits

- It stimulates the nerves in the abdominal region, tones up the abdominal muscles and improves digestion.
- *Kapalabhati* expels carbon dioxide and other waste gases from the lungs.
- It improves heart and lungs capacity and therefore, good for bronchial asthma.
- It removes lethargy.

Limitation

- Persons suffering from heart problems, high blood pressure, hernia, vertigo and gastric ulcer should avoid practising *kapalabhati*.

Pranayama

Pranayama can be considered as the breathing techniques to regulate our breathing pattern.

Guidelines for the Teacher

- Discuss the concept of *pranayama* and its importance for physical fitness.
- Ensure that the guidelines for *pranayama* given in the book 'Yoga: A Healthy Way of Living' for upper primary stage are followed.
- Introduce the following *pranayamas* and ask the students to perform them.
- You could demonstrate it also.
- Help the students to do it correctly.

Activity 6.17: Anuloma-viloma Pranayama (Alternate Nostril Breathing)

The *anuloma* means 'towards' and *viloma* means 'reverse'. In this *pranayama*, nostrils are alternatively used in reverse order for each inhalation and exhalation, as shown in Fig. 6.15. This *pranayama* is also called *Nadi-shodhana pranayama*.

Ask the students to perform *Anuloma-viloma Pranayama* by following the steps given below:

Starting position:

1. Sit in the position of *Ardhapadmasana*, *Padmasana* or in any other comfortable meditative posture.



Fig. 6.15 Anuloma-viloma

2. Keep the body erect and place the hands on respective knees.
3. Raise the right hand and place the right thumb on the right nostril and close the right nostril.
4. Inhale slowly through the left nostril.
5. Release the pressure of thumb on right nostril. Now close the left nostril by the ring finger and the little finger; and exhale slowly through the right nostril. Now inhale slowly through the right nostril.
6. Close the right nostril with thumb and exhale slowly through the left nostril. This is one round of *Anuloma-viloma pranayama*. Repeat it 5 times.

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Inhale and exhale very slowly. • Concentrate on the breathing. 	<ul style="list-style-type: none"> • Do not produce sound from the nose. • Do not press hard on the nostrils. • Do not breathe through the mouth.

Make sure you conclude the *pranayama* by stating the benefits and limitations as given below:

Benefits

- It calms down the mind.
- It improves concentration.
- It provides sufficient oxygenated blood to the body.
- It helps to regulate blood pressure.
- It reduces anxiety.
- It is beneficial in many diseases such as asthma, high or low blood pressure, insomnia, chronic pain, endocrine imbalances, heart problems, hyperactivity, etc.

Limitation

- Persons suffering from hypertension and cardiac problems should perform it slowly.

Activity 6.18: *Bhastrika Pranayama*

The word *Bhastrika* has been taken from a Sanskrit word *bhastra* which means 'a pair of bellows'. In this *pranayama*, one imitates the action of bellows by inhaling and exhaling rapidly and forcefully, as shown in Fig. 6.16.

Ask the students to perform *Bhastrika Pranayama* by following the steps given below:

Starting position:

1. Sit in *Padmasana*, *Ardhapadmasana* or in any other meditative posture. Keep the body erect.
2. Then inhale and exhale forcefully through the nostrils.
3. Continue this forceful exhalation and inhalation counting up to ten breaths.
4. At the end, final exhalation is followed by a deep inhalation and slow exhalation. This is one round of *Bhastrika Pranayama*.



Fig. 6.16 *Bhastrika Pranayama*

Tell the students to remember the following points:

Do's	Don'ts
<ul style="list-style-type: none"> • Move lungs, diaphragm and abdomen with each inhalation and exhalation. 	<ul style="list-style-type: none"> • Chest and shoulders should not move. • Do not practise it in extremely hot conditions.

Make sure you conclude the *pranayama* by stating the benefits and limitations as given below:

Benefits

- It improves appetite.
- It destroys phlegm.
- It is beneficial in case of asthma.
- It increases the exchange of oxygen and carbon dioxide into and out of blood stream.

Limitation

- Persons suffering from heart problems, high blood pressure, vertigo and stomach ulcers should not practise this *pranayama*.

Meditation

Meditation relaxes our body and mind. It must be explained to the students that many times we become restless and worried which affects our physical fitness. Therefore, there is a need to relax our body and mind. This relaxation can be achieved by meditation.

Activity 6.19: Meditation

Guidelines for the Teacher

Tell the students that they have already learnt the technique of meditation in Class VI. For this, the book '*Yoga: A Healthy Way of Living*' for upper primary stage could be referred. Demonstrate the posture of meditation to the students.

FACT SHEET

Flexibility

Flexibility is one of the important parameters of physical fitness. It is required to perform all kinds of physical tasks.

Flexibility can be referred as an ability which enables us to move our joints and surrounding muscles to the maximum possible extent. This ability is important for performing even the basic functions like sitting, bending, holding the objects, etc. Raising our hands and rotating our shoulder in a circular motion backward and forward to its maximum also are the examples of activities which require flexibility.

As a matter of fact, our body becomes stiff after long hours of sleep, rest or inactivity. Stiffness may also occur from continuous activity for long hours. That is the reason why we experience difficulty in moving our body after sleeping, walking, playing or indulging in physical activities continuously for a long time. This stiffness can be removed by stretching the body. Therefore,

sportspersons are very often seen stretching their body before and after the sports events as it makes their body flexible.

There are differences in flexibility levels of individuals. Many factors such as age, gender, genetics and lifestyle are responsible for this variation.

Benefits of Flexibility

- Flexibility improves the range of motion in muscles and joints, thereby improving performance of motor activities.
- It reduces the risk of injury and pain.
- It improves the overall balance of the body.

Role of Yoga in Improving Flexibility

Yogic practices like asana, *kriya*, *pranayama* and meditation are very important for physical fitness.

Asanas are the body postures which are attained slowly and step by step. The asana stretches the muscles in one or more than one part of the body, thus bringing flexibility in the specific body parts. Therefore, different asanas are required for bringing flexibility in different parts of the body.

Kriya refers to the cleansing techniques (*shodhana-kriyas*) which internally cleanse the body by detoxifying it. There are six major cleansing techniques known as *Dhauti*, *Basti*, *Neti*, *Trataka*, *Nauli* and *Kapalabhati*. These *kriyas* cleanse specific parts of the body and enhance physical fitness.

Pranayama can be considered as breathing techniques which involve controlled inhalation and exhalation. It helps to increase the capacity of lungs and the supply of oxygen to the body, thereby increasing our physical fitness.

Meditation is a yogic practice in which mind is single-pointedly focused on a form, sound, object or thought. Meditation relaxes body as well as mind which indirectly enhances our physical health also.

ASSESSMENT

The teacher can assess the students on the basis of questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- (i) Why do you think flexibility is important for physical fitness?
- (ii) How can flexibility be increased?
- (iii) Write the name of two asanas which help in increasing the flexibility of the body.
- (iv) Write the technique of *Katichakrasana*.
- (v) Is there any difference in flexibility of a child and that of an elderly person?
- (vi) Name the body parts which require more flexibility.
- (vii) Write two benefits of *Chakrasana* and *Dhanurasana*.
- (viii) Name two asanas which increase flexibility in spine.
- (ix) What is the difference between asana and *pranayama*?
- (x) Write the benefits of *Anuloma-viloma pranayama*.
- (xi) Write a short note on *Bhastrika pranayama*.

