

HIGHER SECONDARY COURSE

Health & Physical Education



Government of Kerala
Department of General Education

Prepared by
State Council of Educational Research and Training (SCERT) Kerala
2026

THE NATIONAL ANTHEM

Jana-gana-mana adhinayaka, jaya he
Bharatha-bhagya-vidhata
Punjab-Sindh-Gujarat-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchala-Jaladhi-taranga
Tava subha name jage,
Tava subha asisa mage,
Gahe tava jaya gatha.
Jana-gana-mangala-dayaka jaya he
Bharatha-bhagya-vidhata
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone, lies my happiness.

Prepared by

State Council of Educational Research and Training (SCERT)

Poojappura, Thiruvananthapuram 695012, Kerala

Website : www.scertkerala.gov.in

e-mail : scertkerala@gmail.com, Phone : 0471 - 2341883,

Typesetting and Layout : SCERT

First Edition : 2026

*Printed at : Centre for Advanced Printing and Training (C- apt),
Thiruvananthapuram-695013*

© Department of General Education, Government of Kerala

ISBN 978-93-47213-70-0

Foreword



Dear all,

The Kerala Curriculum Framework (KCF 2023) aims to help students grow into physically fit, mentally strong, and socially responsible individuals. At the higher secondary level, Health and Physical Education becomes very important, as this is a stage when students experience major physical, emotional, and social changes. This class XI Health and Physical Education textbook has been prepared to guide students towards healthy habits, positive thinking, and responsible behaviour. This textbook helps students understand the importance of physical fitness in daily life. It introduces topics such as hypokinetic diseases and explains how lack of physical activity can lead to health problems. The book also focuses on improving flexibility and cardiovascular endurance, helping students realise the value of regular exercise for long-term health. In the present age, students face challenges such as substance abuse, misuse of supplements, and digital exploitation including excessive use of mobile phones, online games, and social media. This textbook highlights the importance of safety and security by educating students about proper hydration, the safe and healthy use of supplements, and making wise choices to protect their physical and mental well-being. The book also promotes sports culture by introducing indigenous games and inclusive sports that encourage participation by everyone, regardless of ability or background. Through sports, students learn important values such as teamwork, discipline, respect, and cooperation. In addition, the textbook explains how sports help develop management skills like leadership, planning, time management, and problem-solving. This textbook aims to help students build a balanced lifestyle for lifelong health. Active participation in physical activities, self-reflection, and regular practice are encouraged. The overall goal of this book is to make learning meaningful and enjoyable, while helping students become healthy, confident, and responsible members of society.

Dr Jayaprakash R. K.

Director, SCERT Kerala

HIGHER SECONDARY TEXT BOOK DEVELOPMENT TEAM

Health & Physical Education

Experts

Prof (Dr) Jayarajan David D.
Professor
Department of Physical Education
Govt. College for Women,
Vazhuthacadu, Thiruvananthapuram

Prof (Dr) Augustine George
Professor
Department of Physical Education
Govt College, Kottayam

Dr Gokuladasan Pillai
Curriculum Head (Rtd)
SCERT Kerala

Arun Jyothi S.
Assistant Professor
Department of Physical Education
Govt. College for Women, Vazhuthacadu,
Thiruvananthapuram

Dr Sudheesh C. S.
Assistant Professor
Dept of Exercise Physiology
Lakshmibai National College of Physical
Education, Thiruvananthapuram

Dr Aju T. G.
Assistant Professor
Department of Physical Education
Government College, Munnar, Idukki

Participants

Dr Shibu B.
Instructor In Physical Education
Central Polytechnic College,
Vattiyoorkavu, Trivandrum

Renjith R.
Instructor In Physical Education
Govt. Polytechnic College,
Vandiperiyar, Idukki

Joseph Kurian
Trained Graduate Teacher
Kendriya Vidyalaya, Adoor

Dr Amal C.H.
Physical Education Teacher (HS)
N N Kakkad Smaraka GHSS Avitanallur,
Kozhikode

Mohamed Prince M.
Physical Education Teacher (HS)
GHSS Purathur, Malapuram

Abinand M.
Physical Education Teacher (HS)
GHS Perdala, Kasaragod

Artist

Deepesh T.
BRC Panthalayani
Koyilandy

Aromal R.
BFA Student
College of Fine Arts,
Thiruvananthapuram

Shobin S.S.
BFA Student
College of Fine Arts,
Thiruvananthapuram

Academic Coordinator

Dr AJEESH P. T.

Research Officer, SCERT Kerala



State Council of Educational Research and Training (SCERT)
Poojappura, Thiruvananthapuram 695012, Kerala

Contents

Unit 1	Holistic Health and Active Living -----	07
Unit 2	Physical Fitness for Better Life -----	31
Unit 3	Hydration, Supplements and Substance Abuse -----	51
Unit 4	Indigenous Games and Inclusive sports : Empowering Sports Culture -----	75
Unit 5	Management Skills and Sports Activities -----	95
	Annexure -----	105

Symbols



Activities



Rules and Regulations



Assessment

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a ¹**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ²[unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949 do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Unity of the Nation" (w.e.f. 3.1.1977)

1

Holistic Health and Active Living

"Dorabji Edulji Gimi was the headmaster then. He was popular among boys, as he was a disciplinarian, a man of method and a good teacher. He had made gymnastics

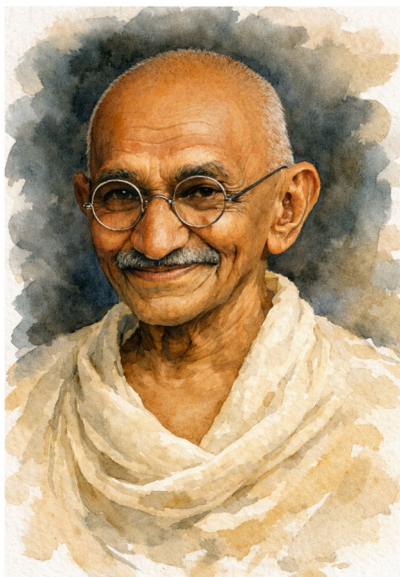


Figure 1

and cricket compulsory for boys of the upper standards. I disliked both. I never took part in any exercise, cricket or football, before they were made compulsory. My shyness was one of the reasons for this aloofness, which I now see was wrong. I then had the false notion that gymnastics had nothing to do with education. Today I know that physical training should have as much place in the curriculum as mental training.

I may mention, however, that I was none the worse for abstaining from exercise. That was because I had read in books about the benefits of long walks in the open air, and having liked the advice, I had formed a habit of taking walks, which has still remained with me. These walks gave me a fairly hardy constitution."

- * An extract from "The Story of My Experiments with Truth", An autobiography by Mohandas Karamchand Gandhi translated from the original in Gujarati by Mahadev Desai.

Let us also realise the importance of physical activity.



ACTIVITY 1 : Follow the Leader



Figure 2

‘Follow the Leader’ is a simple group activity.

It promotes :

- movement skills
- leadership qualities
- cooperation
- coordination

Step 1 : Watch the Video

Students watch a demonstration video of ‘Follow the Leader’. In the video, one student acts as the leader and performs a series of movements such as walking, clapping, stretching, turning or simple dance steps. Other students observe and follow the leader by replicating the movements.

Step 2 : Perform the Activity

- **Group Formation** : Divide the whole class into small groups with 6-8 students in each group.
- **Mimic the Action** : One student in each group acts as the leader. The other students follow the leader and imitate the actions.
- **Rotate the Role** : Rotate the role of leader every 2 minutes. Ensure that every student gets a chance to lead.



Assessment

1. Assess your involvement in “Follow the leader” activity. Rate your involvement by tickmark (✓) .

Better	Good	Average	Below Average	Need Improvement
☐	☐	☐	☐	☐

2. Which part of your body was engaged the most during the activity? Choose your answer from the following.
 - (a) Arms and shoulders
 - (b) Legs and feet
 - (c) Core and torso
 - (d) Whole body

Your Answer :

3. Write three movements you found challenging and state the reasons also.

- Movement 1 :
Reason :
- Movement 2 :
Reason :
- Movement 3 :
Reason :

4. How would you rate your ability to keep up with the speed (tempo) of the leader? Choose your answer from the following.

- (a) I stayed perfectly in sync
- (b) I was able to keep up with the leader most of the time
- (c) I was a little bit behind
- (d) I struggled to keep up.

Your Answer :

5. How would you explain your role as a leader in the activity?

.....
.....

Physical Activities

The term 'Physical Activities' is very familiar to you. It means any bodily movement produced by skeletal muscles that results in energy expenditure.



ACTIVITY 2 : Benefit of Physical Activities

List the benefit of physical activities based on the hints given below.

- * Health * Discipline and character
- * Recreation * Growth and development * Fitness

Write down here

.....

.....

.....

.....

.....

.....

Physical inactivity

It means the lack of regular physical activity which is necessary for healthy growth and functioning of the body. Physical inactivity poses a serious global challenge.



ACTIVITY 3 : Let's discuss

Discuss physical inactivity as a growing challenge in India based on the figure given below. After the group discussion, present your findings to the whole class.

Divide yourselves into groups of five and discuss the physical activity levels among Indians. The data presented in the image is sourced from a survey conducted by 'The Lancet', an independent international general medical journal in 2022. The survey shows that nearly 49.4% of Indian adults do not meet the recommended physical activity levels with a projected increase to 59.9% by 2030.

Figure 3

Areas for Discussion :

1. **Health Implications :** Discuss on the consequences of long- term physical inactivity.
2. **Social, Environmental & Behavioural Factors :** Discuss on the general reasons why many Indians remain physically inactive.
3. **Solutions, Policy & Community Action :** Discuss and develop action plans that can be implemented in your school to address the issue.

What are your findings?

.....

.....

.....

.....

.....

.....

.....

.....

Building a Healthy and Active Life

Did you know that the World Health Organisation (WHO) reports physical inactivity as one of the leading causes of lifestyle diseases among young people? With advance in technology, long study hours and excessive screen time, we are becoming less active than ever before. This fact makes Health and Physical Education an essential part of school learning.

Health & Physical Education - Concept**ACTIVITY 4: Health and Physical Education for a better tomorrow**

Look at the poster on Health and Physical Education. Discuss the meaning, dimension and relationship of Health and Physical Education in groups of five members. After the group discussion, present your findings to the whole class based on the discussion points.

Health and Physical Education

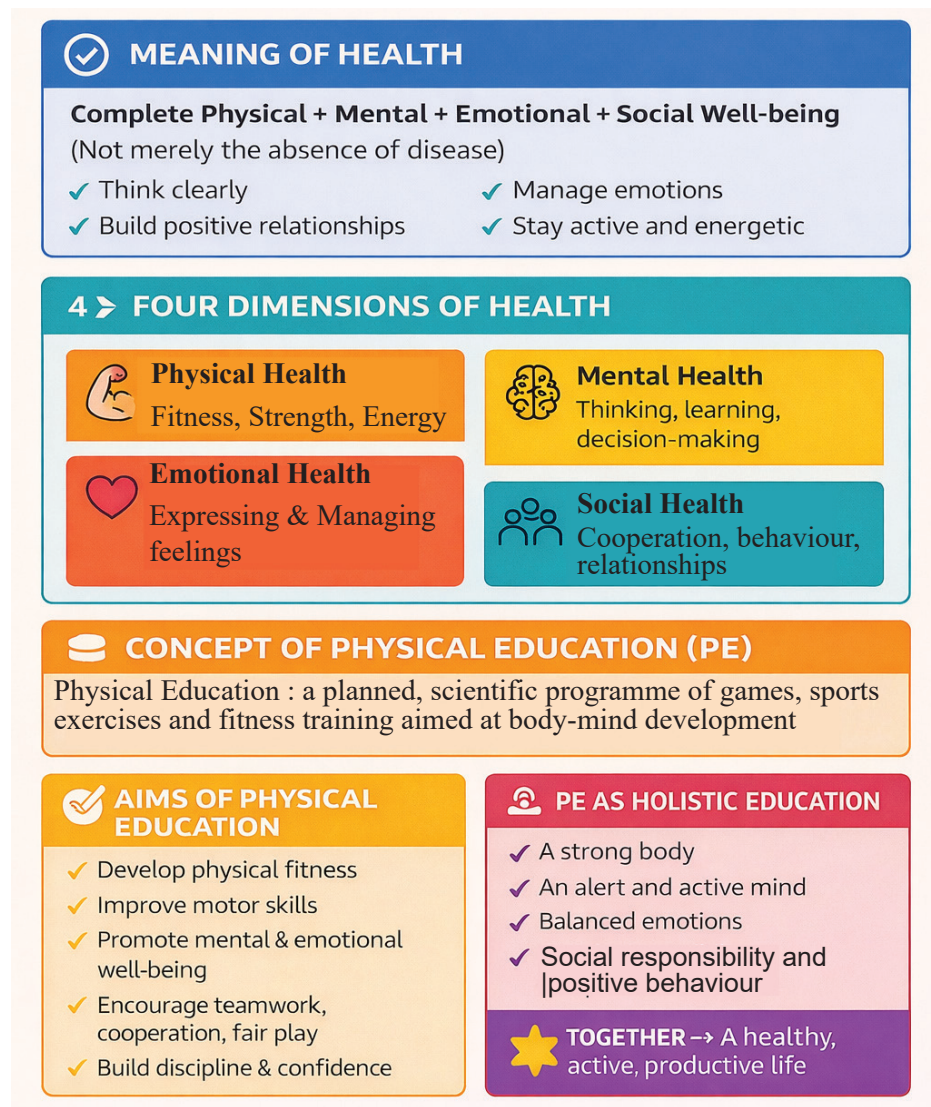


Figure 4

What are your findings?