2. Put a tick mark (✓) Yes or No.

- (i) *Padmasana* increases flexibility of legs. (Yes/No)
- (ii) *Yogamudrasana* is performed in *Padmasana*. (Yes/No)
- (iii) *Shavasana* is a relaxing posture. (Yes/No)
- (iv) *Chakrasana* is performed in sitting position. (Yes/No)
- (v) In *pranayama*, breathing is generally done through mouth. (Yes/No)

3. Fill in the blanks.

- (i) In *Dhanurasana*, the body resembles the shape of _____.
- (ii) _____ and _____ are performed in supine (lying on back) position.
- (iii) Flexibility of spine can be increased by _____.
- (iv) *Padmasana* increases the flexibility of _____.
- (v) In *Trikonasana*, the body makes the shape of _____.

Project

1. Make a chart showing two parts of the body where asanas can help to increase flexibility.
2. Share your experiences about the benefits of yogic practices with your friend and prepare a report.
3. Practise any five asanas daily for ten days. Write your holding time in the final position of each asana in the table given below.

Asanas	Duration of Holding Time (in seconds) in Final Position Day-wise									
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10

Analyse the observations and share them with your friends/peers.

Environmental Pollution

Unit

7

Most often, one feels that maintenance of personal hygiene and sanitation of homes are adequate for good health. But we ignore the fact that it is equally important to have a clean and safe environment for a healthy living.

A safe and clean environment ensures access to safe and clean water, air and surroundings. It safeguards us from various forms of illness and diseases. Therefore, it becomes extremely necessary for everyone to understand factors that pollute the environment and the preventive measures that can be adopted to protect it.

Objectives

This unit will help the teacher to enable students to:

- develop an understanding about environmental pollution, its sources and preventive measures,
- understand the health hazards associated with environmental pollution,
- develop an awareness of environmental sanitation and the importance of a good environment.

Box

The science and geography textbooks have already dealt with the meaning of the term environment, and how living beings, which include plants, animals and humans, are interdependent, and are important for sustaining the balanced natural environment. The focus of this unit is on the human activities that impact the environment, and how changes in the environment affect human activities and health in return.

Activity 7.1

Initiate a discussion among students in the classroom on different types of environmental pollution, their sources and preventive measures to be adopted.

Divide the students into groups, and assign each group to discuss in detail any one kind of pollution listed below.

1. Air
2. Water
3. Noise
4. Soil/land
5. Unclean and unhygienic surroundings.

Ask one student from each group to present the points that were discussed in the group.

Activity 7.2

Collect different pictures on environmental pollution as shown in this unit and show them to students. Ask students to look at each picture and interpret the context carefully.

Make sure you conclude the impact of environmental pollution on human health with the help of a Fact Sheet.

While showing pictures, ask the following questions to the students.

- What are the features in the picture which clearly indicate pollution?
- Are these pictures familiar with what you experience everyday, or is it something new to you?
- Do the pictures show a disturbance in the natural surroundings?
- What is causing these disturbances in the environment?
- How do you think these disturbances affect us?

Activity 7.3

Divide the students in groups, each having 5–6 students , and do the following:

- Give a case study to each group.

- Ask them to answer the questions given at the end of the case study.
- Ask one student in each group to note down the responses.
- After 10 minutes, ask the groups to share their responses with the class.
- Conclude on the basis of group presentation.

Case Study

Rahul is complaining of a stomach ache. His mother wants to know if he ate something outside. Later, he tells his mother that he had some snacks from a local vendor's stall.

The local vendor's stall was just next to a garbage dump, which had not been cleared for a long time.

Garbage dumps are a perfect breeding place for flies. As garbage begins to rot, a large number of micro-organisms appear on the garbage as shown in Fig. 7.8. When flies sit on the garbage, the pathogens (disease-causing micro-organisms) stick to their bodies, and when these flies sit on uncovered food items, they leave those germs on the food. So, when we consume the infected food, we fall sick. Some of the diseases that can be transmitted by flies are typhoid, cholera, dysentery, tuberculosis and gastroenteritis.

After reading the above case study, initiate a discussion among the students on the basis of questions given below:

1. Why did Rahul complain of stomach ache?
2. What happens when garbage accumulates in our surroundings?
3. What are the diseases transmitted by flies?

Activity 7.4

Ask the students to draw or collect pictures showing pollution, and its impact on health. Make a collage with these pictures.

FACT SHEET

Environmental Pollution

The addition of any substance to air, water and soil, i.e., in addition to what is naturally present, changes the composition and brings about an imbalance in our environment. Such

unfavourable changes in the composition of our surroundings are known as environmental pollution. Pollution adversely affects the health, and even survival, of humans and other living beings.

What Causes Environmental Pollution?

The images given in this unit show different types of environmental pollution, which directly/indirectly affect human health. One often sees a pile of heaped garbage in a busy marketplace, or plastic covers, cans, empty bottles, etc., thrown into rivers, lakes or ponds, or scattered on the roads. It is a concrete example of our indifferent attitude towards environment and sanitation.

AIR POLLUTION AND ITS AFFECT ON HUMAN HEALTH

Air is the essence of life, without which one cannot possibly survive even for a few minutes. The science textbooks discuss about the respiratory process, and how clean air is essential for human health. If one breathes the air that is polluted, it is natural that one will succumb to various illnesses and diseases.

Air pollution affects the respiratory system. One could experience discharge from nostrils, irritation in the throat, etc. If the air is too polluted, there may be shortness of breath and even damage to lungs, as shown in Fig. 7.1.

Sources of Air Pollution

- Smoke released from chimneys of factories (using coal), which do not follow pollution norms (See Fig 7.2), carry fine carbon particles and other harmful gaseous substances. When one breathes this air, the person is likely to suffer

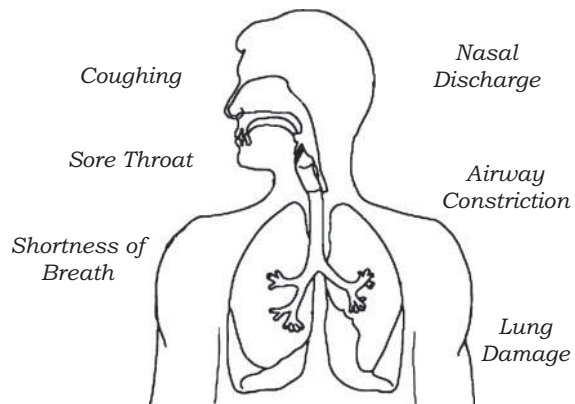


Fig. 7.1 Common symptoms caused due to air pollution

from respiratory diseases such as bronchitis, asthma and tuberculosis.

- Traffic is a major cause of air pollution in India, particularly in the big cities, as shown in Fig. 7.3. Carbon monoxide is emitted from motor vehicles, which is poisonous. It causes headache and nausea, and a very high concentration of this gas can even cause death. In addition, vehicles also release harmful metallic particles, which are highly toxic and cause problems in kidney, liver, circulatory and nervous system.
- Indoor air pollution may be caused by poor ventilation.
- Indoor air pollution can also be caused by the use of wood as fuel in *chulhas* and *angithis*, which are widely used in the rural areas of India. The lack of proper ventilation exposes women to smoke, containing unburnt carbon and gases like carbon monoxide and sulphur dioxide, leading to health problems such as fever, anaemia, asthma and tuberculosis.

Measures to Check Air Pollution

Students may be encouraged to record their observations on “what can I do” and “what can we do” to check air pollution. Some examples are given below:



Fig. 7.2 Air pollution from factory smoke



Fig. 7.3 Air pollution through vehicular emission

There is a need to ensure that anti-pollution norms are strictly enforced. For instance, pollution from industries and vehicles can be checked by the use of air filters at emission points. Vehicles should use Compressed Natural Gas (CNG) instead of petrol and diesel.

- Use school and public transport systems instead of private vehicles.
- Planting trees on roadside and plants in one's surroundings.
- Sanitary disposal of solid waste/garbage.
- Creating awareness in rural areas for promotion of smokeless *chulha*.
- Encouraging the use of less-polluting biomass fuels and other cleaner fuels like LPG (liquefied petroleum gas).
- Use of alternate sources of energy such as solar energy, wind power, tidal, geothermal and biomass energy.
- Avoid burning of garbage, which also includes leaves and grass. Encourage use of organic manure.
- Provision of proper ventilation in homes.
- Recycling waste material, such as paper, metals, cloth, glass, etc.

WATER POLLUTION

Like air, water is also a vital resource for the sustenance of life. A human being requires water for drinking, domestic purposes, agriculture, industries and so on.

Though there is an abundance of water on the planet, but the availability of clean and safe water is still an issue, as shown in Fig. 7.4. Water pollution also reduces the availability of usable water, and makes water unsafe, leading to a large number of waterborne diseases that may even result in deaths. Water pollution also affects aquatic life and indirectly affects us through the food chain.

Sources of water pollution

- Discharge of untreated waste such as domestic waste (sewage containing faeces, waste food, detergent, soap) and industrial waste, are major causes of water pollution. In India, as in other developing countries, most of the sewage



Fig. 7.4 Drinking polluted water

and industrial waste are directly released into nearby rivers without treatment. Therefore, most of the water bodies in our country are polluted (See Fig. 7.5). The rivers Ganga and Yamuna are notable examples.

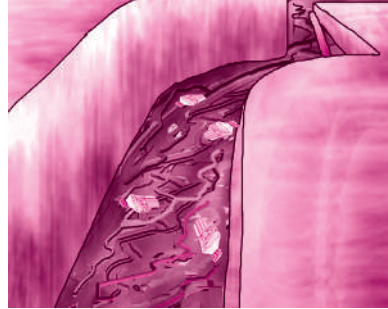


Fig. 7.5 Water pollution from industrial discharge

- There is a large area in our country, particularly in villages, where people do not even have sewerage facilities, i.e., provisions for disposal of liquid waste. People defecate in fields, or nearby riverbeds, or bathe and wash clothes near natural water sources. Both surface water and groundwater get polluted, which become a major cause for waterborne diseases, such as cholera, typhoid, polio, meningitis, hepatitis and dysentery.
- Agricultural run-off, i.e., when fertilisers used in fields are washed into nearby streams by rain, it causes water pollution.
- Unscientific means of mining cause pollution of nearby water bodies.

Measures to check water pollution

- Avoid overuse of pesticides and fertilisers, and encourage use of organic farming.
- Do not throw waste such as plastic bags, paper, empty bottles into the water bodies.
- Avoid littering of garbage during rains, as a part of the garbage goes into drains or nearby water sources, affecting the water supply.
- At the community level, ensure that the industrial units and sewerage systems in our neighbourhood follow proper disposal water treatment processes.
- Drink boiled and filtered water.
- Avoid wastage of water.
- Reuse water for domestic purposes.

NOISE POLLUTION

- Noise pollution is the unwanted sound produced by traffic, industrial units, aeroplanes and even community and religious functions.
- Inside our homes, noise pollution can be caused by electric gadgets, such as air coolers, loud music, vacuum cleaner, etc.



Fig. 7.6 Noise Pollution

Excessive and prolonged exposure to high-pitched noise may result in the loss of hearing, cause headache and severely affect the circulatory and digestive systems of human beings (See Fig. 7.6). Noise pollution also causes psychological effects, such as irritation, lack of concentration, nervous breakdown and depression.

Measures to control noise pollution

- Planting of trees helps to absorb and screen noise in areas where excessive noise is generated.
- There should be strict enforcement of legislative measures for checking noise pollution.
- The engines of machines and automobiles should be designed to ward off excessive noise.
- Individual effort is necessary, such as talking at a low pitch, controlling the volumes of radio, television, loud speakers, etc.

SOIL/LAND POLLUTION

- The excessive use of inorganic fertilisers may temporarily increase soil fertility, but in the long run, chemicals may accumulate in the soil and enter the food chain, ultimately reaching humans (See Fig.7.7).
- Deforestation and loss of green cover results in the loss of plant and animal biodiversity.
- Unscientific methods of mining.
- Dumping of toxic wastes in landfills.



Fig. 7.7 Land pollution caused by littering



Fig. 7.8 Garbage decomposition

Measures to check soil/land pollution

- Emphasis on the use of organic farming.
- Planting of trees and vegetation.
- People to be made aware about the harmful effects of littering.

Importance of Environmental Sanitation

Maintaining a clean and safe environment also means that we should keep our surroundings clean. If we live in filthy and unhygienic conditions, we may acquire various diseases.

Some of the measures for sanitation of our surroundings are given below:

- Avoid littering of garbage, keep dustbins properly covered, and clean garbage dumps in your locality periodically.
- In the vicinity of our homes and surroundings, we should ensure that we keep the drains covered, prevent blockage of drains and accumulation of stagnant water in coolers, tyres, flower pots, etc.

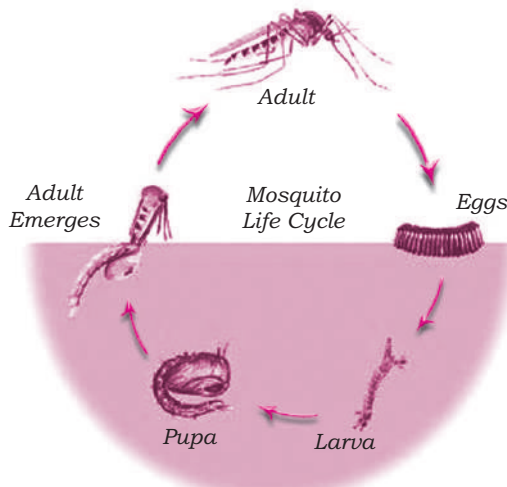


Fig. 7.9 Life cycle of mosquito

- Ensure sanitary measures for disposal of household liquid waste.
- Food remains, cooking oil, or items such as cotton, sanitary towels should not be thrown into drains or toilets, as they choke and clog the drains.
- Planting of trees in the locality.

What happens when water accumulates in our surroundings?

Stagnant water offers a breeding ground to mosquitoes and causes serious diseases like malaria, filariasis, dengue, etc. Female mosquitoes like anopheles are carriers of major diseases such as malaria. This can be better understood by going through the life cycle of a mosquito. There are four stages in the life cycle of a mosquito. In the first stage, the mosquito lays eggs in stagnant water, which then float in the water. After three days, the eggs open and larva emerges. In a week's time, the larva takes the form of pupa and after 2–3 days the pupa turns into a mosquito, as shown in Fig.7.9.

ASSESSMENT

The teacher can assess the students on the basis of questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- What do you understand by a safe and clean environment?
- What are the different types of environmental pollution? Give two examples each of the sources of pollution.
- How does water pollution affect human health?
- What is sewage? Why is it harmful to discharge untreated sewage into rivers or seas?
- Give some examples of what you would do at the individual and community level to keep your environment clean and healthy.
- Which of the following can cause respiratory problems?
 - Air pollution
 - Water pollution
 - Land pollution
 - Noise pollution
- Which of the following may cause water pollution?
 - Agricultural run-offs
 - Untreated sewage
 - Dumping garbage in rivers
 - All the above

Food and Nutrition

Unit 8

INTRODUCTION

Any edible substance, of both plant and animal origin, which has nutritive value such as carbohydrates, fats, proteins, vitamins and minerals, is known as food. Food plays an important part in sustaining life by providing energy, ensuring growth and development, maintaining proper health, prevention of illness, restoration of health following injury or disease and ensuring proper regulation of body processes. We require a balanced diet to maintain our body functions and activities of day-to-day life.

Objectives

This unit will help the teacher to enable students to:

- understand the importance of different nutrients of a balanced diet,
- learn methods of cooking the food nutritiously.
- develop understanding and the relationship between food, festivals and celebrations.