.....

.....

.....

.....

.....

.....



ACTIVITY 5 : Activity Circuit

Now let's try an activity circuit. Divide yourselves into four groups. Rotate through each station, perform each activity and write down your experience after completing each one.



Figure 5

- **Station 1** : Students sit or lie down.
- **Station 2** : Students perform slow walking, gentle stretching, casual cycling, etc.
- **Station 3** : Students perform brisk walking, easy jogging, steady swimming, etc.
- **Station 4** : Students perform running, fast cycling, skipping etc.

How did you feel after the activity?

Station 1 :

Station 2 :

Station 3 :

Station 4 :



ACTIVITY 6 : Physical Activity Log

Recall your physical activity participation over the last five days and fill in the activity log book with the instructions given in the box.

Instructions

1. Type of activity in which you participated.
2. Time spent on the activity in minutes.
3. Physical Activity Level (PAL);
 - a. **Sedentary** : Activities involving sitting, lying down or very little movement.
 - b. **Light** : Activities that cause a slight increase in breathing and heart rate. You can talk easily and the effort required is low.
 - c. **Moderate** : Activities that make your breathing heavier and raise your heart rate noticeable. You can still talk comfortably, but singing may be difficult.
 - d. **Vigorous** : Activities that cause deep and rapid breathing. Talking becomes difficult and you can say only a few words without pausing. These activities raise your heart rate significantly.
4. How you felt after the activity : Energetic, breathless or fatigued.
5. Write down the total duration of your physical activity for each day.

Activity log book

Day	Type of Activity	Duration (in minutes)	PAL (Physical Activity Level) S/L/M/V	How I felt?
1				
2				
3				
4				
5				
Total duration in minutes				

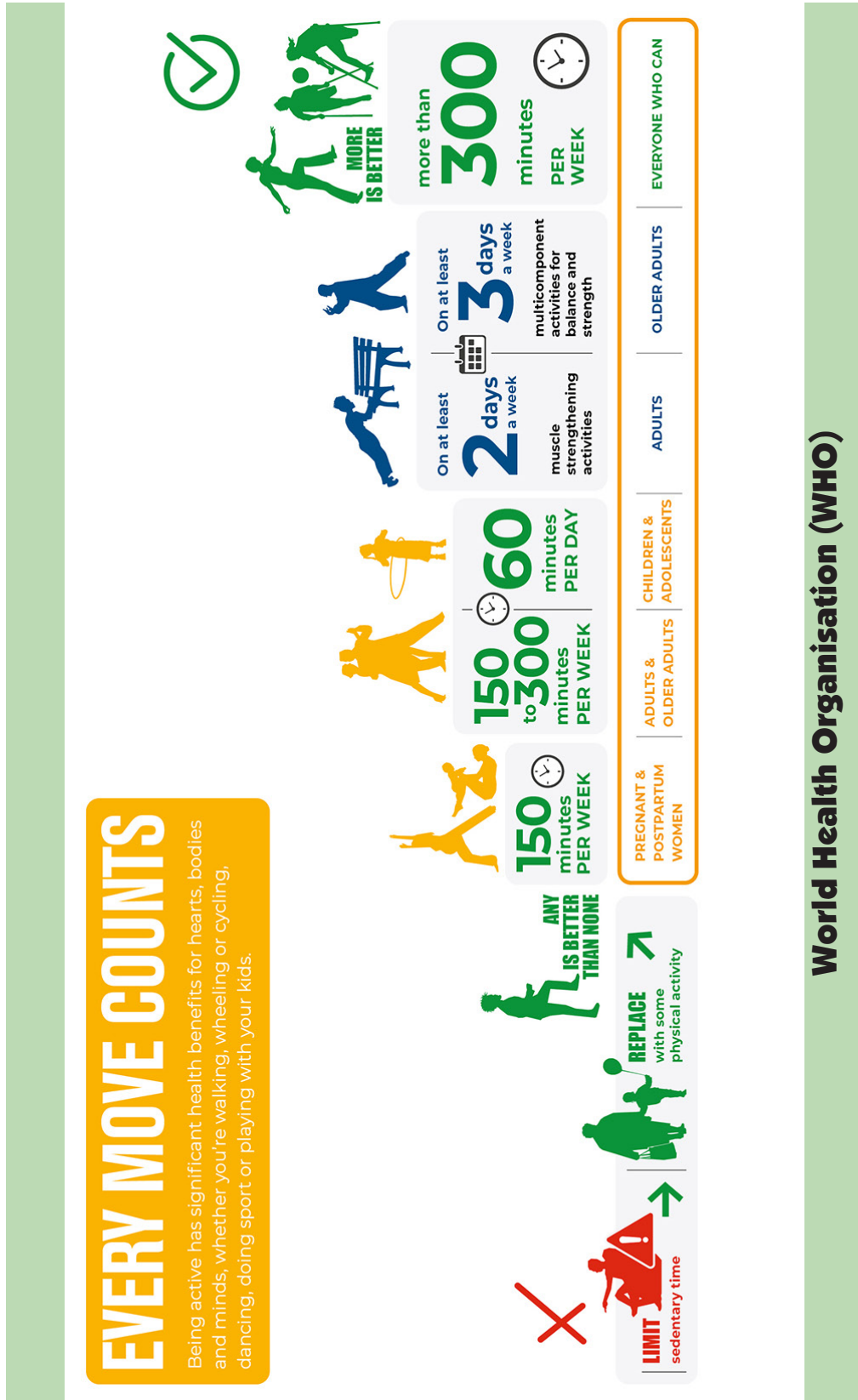


Figure 6

Figure 6 shows the importance of being physically active for good health. It explains that any kind of movement, walking, playing, cycling, dancing, or exercising - helps to keep our heart, body, and mind healthy. The figure also highlights the need to limit long periods of sitting time and replace them with regular physical activity.

Inference

- Any physical activity is better than doing nothing at all.
- Adults and older adults should aim for 150 to 300 minutes of physical activity per week. Children and adolescents should try to be physically active for about 60 minutes every day.
- Atleast 2-3 days a week, people should engage in activities that strengthen muscles and improve balance.
- Doing more than 300 minutes of physical activities per week provides additional health benefits.



ACTIVITY 7 : Self reflections

1. Did you participate in any physical activity during the past week? If yes or no, explain why?

.....

2. On which day you were the most physically active? Were you able to meet the recommended 60-minutes of physical activity on any day?

.....

3. What health problems can result from a sedentary lifestyle?

.....