Activity 8.1

The teacher may be ask students to visit a vegetable, fruit and grocery market situated near their house, observe the materials available, and list the items available in the shops in the table given below:

Vegetables	Fruits	Grocery items
1. Onion	1. Apple	1. Wheat flour
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

Activity 8.2

Ask the students to visit their home kitchen for a week, especially when food is being cooked, and observe the following points as given below:

- Whether the vegetables or grocery items have been properly washed and cleaned before cooking.
- Since overcooking reduces the nutritious value of the food, so observe this aspect when the cooking is in progress.
- Look at the amount of oil used for cooking.
- Whether variety of food items are cooked from time to time and seasonal fruits are served.
- Whether a cooker or proper vessel for cooking is used.

Collect the responses on the basis of the observations made and summarise the responses and supplement it. Ask the students to present their experiences based on the observations.

- Ask the students to prepare a chart showing the responses on the following observations in a week's time.
- After a week, ask the students to make a presentation in the class.
- Students can show pictures also while writing the responses.

Activity 8.3

Ask the students to bring special food on festivals, sit in a group and share the food like community lunch.

Activity 8.4: Maintaining a Kitchen Garden

Tell the students that in order to enjoy fresh and organic vegetables, they could develop kitchen garden at home, if space is available. This can be a leisure activity.

Activity 8.5: Importance of Compost Pit

You could suggest the students to make a compost pit in the kitchen garden to generate quality manure (food for the plants). In one corner of the kitchen garden, the ground may be dug up for making a compost pit. All leafy materials obtained while cleaning the garden is dumped in the pit which is watered at

regular intervals. When the pit gets filled, it may be covered with soil. After a few months, the contents of the pit will become manure for the plants.

FACT SHEET

The nutritional requirements differ from person to person with age and gender. The nutritional requirements of a child and an adolescent are different from those of adults because children grow and develop faster than adults. Inadequate and poor nutritional intake adversely affect growth and development in children.

Children are more likely to suffer from poor nutrition as compared to adults. Infants have low stores of fat and protein, and as a result, they can be hungry for only a short period. In view of rapid growth during infancy, the amount of nutrition required is high.

The brain of a child grows rapidly during the last four months of pregnancy and also during the first two years. Even the connection between nerve cells in the brain are formed during this period. Good nutrition is, therefore, important to ensure the growth and development of a child during these stages.

ESSENTIAL NUTRIENTS

Carbohydrates

Carbohydrates for young children are more important than those suggested for adults (around 60 per cent of the total energy intake). To meet the carbohydrate requirement, active children should enjoy diet rich in carbohydrate. They may be given high carbohydrate snacks between meals. The major sources of carbohydrates are bread, cereals, fruits, vegetables, milk and other dairy products. Each gram of carbohydrate provides four calories of energy.

Proteins

Proteins are important for children's growth and tissue repair and to make essential hormones and enzymes in the body. When the energy intake is insufficient, the intake of protein must be

increased. For children, the recommended dietary allowance for protein is about one gram to five per Kg. body weight per day. Poultry, white meat, fish, pulses and nuts are good sources of protein.

Fats

Fats are concentrated and rich sources of energy. It is recommended that about 30 per cent of caloric requirement of children must come from fats. Children should avoid transfats and also reduce the consumption of saturated fats. Poly-saturated and mono-saturated fats should be consumed in more amounts.

Vitamins

Vitamins are organic substances essential for metabolism, growth and development of the body. These are classified into two types, i.e., fat-soluble vitamins (A,D,E and K) and water-soluble vitamins (B complex and C). Since our body cannot manufacture all the vitamins, they are to be obtained through a balanced diet, comprising fruits, vegetables, mushroom, nuts and dairy products. These have high vitamin content.

Minerals

Minerals are the elements constituting the body and are also present in food. They play an important role in the maintenance of water balance and also acid–base balance in the body. These are also helpful in regulating muscular and nervous tissues. Iron, Phosphorus, Calcium, Zinc, Magnesium, Sodium and Potassium are the minerals needed in the body. Food items like leafy vegetables, beans, seeds, fish, wholegrain, cheese, fruit, etc., are rich in minerals.

Water

Water is a very important nutrient as it helps to carry out almost all vital metabolic processes. It helps in maintaining body hydration and metabolic temperature. Children have a less developed mechanism to regulate body temperature and because of this, regular intake of water in adequate quantity becomes very important. It is recommended that a healthy child should

consume about 8 to 10 glasses of water in a day, considering the water lost by sweat, urine, faeces and exhaled air. Overdose of water can be fatal.

EFFECTS OF COOKING/PROCESSING METHODS ON FOOD

Various effects of cooking/processing methods of food are:

1. **Washing and cutting:** Washing removes dirt, micro-organisms and traces of insecticides. It is important in the context of frequent use of chemicals in modern agriculture. Prolonged washing leads to the loss of water-soluble minerals and vitamins. Cutting vegetables uniformly helps in reducing cooking time and also in distribution to all members of the family. It also helps in the penetration of spices which enhances the taste. However, vegetables should be washed before cutting.
2. **Cooking:** As it involves heating, it destroys microbes and inactivates enzymes and makes food digestible. Various cooking methods and their effects on food are given in the following table.

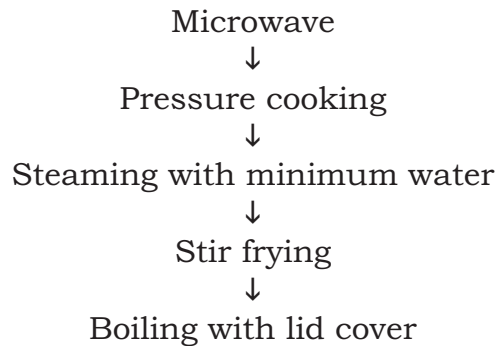
Cooking Method	Effects on Food
Boiling food	Causes degradation of water-soluble nutrients.
Steaming and pressure cooking	Water-soluble vitamins like B-complex and Vitamin C and minerals are retained.
Steaming	Extent of loss increases with (i) Exposure (open vessel cooking). (ii) Duration of heat exposure for the food is less, therefore, it is a good processing method.
Frying	Nutritional value goes down but food tastes better.
Roasting	Food gets cooked, without any loss of nutritive value.

3. **Dehydration:** In dehydration, surplus water from food is removed without reducing the taste and nutrient value, e.g., sun-drying the vegetables, herbs, fish, meat and fruits like apricots, etc.
4. **Refrigeration:** It helps in making bacteria and enzymes inactive at low temperatures, so that the food items can be preserved for a longer period.
5. **Freezing:** Freezing helps in retaining taste, texture and nutritional value of food better than any other method.
6. **Cold storage:** It is used for storing large quantities of fruits, vegetables, etc., at a controlled temperature to preserve them a longer period.
7. **Fermentation:** Use of yeast and some other microbes helps not only in preserving food but also in retaining its nutritive value. The food becomes soft and easy to digest.
8. **Germination:** In sprouts, the nutrient quality of food gets improved, especially vitamins.
9. **Pasteurisation:** This method kills or inactivates the microbes. This is usually employed for milk and milk products to keep them preserve for a longer period.
10. **Use of Salt, Oil, Sugar:** Preserving the food items, preparing pickles, jams and jelly are done by using salt, sugar and oil.

HOME PRACTICES OF FOOD COOKING

Various home practices of food cooking are as follows:

- Any cooking that minimises the time, temperature and amount of water will help to preserve the nutrients. Based on their ability to preserve nutrient values, the common cooking methods are arranged in a descending order.



- Cut vegetable into big pieces.
- Cook until it becomes crisp and tender, using as little water as possible.
- Eat unpreserved and fresh seasonal food items.
- Fermented food items like *Idli*, *dhokla*, etc., are nutritious.

ASSESSMENT

The teacher can assess the students on the basis of the questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- (i) Name the essential nutrients of a balanced diet and indicate one benefit of each nutrient.
- (ii) List different cooking methods and discuss their benefits.
- (iii) Why is it important to wash vegetables before cooking?
- (iv) On the occasion of a festival, observe what food gets cooked in your house. Discuss its relevance with the festival and celebrations.

Common Injuries

Unit

9

INTRODUCTION

Injuries in sports range from simple to multiple (grievous). There have been instances of sportspersons dying due to injuries. Therefore, it is important for the teachers of physical education to have an idea about the types of injuries, why they occur and what immediate care (first aid) can be provided before the sportsperson is referred to a doctor.

Injuries in sports can be reduced with the use of protective gear (helmet, leg guards, tooth guards, shin guards, etc.) and by teaching the sportspersons various techniques of preventing injuries depending upon the type of injuries anticipated in a particular type of game and sport.

Objectives

This unit will help the teacher to enable students to:

- get familiar with different types of injuries as well as their causes,
- develop skills of providing first aid for different types of injuries,
- get familiar with the procedure of immediate and later management of various injuries.

Activity 9.1: Common Injuries

Materials required: Blackboard, Chart, Chalk/Pen.

Guidelines for the Teacher

- Introduce the unit by encouraging students to recall any injury that they suffered while playing.
- This will provide an opportunity to students to realise the cause and injury occurred based on their own experiences.

- Note down the different types of injuries on the blackboard or chart.
- Divide the students into small groups of 5–6 members.
- Encourage each student to participate in the group discussion.
- Ask each group reporter to share the responses of his/her group members with the whole class.
- Based on the list written on the blackboard, ask them to respond in the table/columns given below:

Injury	Causes
1.	1.
2.	2.
3.	3.

- Based on the responses, you could summarise the injuries into three categories with the help of Fact Sheet.

Activity 9.2: Management of Injuries

Materials required: Chart and Pen.

Guidelines for the Teacher

- Divide the students in groups of 5–6 members.
- Give one type of injury (soft tissue, joint, bones injuries) out of three, as a topic to each group.
- Give them a week to prepare the chart showing the injury, first aid, immediate action required and later management.
- Encourage them to consult books, materials, internet, etc., to prepare the chart.
- After a week, ask each group to give a presentation in the larger group with the help of chart.
- Ask the students to add more points and also encourage them to ask questions.
- You should appreciate the work done by all groups.
- Summarise the responses and add the points, if required, based on the Fact Sheet.
- The charts prepared by the students may be put up in the classroom.

FACT SHEET

The common causes of injuries in sports are:

- Weak muscles
- Muscle imbalance
- Fatigue
- Overload
- Inappropriate sports equipment
- Inadequate preparation for a sport
- Lack of flexibility
- Lack of strength
- Inappropriate choice of sports
- Inadequacy of proper protective gear
- Improper warm-up

The injuries can be classified into the following three broad groups:

1. Soft tissue injuries
2. Joint injuries
3. Bone injuries

The management in respect of the above three categories of injuries can be done under the following three steps of immediate responses/actions:

- (i) First aid
- (ii) Immediate management
- (iii) Later management

1. SOFT TISSUE INJURIES, FIRST AID AND MANAGEMENT

- (i) Abrasion:** It is a superficial injury, which results in the loss of skin. The skin is scraped due to friction or fall on that area of the body where the bone is very close to the skin. The common sites of the body affected by this injury are shin, knee, elbow, sides of the hip and back of the hands.
- (ii) Laceration:** It is an injury which affects the skin and is caused by a relatively sharp object with which the skin gets cut through its full thickness.

The common sites of this injury are face, chin, eyebrows, lower jaw, lips and elbows.

- (iii) **Blister:** Blister is caused by skin irritation due to which the superficial layer of the skin gets filled up with fluid and bubbles get formed. Around the blister, there is redness and swelling. The common sites of blisters are hands, feet, fingers and buttocks.
- (iv) **Wounds:** These are injuries caused by sharp objects that penetrate into the skin.
- (v) **Avulsion:** It is a serious laceration caused by a sharp object, resulting into complete separation of the skin from the underlying tissue.
- (vi) **Contusion:** Contusion is an injury caused by a severe blow which ruptures blood vessels without breaking the skin. It causes bruising of the skin or the underlying tissue. This injury may occur below the skin, in the muscle, joint, brain as well as in the eye.
- (vii) **Strain:** It is an injury involving muscle and tendons. It may vary from a mild pull to complete rupture of the muscle, resulting into pain along the length of the muscle. The muscle affected by this injury is unable to contract. There is extreme pain on palpation.
- (viii) **Sprain:** It is an injury to the ligament resulting from overstress. Due to extreme force the ligament gets overstretched. It is mainly due to injury to the ligament, joint capsule or tendon crossing a joint. It is invariably caused by a sudden twist or jerk or blow over the ligament.

The first aid and immediate management of injuries belonging to this category is done using the RICE protocol. RICE stands for:

- R - Rest
- I - Ice
- C - Compression
- E - Elevation

The injured part must be given rest immediately after the injury and cold compression should be given for 15 to 20 minutes

after every two hours for 24 to 48 hours. Ice should be wrapped in a piece of cloth and then applied on the injured part. For 48 hours after the injury, no massage and fomentation should be given. Thereafter, compression bandage is applied and the injured part is raised above the heart level so that normal blood flow continues and inflammation is reduced. Every possible effort should be made to take the injured person to a hospital at the earliest.

As a part of later management, proper physiotherapy should be provided to ensure restoration of the injured part to normal function. As the injury heals, joint mobilisation and improvement of flexibility should be started. Gradually, the strength of the injured part should be increased.

2. JOINT INJURIES (DISLOCATION), FIRST AID AND MANAGEMENT

It is caused due to displacement of a bone from its normal position in a joint. Dislocations result from forces causing the joint surpass its narrow anatomic limit. Dislocation could be incomplete separation (sub-luxation) between two articulating bones and it could also be complete separation (luxation) of the bones.

Dislocation results in the loss of limb function and severe pain is caused when attempt is made to move the injured part. In sports, the joints which suffer dislocation are shoulder joints, elbow joints, dislocation of patella and finger joints.

- (i) **First aid:** The patient is kept in a comfortable position. All movements around the joint are restricted and the injured part is immobilised with the help of sling and bandage. Ice pack may be applied for reducing the pain.
- (ii) **Immediate management:** Transfer the patient in a comfortable position to the nearest hospital and get an X-ray done to confirm the status of the injury. The help of an expert should be taken to place the bones in their right position using skillful manipulation. Thereafter, the joint should be immobilised using plaster or strapping for a specific period.

- (iii) **Later management:** Other joints of the body should be kept active in order to maintain fitness. Isometric exercises are recommended after the injury is healed, in order to maintain muscle tone and strength.

3. BONE INJURIES (FRACTURE), FIRST AID AND MANAGEMENT

It is defined as interruption of the continuity of a bone, which may be partial or complete. Fracture may be simple, wherein the bone might break without causing any harm to the skin. It may also be complex, in which a fragment of a bone penetrates into the skin. Fracture may also be caused due to severe fatigue. It is called stress fracture and normally involves a small part of the bone. Fracture causes loss of power and movement, and severe pain is felt over the injured part. The injured part develops swelling.

- (i) **First aid:** As a first aid, splint is applied in order to immobilise the injured part and make arrangements to transport the patient to the nearby hospital.
- (ii) **Immediate management:** The patient should be transported to the nearby hospital preferably in an ambulance. Immediate steps should be taken to confirm the injury by taking the X-ray/bone scan. The injured part is kept immobilised because it will help to correct anatomical alignment at the time of plastering the injured part.
- (iii) **Later management:** Steps are taken to prevent atrophy of the muscles and decalcification of bone tissue due to inactivity. The patient is advised to carry out isometric exercises of the injured part because these increase the muscle tension without producing any movement.