Do you know

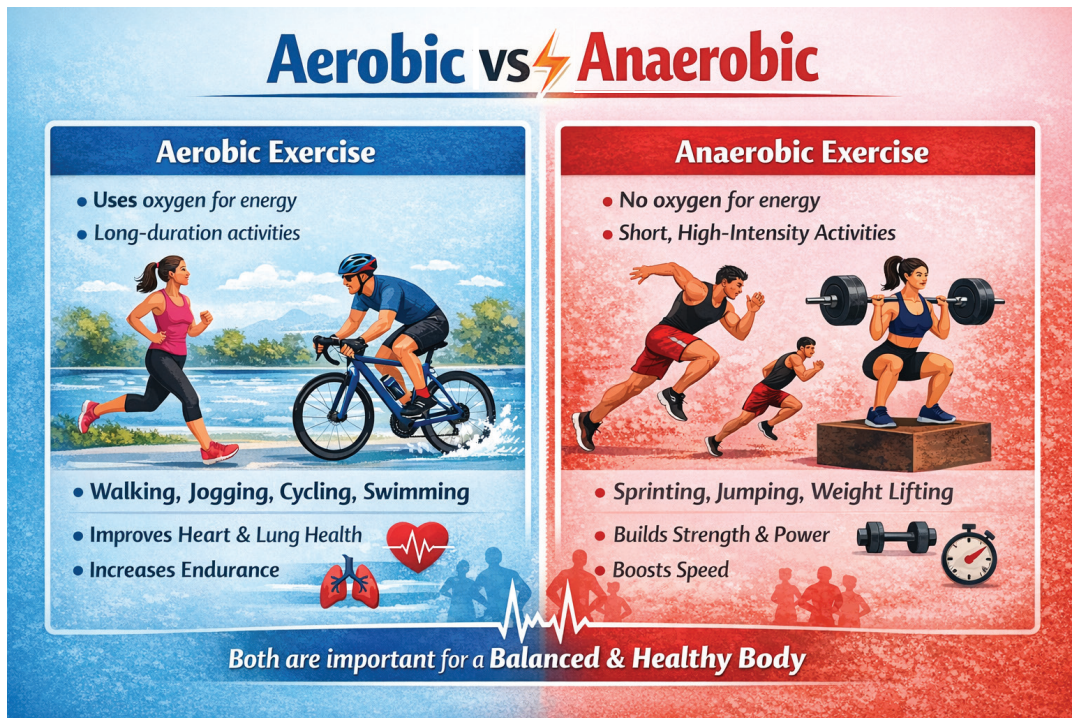


Figure 7



ACTIVITY 8 : Through the life of Neeraj Chopra

Read the following passage and answer the questions given below.

As a child in Khandra village, Haryana, Neeraj Chopra was overweight and was often teased for his chubby appearance, which made him feel shy and unhappy about his body. Instead of giving up, his family encouraged him to take up sports to become healthier. At Shivaji Stadium in Panipat he first picked up the javelin, discovering not only a way to lose weight but also a sport he truly loved. From



Figure 8

then on his lifestyle changed from that of an unconcerned village boy to a disciplined athlete. He followed a regular training routine, ate balanced nutritious food, slept well, and stayed away from time-wasting habits.

Over the years following this lifestyle choice, to become fit through sport, transformed him from a chubby, teased boy into an Olympic gold medallist in Tokyo. His journey shows us that changing daily habits can transform an entire life.

1. What lifestyle changes helped Neeraj Chopra to become an Olympic champion?

.....

2. What changes you wish to bring in your lifestyle after reading the life of Neeraj Chopra ?

.....

3. What might happen if a person ignores health and does not adopt healthy habits early in life?

.....

Hypokinetic Diseases

The term hypokinetic is formed from two words: 'hypo,' meaning less and 'kinetic,' meaning movement. Therefore, hypokinetic diseases are health conditions that arise due to lack of physical activity or movements. These diseases are commonly associated with sedentary behaviour and unhealthy lifestyle habits, including poor dietary choices. Obesity, Cardiovascular Diseases, Diabetes mellitus, Osteoporosis are some examples of hypokinetic diseases.

Physical inactivity is one of the leading causes of non-communicable diseases and mortality. According to World Health Organization (WHO) people who are insufficiently active have a 20-30% higher risk of death compared to those who are sufficiently active.

Obesity

Obesity is one of the most common hypokinetic diseases of modern times. It is a condition characterised by the excessive accumulation of body fat, usually resulting from an imbalance between calorie intake and calorie expenditure. When physical activity levels are low, the body burns fewer calories and the unused energy is stored as fat. Over time, this leads to increased body weight and fat around visceral organs.

According to WHO in 2021, an estimated 3.1 million non communicable disease (NCD) deaths were claimed with higher than optimal Body Mass Index (BMI).



ACTIVITY 9 : The Transformation

Compare these two pictures and write how physical activity helps in preventing obesity



Figure 9

- Higher body fat
- Lower calorie burning
- Slow metabolism
- Poor appetite control
- Quick fatigue
- Lean muscle mass
- High calories burn
- Fast metabolism
- Balanced appetite
- Active longer
- Increases calorie expectations and supports fat loss.
-
-
-

WHO Proposed Classification of Weight by BMI in Adult Asians

$$BMI = \frac{\text{weight (kg)}}{\text{height}^2 (\text{m}^2)}$$

Classification	BMI (kg/m ²)	Risk of Co-morbidities
Underweight	< 18.5	Low (but increased risk of other clinical problems)
Normal range	18.5 – 22.9	Average
Overweight (At risk)	23.0 – 24.9	Increased
Obese I	25.0 – 29.9	Moderate
Obese II	≥ 30.0	Severe

(World Health Organisation)



Do you know

- **The Athlete's Paradox** : An elite athlete may have a BMI of 30 (Obese) because of heavy muscle mass, yet have very low body fat and excellent fitness level.
- **The Skinny Fat Phenomenon** : An inactive person may have a normal BMI of 22, but still carry dangerous levels of visceral fat around vital organs, increasing health risks.



The Athlete Paradox



The Skinny Fat Phenomenon

Figure 10

The WHO explicitly states that BMI should be considered only as a rough guide because it may not correspond to the percentage of fat due to individual differences.



Explore more

BODY COMPOSITION ANALYSIS EQUIPMENT



Bioelectrical Impedance Analysis (BIA)



Dexa Scan



BOD POD



Hydrostatic Weighing (Underwater Weighing)

Figure 11



Activity Tip Box

Try brisk walking for 30 minutes daily or cycling for 20 minutes. Track your steps using a pedometer or mobile app.

Cardiovascular Diseases

Cardiovascular diseases (CVDs) are the leading cause of death globally, accounting for an estimated 17.9 million deaths each year. CVDs are a group of disorders affecting the heart and blood vessels. These include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other related conditions. More than four out of five CVD deaths are caused by heart attacks and strokes, and about one-third of these deaths occur prematurely in people under 70 years of age (WHO)



ACTIVITY 10 : Cardiovascular Diseases

Various types of cardiovascular diseases are given in the table. Discuss in groups of three and fill in the blanks.