ASSESSMENT

The teacher can assess the students on the basis of questions given below. The teacher can construct more questions also. He/she may provide opportunity to students to frame more questions.

1. Answer the following questions:

- (i) List any five causes that are responsible for sports injuries.
- (ii) Mention any five soft tissue injuries and briefly explain how they should be managed.
- (iii) Explain how dislocations should be managed.
- (iv) Briefly describe the first aid that should be provided for bone injuries (fracture).
- (v) Demonstrate how the first aid is given in the following cases:
 - (a) Soft tissue injury
 - (b) Joint dislocation
 - (c) Fracture

Social Health

Unit 10

INTRODUCTION

The World Health Organisation (WHO) has clearly stated that “health is a state of physical, mental and social well-being and not merely freedom from disease and infirmity.” Therefore, it may be said that in order to be healthy in the real sense, in addition to physical and mental health, an individual should also have the ability to interact with others and behave in a manner which is appreciated by the family members as well as by the society. India is a vast country and customs and traditions are different in the different parts of the country, which influence the health of the society. Health of the society also depends on how its people use its leisure time.

Customs and traditions in a society affect the lives of people, which in turn influence the social health of individuals. The types of food which people eat as well as the way they live are influenced by the customs and traditions. All these aspects affect the social health of the people living in the society. Even the way people behave within a family and in the society is affected by the customs and traditions.

Objectives

After completing this unit, the teacher will be able to:

- discuss the customs and traditions prevailing in the society related to health,
- discuss the influence of these customs and traditions on the health of people living in the society,
- develop positive attitude and skills towards proper use of leisure time.

Activity 10.1: Prevailing Customs and Traditions Related to Health

Materials required: Writing Board, Chalk, Markers, Charts.

Guidelines for the Teacher

- This activity can be performed in a large group with all students of a class.
- Ensure that all students participate in the group discussion.
- Ask the students about the customs and traditions prevailing in the society related to health.
- Write down the responses given by the students on a blackboard or chart.
- Summarise the customs and traditions having positive and negative impact on the health of the society.

The teacher may ask the students to:

- Share the observations and reactions of the people in the family at the time of child birth. How do members of the family behave when a male or a female child is born?
- Share any custom which is being followed at the time of child birth.
- Note down the differences.
- Clarify the points raised by the students by giving logical reasoning.

Activity 10.2: Early Marriage

Parents do not send the girl child to school due to early marriage in a few parts of our country, especially in villages. They think that the main responsibility of a woman is to look after the men in the family. Girls are confined to home to help their mothers and sadly watch their brothers go to school. Boys are given healthy food to eat, while their sisters get used to eating what is left over. They are also married off at a young age and face the hazards of being teenage mothers who are neither physically nor mentally mature. Unable to cope up with the responsibility, they remain irritated and unhappy all the time which affects their social health.

Materials required: Writing Board, Chalk, Markers, Charts.

Guidelines for the Teacher

- Divide the students into groups of 5-6 members. Each group will work on a case study as given below in the box.
- Ask the group to appoint a reporter.
- Give 10 minutes to all groups to respond to the question given at the end of the case study.
- Ask each group reporter to share the views of the group in the larger group.
- Teacher may note down the points raised by groups.
- The teacher may ask other students if they put forward their own viewpoints.

Case Study 1

Geeta was only 14 years old when her parents decided to get her married off. She was married to a person who was 24 years old. Due to this, Geeta could not complete her studies and did not get enough education to look after the family properly. Within a few months of her marriage, she got pregnant. Since biologically she did not attain reproductive maturity, both the child and the mother faced a lot of health problems.

Questions for discussion:

1. Who should be blamed for the early marriage of Geeta?
2. Why did Geeta and her child have health problems?
3. What lesson do you learn from the above case study?
4. Why the custom of early marriage exists even today?
5. Can a change be brought in the society for giving up the practices that ruin the social health of its members? How do you think?
6. What can you do to remove such illness that affect social health?

The teacher may acknowledge everyone's contributions and sum up the learning as follows.

- ❖ There are evident negative consequences of early marriage.
- ❖ Early pregnancy restricts opportunities for young women

in terms of their education, economic productivity and social status.

- ❖ Such customs lower the self-confidence and self-esteem of young women.
- ❖ Such practices force women to suffer discrimination.

Activity 10.3: The Behaviour of a Person in Society is a Reflection of His/Her Social Health

Materials required: Chalk and Blackboard.

Guidelines for the Teacher

- The teacher may ask the students to describe the behaviour of a person they have met in a bus or elsewhere whom they find different from others.
- The teacher can initiate a discussion with the students by asking the following questions or writing them on the board.

What type of person will be if he/she:

- (i) keeps an unhappy face all the time.
- (ii) does not utter even a word when in a company.
- (iii) gives replies which are irrelevant to the topic of discussion or the question, if asked.

The teacher then adds on responses of these statements given by the students. The teacher helps students to come up with the probable causes of such behaviour and mentions how do such behaviour impact the family members, the society and the entire community.

The teacher can summarise and say that social health pertains to the manner in which a person behaves in the society.

PEER AND SOCIAL PRESSURE

Peer relationships can have both positive and negative influences. During this period, children start distancing themselves from parents and families. They start valuing friends more. The peer influence helps them to find their identity, new ways of thinking, explore emotions and discuss many other issues. At the same time, peer influence can be negative. For example, some students experiment smoking or drugs under peer pressure. Similarly,

parents find it difficult to accept adult-like characteristics of their children. Rather, they want to obey them in choosing in a friendly manner, etc. How these pressures affect the health can be discussed by organising the following activity:

Activity 10.4: Peers and Social Influence

Materials required: Case Studies, Charts and Pens.

Guidelines for the Teacher

- Divide the learners into groups of 5-6 members.
- Give each group one of the case studies (2 and 3) given below.
- Give the group 10 minutes to read and discuss it.
- Encourage everyone to participate in the discussion.
- After 10 minutes, ask each group to share their views in the larger group.

Case Study 2

Arun's father used to drink alcohol and sometimes even forced Arun to have a sip. Little did the father realise that as Arun reached the teens, he began to steal and drink. When Arun reached college, he became friendly with Rohit and Abdul. He pestered them everyday to taste alcohol. Rohit agreed and he now gives company to Arun to drink alcohol that he steals from home and brings to college everyday. Abdul, however, opposed the proposal and does not touch alcohol and even explains to Rohit and Arun to give up drinking.

Questions for discussion:

1. Who was to be blamed for Arun's addiction to alcohol?
2. How does a person move from experimentation to dependence to addiction to alcohol?
3. Compare the behaviour and consequences of Rohit and Abdul's behaviour?
4. Who out of them was sensible?
5. Why is it important to say 'No' to alcohol/drug?

Students can also be asked to narrate any true case of someone becoming a chain smoker or a drug addict due to peer pressure. The teacher can then explain how the peer and family/society

influence the health. For example, boys like Rohit and Arun are shunned by the society and become lonely as no one wants to befriend them, so they are no longer socially healthy.

Case Study 3

Positive and Negative Peer Group Influences

Raju used to study all the time at school or at home. He always scored good marks. He did not have any other interests or hobbies. When he joined a new school in Class XI, he became friends with Zaheer and Moti. Both were keen cricketers. Raju started to play cricket with them and discovered that he was a good spin bowler. His parents are now concerned that he is spending too many hours in the playground which may affect his studies.

Questions for discussion:

1. Do you think Zaheer and Moti are a good influence on Raju?
2. Do you think that Raju's parents are justified in being concerned about his new hobby?
3. What role can Raju's teachers play in decreasing his parents' anxiety?
4. Should Raju continue playing cricket? Why?

The teacher makes groups to enact the following role-plays as per the case studies 4 and 5. Since the number of students are more the case studies may be given to more groups.

Case Study 4

Gudiya used to see both her mother and grandmother enjoy chewing tobacco regularly. When she turned 12, she felt that she was old enough to begin chewing *gutka*/tobacco and *paan* (betel) along with them. Gudiya knows that the corner shopkeeper stocks *gutka* and she can buy it from him.

The teacher gives the following instructions to the groups.

1. Ask the group to enact a conversation of 2–3 minutes between Gudiya and her mother, who tries to dissuade Gudiya from picking up this addictive habit.

2. Using the above case study, ask the group to establish the role of a family in initiating adolescents into substance abuse.
3. The group may be asked to reflect on as to why they think Gudiya should listen to her mother and resist the temptation of *paan* (betel) and *gutka*/tobacco chewing.

Case Study 5

A group of students (Class IX) are teasing your friend because of his appearance. They look at you to join them but you do not want to.

The teacher can summarise that:

- Children learn a lot from adult. It is important for adults to model healthy, honest and wise behaviour.
- Pressure from friends, community norms, customs and easy availability may push children into bad habits.
- Peer relationships can have both positive and negative dimensions.

POSITIVE USE OF LEISURE TIME

Leisure time means the time when one is not occupied with attending classes or doing the necessary daily chores such as cooking, doing duties of a job, doing work related to studies, etc.

Leisure Time Activities

In other words, leisure is the state of having time at one's own disposal, time which one can spend as one pleases, free or unoccupied time.

Leisure can either be a creative opportunity of enjoyment by engaging in art and craft, music, dance, sports, reading, creative writing, social work, gardening, etc. These are socially acceptable leisure time activities. But one has to make time for these enjoyable activities. On the other hand, it can be drab, boring and a person may involve in non-constructive and socially unacceptable activities like gambling, drinking, etc.

Leisure time activities or hobbies provide a lot of pleasure, scope for learning, character building, rejuvenate and help in keeping good physical and mental health.

These days, people are busy and have no time to enjoy. That is why, time management is a necessary skill and needs to be developed.

Activity 10.5

The teacher may arrange to take his/her class to a function happening in the locality/another school/city/village, etc.

The teacher then discusses in the class as to:

- (i) whether they enjoyed the function or not and if not, why?
- (ii) whether it is important for them to attend such functions and how?
- (iii) whether the participants in the function have motivated you to be involved in a recreational activity.

Activity 10.6

- The teacher can help the students to come up with one-act play, chorus, poetry, reading, singing, monoacting, painting, etc.
- After that, he/she selects the best and puts up for the school exhibition either in the morning assembly or in any other school function.

ADAPTING TO SITUATIONS AND CHANGE

Adolescence is a period of rapid growth and physical growth comes as a surprise when puberty strikes. Observing self causes stress. Guidance from the teacher helps to release this stress.

Activity 10.7: Clarifying Issues Related to Growing Up

The teacher can prepare an inventory or questionnaire on physical changes and ask the students to say 'yes' to the changes they find in themselves. They are told not to submit the questionnaire but instead they get to know that they are normal. The teacher then collects their queries as folded chits and discusses them next day after preparing the responses.

The teacher should reassure that there is no fixed time when puberty and adolescence sets in for all. It is normal and so there is no cause for anxiety.

LEARNING TO BE SOCIALLY HEALTHY BY HEARING ABOUT OUTSTANDING PERSONALITIES

Teenagers often emulate elders. It is important that they get to learn about important personalities and derive motivation from their lives.

Activity 10.8

The teacher can give the students a list of names of some outstanding personalities in sports and games and give them a week to collect information on their lives and their pictures/ photographs from books, magazines, websites, TV, newspapers, radio, etc.

The teacher can form groups and make sure that all students participate in the activities. Some names can be Dhyan Chand, PT Usha, Mary Kom, Prashant Karmakar, Deepa Karmakar, Sachin Tendulkar, etc. The students may be encouraged to select the personality of their choice. Each group can present in the form of a story or a poem or an essay or a powerpoint presentation.

FACT SHEET

A community is socially healthy if the members are happy and carry out responsibilities suited to their age group. Also, it is the social responsibility of a community to help the community members and do away with the wrong cultural practices such as child marriage, illiteracy and spread awareness regarding development of positive attitudes. It is commendable that the earlier undesirable practices are not common today.

There are various factors which impact social health of an individual.

1. Cultural practices and customs
2. Preference for a male child
3. Size of the family

4. Early marriage of girls due to: (i) deeply entrenched patriarchy in the society, (ii) dowry system, (iii) poverty, (iv) lack of awareness for education.

The community also has the responsibility to improve the health and hygiene of its members.

PEER PRESSURE

Peer interaction is normal for growing children when they make friends. They should befriend socially healthy boys or girls who behave responsibly towards studies, play games and exercise to enjoy their free time judiciously, which are essential for one's growing into normal, healthy and good life of human beings.

On the contrary, if they succumb to the pressure of youngsters who have gone astray or indulge in criminal activities like taking drugs or drinking alcohol, they are only ruining their lives. It is, therefore, important for youngsters to say 'No' to peer pressure if it is for a wrong deed.

POSITIVE USE OF LEISURE TIME

1. Social Acceptable

Leisure time activities have to be carefully chosen. The leisure activity should be socially acceptable, but gambling and drinking cannot be positive use of leisure. Writing poems, doing artwork singing, gardening, playing games, etc., can be termed as positive use of leisure time and socially acceptable behaviour.

2. Beneficial for Health

These activities should have some health benefits. Activities like playing sports and games are good for maintaining a sound body and mind.

3. Voluntary

Leisure activities should be carried out at free and will not be forceful.

4. Survival activities

The activities like eating and sleeping can not be considered creative leisure.

5. Constructive

Leisure can be considered positive only when it is constructive in nature.

When you are free what makes you happy?

There are many activities that can be chosen to participate during free time, which also makes one happy.

1. Games and sports

Games and sports include a wide range of activities. These may include fun games like cat and mouse, dodge ball; or individual games like athletics, tennis and badminton; and team games like hockey, football and cricket.

2. Music

Vocal, playing instruments, music competitions and a wide range of activities related to music will come under this category.

3. Drama

Theatre, play, storytelling or writing a musical drama and one-act play comedies are some of the few activities which can be performed as a leisure time activities.

4. Dance

Dance is very much related to our culture. Folk, classical and modern dances are the examples.

5. Literary and language

Creative writing, poetry, writing letters, storytelling and debate are the activities which can be performed.

6. Art and craft

Painting, poster-making, toy-making, fingerprinting and modelling are the activities which can be done under this category.

7. Social service

Helping others is the best positive and creative use of leisure time. Teaching others for free, transporting aged or handicapped persons, helping in orphanages or old-age homes come under this category.

8. Hobbies

It is quite a broad term and can range from collection of coins, stamps to gardening, cooking, etc.

Values attached to positive leisure

There are numerous values which one can gain from creative leisures:

- Happiness and fulfillment
- Growth and development
- Creativity
- Character building
- Refreshment
- Freedom
- Social adjustment
- Physical health
- Education

What makes it difficult for you to do things that make you happy?

1. Economical condition

Money is the biggest barrier in participating in various activities.

2. Lack of leisure time

People who spend 10-12 hours a day working in different shifts find it difficult to spare time for engaging in some kind of creative leisure.

3. Social restraint

There can be some restraints from the family to engage in some social activities, especially women and girls are not allowed to do activities at their free will.

4. Habits

Some people develop certain unhealthy habits like drinking, gambling, etc., at an early age, which hinder them in involving/making creative leisure. They prefer to engage in these habits during free time.

5. Lack of support from family

There are many instances of children not getting enough support from family members to pursue the activity at their own will.

How can you reduce the barrier?