Type of Cardiovascular Disease	Part Affected	Main Cause	One Simple Explanation
Coronary Artery Disease (CAD)	Arteries of heart	Blockage	Fat builds up in the arteries, reducing blood flow to the heart.
Stroke	.....	Blockage or oxygen loss	.....
Hypertension	.....	.....	The complex interactions between obesity, ageing, fluid balance etc affect the constriction of blood vessels.
Arrhythmia	Cardiac conduction system	Disturbed signals	.....
Peripheral Artery Disease (PAD)	.....	Blockage	Narrowed arteries reduce blood flow to legs or arms.
Congenital Heart Disease	Heart structure	.....	.....

Prevention of Cardiovascular Diseases

- Eat balanced healthy diet
- Maintain a healthy weight
- Get quality sleep (7 - 9 hours)
- Avoid use of tobacco
- Ensure 60 minutes of moderate intensity physical activity.

Through Quality Physical Education (QPE) we can achieve all the above aims.





Do you know

Just 150 minutes of moderate activity per week can reduce the risk of Coronary Heart Disease (CHD) upto 30%. According to the recommendation of WHO, every student must engage in atleast 300 minutes of physical activity per week for good health.

Diabetes Mellitus

Diabetes mellitus refers to a group of common endocrine disorders characterised by persistent high blood sugar levels. This condition occurs either when the pancreas fails to produce enough insulin or when the body's cells do not respond effectively to the insulin produced.

Types of Diabetes Mellitus

■ Type 1 Diabetes Mellitus

An insulin-dependent form of diabetes occurs when the immune system destroys the insulin-producing cells of the pancreas. It usually develops during childhood or adolescence and requires lifelong insulin therapy.

■ Type 2 Diabetes Mellitus

It is the most prevalent form that develops gradually. It is closely associated with lifestyle factors such as physical inactivity and obesity. In this condition the body becomes resistant to insulin or does not produce enough insulin.

■ Gestational diabetes

It occurs during pregnancy due to hormonal changes that cause insulin resistance. Although it usually resolves after child birth, women who experience it have a higher risk of developing Type 2 diabetes later in life. Studies indicate that approximately 11.1% or 1 in every 9 adults aged 20-79 live with diabetes and more than 40% are unaware of their condition.

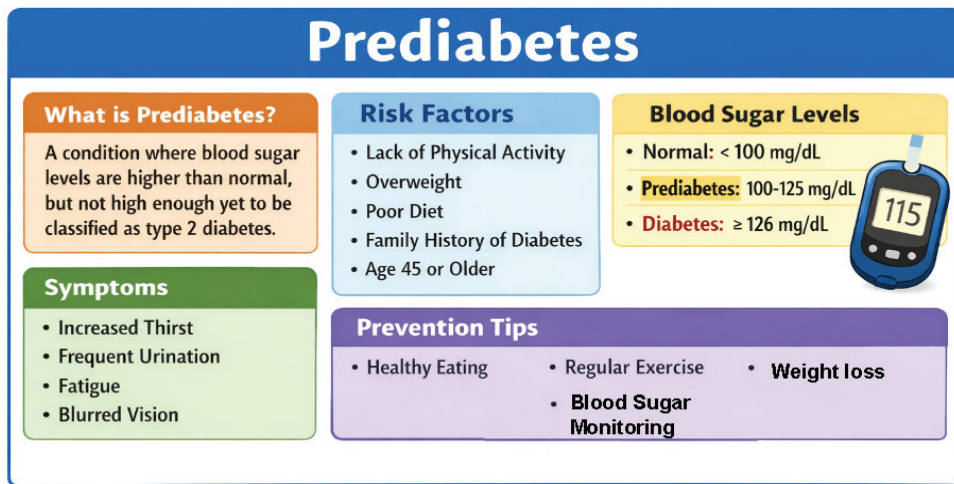


Figure 12

Prevention of Diabetes

- **Regular physical activity :** It plays a crucial role in preventing and managing diabetes. Exercise improves insulin sensitivity, allowing the body to use insulin more efficiently and regulate blood glucose levels.
- **Maintaining Healthy weight :** It helps to reduce excess fat, which is closely linked to insulin resistance.
- **Building muscles :** Working muscles increases absorption of glucose from the blood stream, lowering blood sugar levels and reducing stress on the pancreas.
- **Diet control :** It reduces consumption of sugary drinks, eatables and food rich in carbohydrates.
- Ensure quality sleep for sufficient duration.

Osteoporosis

Osteoporosis is a hypokinetic condition where bones become weak, brittle and porous. It is caused by reduced bone mineral density, often due to inactivity, ageing, hormonal changes or poor nutrition.

Without regular physical activity, especially weight-bearing and resistance exercises, bones lose minerals and become more prone to fractures.

Prevention of Osteoporosis

- Physical activities such as jumping, walking, stair climbing etc increase the density of bones.
- Diet rich in calcium and Vitamin D increases the bone health.
- Physical activities under the sun promotes bone health.

Let's play, relax and develop.



Activity 11 : Fistball



Figure 12

Fistball is a fast-paced team sport similar to volleyball, but with its own unique style of play. Instead of using open palms, players must hit the ball with a clenched fist for power or with the forearm for better control. A special rule allows the ball to bounce once on the ground before each hit. Each team is allowed a maximum of three hits to work together and return the ball over the central rope or ribbon into the opponent's side.

How to Play

1. Divide the class into two or more teams.
2. Tie a rope in the middle of the ground as shown in the figure.
3. One team starts the game by hitting the ball with the fist over the line.
4. The opposing team tries to return the ball using only the fist or forearm.
5. The ball is allowed to bounce once before it is hit.
6. A team scores a point if the opponent fails to return the ball.
7. Continue the game until a score of 15 points is reached.



Do you know

Rules

- Do not catch or hold the ball.
- Use only the fist or forearm to hit the ball.
- Play safely and fairly at all times.



ACTIVITY 12 : Fitness Bingo Challenge

The class is divided into five teams of ten students each. Cones are placed to mark five activity stations around the ground. Each station includes three different physical activities, which the teacher demonstrates and explains clearly.

The challenge : The team that successfully completes all five stations first (correctly and safely) calls out 'Bingo' and wins. A station is considered complete only when all team members finish the required repetitions.

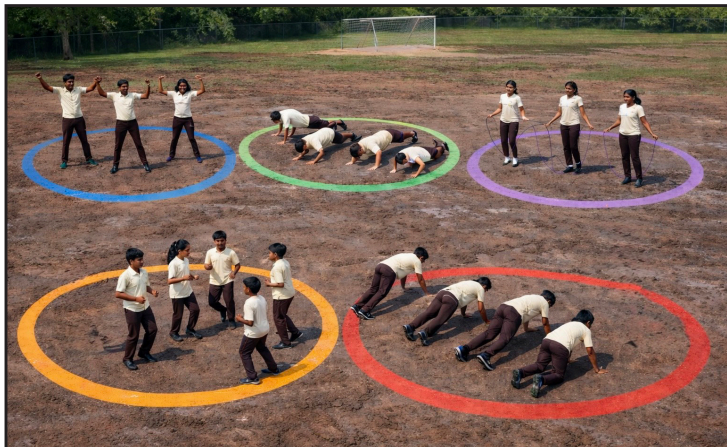
Station 1 : Jumping Jacks (10), Squats (10), Plank (15 Sec)

Station 2 : Push-ups (10), One round of Jogging, Lunges (10)

Station 3 : Skipping Jumps (20), Arm Circles (10), Deep Breathing (10 Sec)

Station 4 : Mountain Climbers (10), Side Bends (10), Spot Jogging (15 Sec)

Station 5 : Burpees (10), Shoulder Rotations (20), Stretching (15 Sec)



Reflection & Discussion

- How did your body feel after completing all stations?
.....
.....
- Did you notice your breathing and heartbeat increasing? Explain why?
.....
.....
- What role does regular physical activity play in keeping our body fit?
.....
.....

Healthy Diet Practices

Diet plays a powerful role in shaping our health, energy levels and overall well-being. Every activity we do - walking to school, playing games, studying for exams or participating in sports depends on the fuel our body receives from food. When we choose our food wisely, our body becomes stronger, our mind becomes sharper, and we feel healthier and happier.

A diet refers to the everyday pattern of food and drinks we consume. A nutritious diet includes carbohydrates for energy, proteins for muscle repair, fats for vital body functions, vitamins and minerals for immunity and growth, fiber for digestion, and water for hydration. When all these nutrients are present in the right proportions, our diet becomes balanced and supports good health.



Special
Info

Do you know

PCOD and PCOS

Polycystic Ovarian Disease (PCOD) and Polycystic Ovarian Syndrome (PCOS) is a common hormonal condition that affects many adolescent girls and women. It occurs when the ovaries produce higher than normal amounts of hormones called androgens, leading to the development of ovarian cysts. This can disrupt regular menstrual cycles and affect the overall health. Studies suggest that about 1 in 5 young Indian women suffer from these conditions, which is higher than the global average. It can be effectively managed with healthy lifestyle practices such as regular physical activity, balanced eating habits, proper sleep, stress control and medical guidance when needed.

Do's and Don'ts of Healthy Eating

Do's	Don'ts
Eat fresh vegetables and fruits	Avoid overeating junk food
Drink 6-8 glasses of water daily	Do not drink sugary soft drinks
Prefer whole grains	Do not skip meals
Eat slowly and mindfully	Avoid eating while watching screens
Read food labels	Do not consume too much salt or oil



ACTIVITY 13 : Identify and Complete the Balanced Diet Table

Instructions : Some cells have been filled to help you. Use your knowledge and classroom discussions to complete the rest of the table.

Balanced Diet Table			
Food Group	Examples	Key Nutrients	Benefits
Fruits & Vegetables	Apple, spinach	Vitamins and Minerals	----- -----
Cereals	Brown rice, oats	----- -----	Provide steady energy
Pulses	----- -----	Protein, Vitamins and Minerals	----- -----
Milk and Meat product	Curd, egg	Protein, Calcium and Vitamin	Build strong bones
Oil, nuts and fats	----- -----	----- -----	produce energy, Thermoregulation
Probiotics	----- -----	Vitamin B complex	Gut health



Do you know

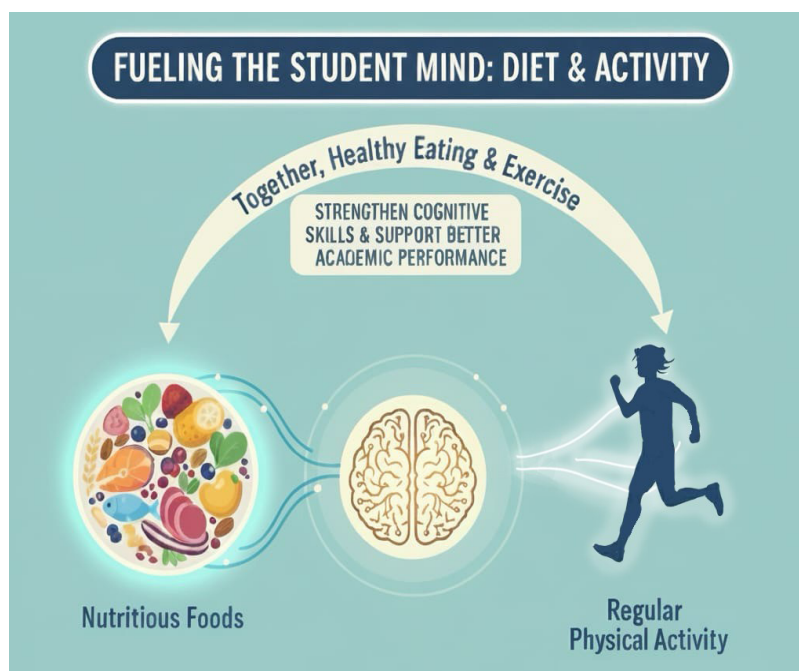


Figure 15



Do you know

BREAKING NEWS

19-YEAR-OLD COLLEGE STUDENT DIES OF EATING DISORDER 'ANOREXIA NERVOSA' IN KERALA.

After teen's death, doctors in Kerala highlight serious impact of eating disorders among adolescents

The death of an 18-year-old girl in Kannur reportedly following extreme dieting and subsequent medical complications, possibly due to an eating disorder, has brought the focus sharply to the serious physical and psychological issues faced by teenagers over weight gain and body image issues



The recent news of a young Kerala girl losing her life to an extreme fad diet is a painful reminder of how dangerous unverified weight-loss methods can be. No diet should ever put your health at risk. Extreme fasting, skipping meals or following online trends can lead to severe illness and long-term damage.

Always consult a nutritionist before starting any diet plan. Expert guidance ensures safe, balanced and healthy eating habits that support your well-being. Your life and health are far more important than quick or risky diet trends.



ACTIVITY 14 : Your Feedback

Write your feedback based on the outdoor games that was taught by your teacher by relating it with what you have learnt from this chapter.

Hints

1. Hypokinetic diseases
2. Recommendation of WHO

[illegible]



Assessment Questions

Question 1 to 5 : Choose the correct answer.