There can be many barriers which put hindrance in participating in the activities that make you happy but there are also some ways and ideas through which we can overcome them.

- Modified games
- Innovations
- Indoor activities
- Available resources can be used
- Creating your own groups with friends and relatives
- The teacher can act as a guide
- Joining volunteer groups

ROLE MODELS

It is important to know the names and stories of eminent Indian and foreign sportspersons. Their stories motivate youngsters.

P.T Usha, Mary Kom, Prashant Karmakar, Deepa Karmakar, Dhyan Chand and Sachin Tendulkar are some of the eminent sportspersons in India.



ASSESSMENT

The teacher can assess the students on the basis of the questions given below. The teacher can construct more questions also.

1. Answer the following questions:

- (i) What do you understand by the term 'social health'?
- (ii) Whom would you call a socially healthy individual?
- (iii) Do you think that family has a role to play in developing social health of an individual?
- (iv) Make a list of socially acceptable leisure time activities.
- (v) What do you understand by peer pressure? What kind of harmful effects can one have if you agree to peer pressure? Explain with the help of an example.

Consumer Health Service

Unit

11

INTRODUCTION

Consumer health refers to the decisions which people make while purchasing products and using of health information services that will have a direct influence on their health. It is one of the most important responsibilities of the Government to provide a detailed information to people about the products and services so that they may take full protection from those products or services which pose a threat to their health. Consumer health not only involves full freedom from disease but helps them ensure physical, mental and social well-being. In addition, it lays emphasis on prevention of illness. Government health agencies are also responsible for providing full information about recent research findings and knowledge pertaining to the maintenance of good health. The Government is also expected to take help of doctors and convey information to educational institutions and public both in urban and rural areas regarding the methods they can adopt to improve overall health, and in turn, enhance longevity.

Objectives

The unit will help the teachers to enable the students to:

- understand the concept of consumer health services,
- get familiar with the rights of consumers and the facilities being provided by the Government in this regard,
- get information regarding healthcare centres for different health problems.

CONSUMER AWARENESS

Activity 11.1: Consumer Awareness

Materials required: Chart Paper, Pen.

Guidelines for the Teacher

- The teacher may ask students to see various goods available in the house.
- Ask them to list goods/products with and without ISI mark.
- Ask the students to visit a nearby local market and collect information about manufacturing and expiry date of 10 products.
- The students must be encouraged to collect information about the importance of ISI mark.
- The teacher explains the importance of ISI mark products.
- The teacher divides the class into small groups of 5-6 students.
- He/she asks each group to prepare a chart showing products with and without ISI mark.
- The teacher asks each group to share the information with the larger group.

Activity 11.2: Consumer Health Service

Materials required: Information Sheet/Fact Sheet, Chart, Blackboard, Chalk, Pen.

Guidelines for the Teacher

- The teacher may initiate the discussion by asking the students about the rights of consumers.
- Ask them about various steps taken for consumer awareness about health services available at various levels.
- The teacher asks the students to collect information about health-related services available in their locality.
- Write down the responses of students on the blackboard.
- The teacher can take the help of Fact Sheet while summarising about consumer health, consumer rights and health services.

Activity 11.3

The teacher asks the students to visit a shop/market and make a list of products available with ISI mark, note the manufacturing and expiry date of the products, and discuss the points/information collected by the students.

The teacher then informs the students about their rights as consumers, which are given below:

- Right to be informed
- Right to be heard
- Right to seek redressal
- Right to safety
- Right to consumer education

The teacher also explains the following milestones in the Consumer Rights Movement:

- ‘*Jago Grahak Jago*’ campaign is to educate and empower consumers.
- Consumer Clubs are active in many schools.
- Awareness generation campaign are conducted about quality benchmarks like ISI mark, etc.
- Standardised product packaging has been introduced.
- Improved infrastructure of State Fora.
- Networking of Consumer Fora through Consumer Forum Computerisation (CONFONET) is in place.
- Awareness generation about misleading advertisements activities are conducted.
- Awareness generation about food wastage during social functions or activities are conducted.
- Twenty-five state consumer helplines and two national consumer helplines are active.

People of all age group and both the genders living in rural and urban areas need detailed information about the structure and functions of different levels of healthcare services available to them at primary, secondary and super speciality (tertiary care) levels.

Activity 11.4

The teacher encourages the students to prepare posters/banners on health promoting slogans and display them in school.

Health products are those substances, materials or equipment prepared or manufactured for people to buy and use in for the maintenance of health and treatment of diseases. Examples of such products are food, medicines, cosmetics, medical gadgets and the electronic items.

FACT SHEET

Consumer means a person who is a purchaser, recipient or prospective purchaser, lessee or recipient of consumer products, services or credit.

People are the real users of goods and services and they need food, clothing and shelter everyday. They travel on buses, taxis, trains and other means of transport; they visit doctors for the treatment of illness and injuries; they watch television and use energy in the form of electricity and consume clean drinkable water from taps. It is expected that the Government will take appropriate steps to provide the above facilities to the consumers and make suitable laws so that appropriate action is taken against individuals and corporates who fail to extend the above mentioned facilities in a proper form and at a reasonable cost.

The Government should take the help of print and electronic media to provide detailed information about the health services available, and let the public know about the availability of different products at various places and ensure that the products are sold at an appropriate cost. The public should also be aware of the safety of food, medicines and other products, besides suggesting ways and means to be adopted for filing complaints against misleading products or services. Such information helps people in making wise choices while purchasing a product.

The Consumer Protection Act was formed in 1986, which happens to be a landmark in social welfare legislation, covering all sectors—public, private and co-operative. Consumer Protection Councils as well as Consumer Disputes Redressal Agencies were set up at the Central, State and District levels to protect the consumers from exploitation and to find solutions to consumer grievances speedily and effectively. The Department of

Consumer Affairs attached to the Ministry of Consumer Affairs, Food and Public Distribution takes care of the consumer rights and ensures that every product is available to the public at the right cost and the quality of every product is good.

CONSUMER HEALTH SERVICES

1. Primary Healthcare

This care pertains to get information about personal hygiene practices to be followed by people as well as all details about the implementation of immunisation programme.

2. Secondary Healthcare

It covers information pertaining to adopting ways and means to prevent accumulation of water near houses, cleanliness of drains and sewerage system as well as spraying insecticides to keep the environment free of mosquitoes, flies and other vectors.

3. Super-speciality Healthcare

It refers to health services available in big hospitals. This care is provided by medical specialists in respect to those medical problems which cannot be taken care in the small medical centres.

The following healthcare centres for different health-related problems at various levels are available for the consumers.

1. All India Institute of Medical Sciences (National Level)
2. Ram Manhor Lohia Hospital (National Level)
3. Safdarjang Hospital (National Level)
4. District Hospital
5. Primary Healthcare Centres
6. Local Health Centre

Health consumers are those who use the available health information, products and services. This includes people who are well, sick, young, adults, middle-aged and senior citizens, who may be rich or poor. Consumer health refers to the decisions made by people about the purchase of products, use of the health-related information and health services that will have a direct effect on their health. People get information about all

these products from the media and also from professionals and various agencies.

Consumer health education is the process of assisting people to acquire correct information and understanding so that wise decision could be made about health.

Consumer services

For eatables and materials required for day-to-day use, the following consumer services are provided by the government:

1. Kendriya Bhandar
2. Mother Diaries
3. Super Bazars



ASSESSMENT

The teacher can assess the students on the basis of questions given below. The teacher can frame more questions also.

1. Answer the following questions:

- (i) Explain the meaning of the word 'consumer' and briefly explain the Consumer Protection Act.
- (ii) List of the consumer rights.
- (iii) Name any two agencies which deal with the consumer rights of citizens.
- (iv) Make a list of hospitals in your city/locality and name the health-related facilities available in these centres.
- (v) List the consumer services provided by the Government.