1. Hypokinetic diseases are caused due to :
 - a) Excessive physical activity
 - b) Poor sanitation
 - c) Lack of physical movement
 - d) Genetic mutations
2. Which of the following is NOT classified as a hypokinetic disease?
 - a) Obesity
 - b) Osteoporosis
 - c) Diabetes Mellitus
 - d) Tuberculosis
3. Obesity mainly results from :
 - a) Excess protein intake alone
 - b) Imbalance between calorie intake and calorie expenditure
 - c) Deficiency of vitamins
 - d) Low water consumption
4. Which statement correctly explains the limitation of BMI?
 - a) BMI accurately measures body fat in all individuals
 - b) BMI cannot differentiate between fat mass and muscle mass
 - c) BMI is useful only for children
 - d) BMI measures physical fitness directly

5. Cardiovascular diseases mainly affect the :
 - a) Digestive system
 - b) Respiratory system
 - c) Heart and blood vessels
 - d) Nervous system
6. Coronary artery disease is primarily caused due to :
 - a) Infection of heart muscles
 - b) Accumulation of cholestrol and fatty substance in coronary arteries
 - c) Low blood pressure
 - d) Irregular heart rhythm
7. A stroke occurs mainly due to :
 - a) Sudden drop in blood sugar
 - b) Blockage and bleeding or reduced oxygen supply to the brain
 - c) Failure of kidney function
 - d) Excess fat accumulation in muscles
8. Hypertension can be best described as a condition of :
 - a) Low heart rate
 - b) Constantly high blood pressure
 - c) Irregular heartbeat
 - d) Reduced blood circulation

2

Physical Fitness for Better Life



Figure 1



Figure 2



Figure 3

Three Figures 1,2 and 3 are given.

Observe the figures carefully.

Let us explain each figure.

In Figure 1, a girl is bending down to tie her shoelaces. In Figure 2, a man has turned around to take something from the back seat. In Figure 3, a girl is stretching her arms to reach a high shelf.

As a student you may experience similar situations in your everyday life such as :

- bending to pick up -----
- twisting -----
- reaching up to clean -----
- take something from the -----
- -----
- -----

Which of these activities can you do easily?

.....



ACTIVITY 1 : (A) Flexi-Flow Relay Game

The Flexi-Flow Relay game is a funny, active minor game that combines movement such as bending, reaching, rolling and passing. Divide the whole class into two or three teams. Each team stands in a line behind a row of cones placed one metre apart.

Equipment needed

- One volleyball or football per team
- Five cones for each team



Do you know

Rules and Regulations

- The ball must be rolled between every cone; skipping cones is not allowed.
- Hand to hand passes must be gentle and controlled; throwing the ball is not permitted.
- Maintain the alternating pattern: under-over pass in part 2.
- If the ball drops, the team must resume the game from the same spot.
- Students should stay in their lanes and avoid interfering with other teams

Part 1 : Cone Roll Challenge

1. The first player rolls the ball using both hands, weaving it between the cones.
2. After reaching the last cone, the player runs back to the starting point and hands over the ball to the next player.
3. The activity continues until all team members have completed the course.
4. The team that finishes first wins the game



Figure 4

Part 2 : Over-Under Flex Pass

1. The first student bends forward and passes the ball in between the legs.
2. The next student bends backward and passes the ball over their head to the next student.
3. The under-over-under-over pass pattern continues down the line until the last player receives the ball.
4. The last player runs to the front and continues the game.
5. The team with maximum number of passes within a prescribed time wins.



Figure 5

(B) Let's discuss

After the Flexi-Flow Relay Game, the same students assemble in a convenient place to discuss the game.

1. Which joints were mostly involved during the 1st and 2nd part of the activity?
.....
.....
2. Did you feel any tightness or stretch in your body while bending or reaching? Where did you feel it the most?
.....
.....
3. How did your body feel after completing the relay? Explain.
.....
.....

During the Flexi-Flow Relay, you have experienced how your body bends, stretches, reaches and twists in different ways. Different movements, like passing the ball under the legs, over the head or rolling may feel easy for some students but challenging for others. This activity helps to understand that each person has different levels of flexibility at various joints.

Flexibility



Figure 6

Flexibility refers to the ability of a joint or a group of joints, including the surrounding muscles, ligaments and tendons, to move smoothly through a full, pain-free range of motion. It depends on the natural structure of the joint and the length and elasticity of the muscles that cross the joint. Since people differ in body structure and muscle condition, flexibility also varies from

person to person. However, it can be improved with stretching exercises.

Good flexibility supports healthy joints, improves posture and enhances physical performance. It also helps to reduce the risk of injury by allowing the body to move more efficiently. Flexibility can be divided into two types.

Dynamic Flexibility - It involves controlled movements through a full range of motion during active movements.

Static Flexibility - It involves holding a stretch in a still position for a short period.

Let's Measure Flexibility



ACTIVITY 2 : The Sit and Reach Test

Steps

1. Sit on the floor with legs straight and feet against the box as seen in Figure 7.

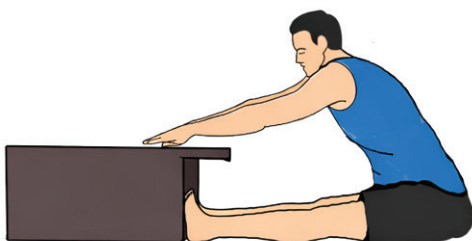


Figure 7

2. Place one hand over the other and move forward slowly. Avoid voluntary jerky movements.
3. Hold the farthest point for 2 seconds.
4. Your partner may note the distance in centimetres.
5. Record your best score out of three attempts in your activity book.

My Score : _____ cm

Self Assessment

- How far were you able to reach during the Sit and Reach Test?
(Beyond toes / Reached toes / Could not reach toes)
- Did you feel any tightness in your hamstrings or lower back while moving forward?
(Yes / A little bit / No)
- Was it easy or difficult for you to hold the stretch for 2 seconds?
(Easy / Moderate / Difficult)

Factors of flexibility



ACTIVITY 3 : Identify the various factors affecting flexibility



Figure 8

Look at Figure 8 and identify the different factors that affect flexibility. Fill in the factors in the table given below. One factor is already explained to you.

No.	Factor	Explanation
1.	Body Temperature	Warm muscles stretch better and more comfortably. When body temperature increases during warm-up exercises or in a warm environment, flexibility improves. Cold muscles feel stiff and cannot stretch easily, making movements uncomfortable or risky.
2.		..... ..... .....
3.		..... ..... .....
4.		..... ..... .....
5.		..... ..... .....

Benefits of Flexibility



ACTIVITY 4 : Enhancing flexibility

Refer to Figure 9, discuss with your teacher and write a short essay on the benefits of flexibility.



Figure 9

.....
.....

Ways to improve flexibility

Flexibility can be improved in the following ways.

1. Active Stretching

In active stretching, we stretch a muscle by using the strength of its opposite muscle. For example, lifting your leg without bending the knee and holding it up without support. It is often used for warming up.

2. Passive Stretching

Here, we use a partner, gravity or equipment to stretch the muscle. As another force is used, we can stretch a little more. But we must be careful, as too much can hurt. It is often used after physical activity and during rehabilitation process.

3. PNF Stretching (Proprioceptive Neuromuscular Facilitation)

PNF stretching is a combination of stretching and contracting the muscle. A partner's help is usually needed. First you stretch, then tighten (contract) the muscle for a few seconds, and then stretch longer. It is very effective for increasing flexibility.

4. Ballistic Stretching

This method uses fast, bouncing smooth movements to force the muscle to stretch. It can be risky. So utmost care must be taken while doing this.

5. Resistance/Loaded Stretching

Here, the muscle stretches while working against resistance (like pushing while stretching). It strengthens and stretches at the same time but is suitable only for advanced athletes.



ACTIVITY 5 : Trikonasana



Figure 10

Steps :

- Step 1 : Stand with feet together and arms by the side of the body.
- Step 2 : Spread your legs 3 to 4 feet apart.
- Step 3 : Rise your arms and make it parallel to the floor. Turn your right foot to 90 degree angle and the left foot to 45 degree angle.
- Step 4 : Bend sideways try to touch the right palm near the right feet. Turn your head upward and look towards the middle finger of the raised hand. Stay in this position as

long as you are comfortable while maintaining normal breathing.

Step 5 : Slowly rise and come back to step 3.

Step 6 : Come back to step 2.

Step 7 : Bring your legs together and come back to the starting posture.

Benefits :

1. Improves the flexibility of your spine, hips and shoulder.
2. Strengthens the muscles of your arms and legs.
3. Improves blood flow to the head.
4. Expands your chest and improves breathing capacity.

Practise trikonasana and experience its benefits



ACTIVITY 6 : Ardha Matsyendrasana

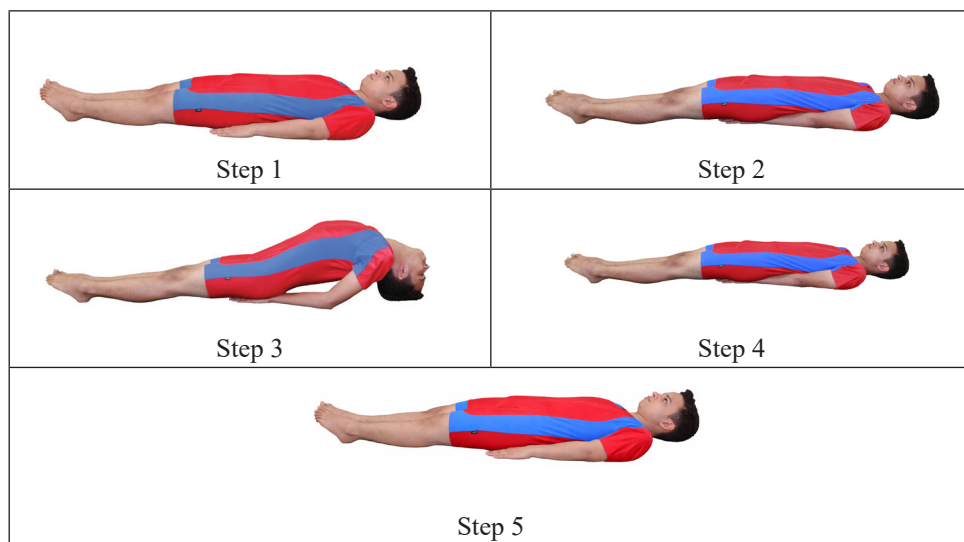


Figure 11

Steps :

1. Lie on your back with your feet together and place your hands on the floor with palms facing downwards.
2. Move your hands beneath your thighs, close to your buttocks.

3. Keep your forearms firmly on the floor and lift your chest up. When your chest is off the floor, lower your head back on till it touches the floor. Ensure that your elbows, and not your head, bear the weight of your torso. Breathe normally and hold the posture as long as you feel comfortable.
4. To unwind from the posture, lift your head off the floor, straighten your back and lower your torso completely.
5. Release your hands from under your buttocks and place them by the side of the body and relax.

Benefits :

1. Helps in stretching the thoracic region.
2. Strengthens respiratory muscles and enhances the overall efficiency of the system.
3. This asana strengthens the upper back muscles.

Do Ardha Matsyendrasana and experience the benefits.



ACTIVITY 7 : Bhujangasana (Cobra Pose)

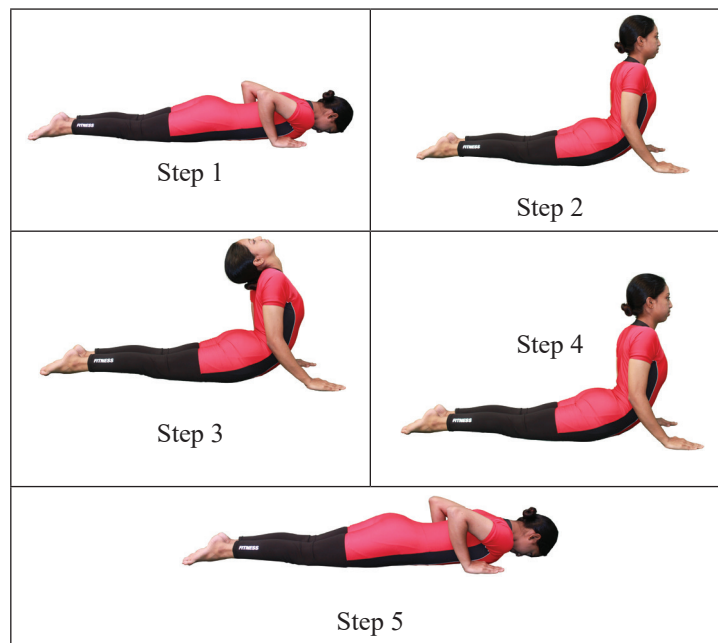


Figure 12

Steps :

1. Lie face down on your mat with legs extended and feet together and toes stretched outward. Rest your forehead on the mat. Place your hands under your shoulders, palms flat, elbows bent and tucked close to your body.
2. Press gently into your palms and as you inhale, lift your head, then your chest, using your back muscles. Keep your pelvis and abdomen on the floor.
3. Keep your shoulders relaxed and away from your ears and look forward or slightly upward without straining your neck. Hold the pose for as long as you are comfortable breathing deeply and evenly.
4. Slowly exhale and start lowering your chest back down to the floor.
5. Return to the starting position.

Benefits :

1. This posture helps strengthen the back muscles.
2. It gives a deep stretch to the abdomen, chest, shoulders and front thigh muscles.
3. Regular practice improves body posture and reduces the effects of prolonged sitting such as slouching and rounded shoulders.
4. It may also help relieve mild back pain and create a sense of confidence and openness in the body and mind.

Do Bhujangasana and experience the benefits.

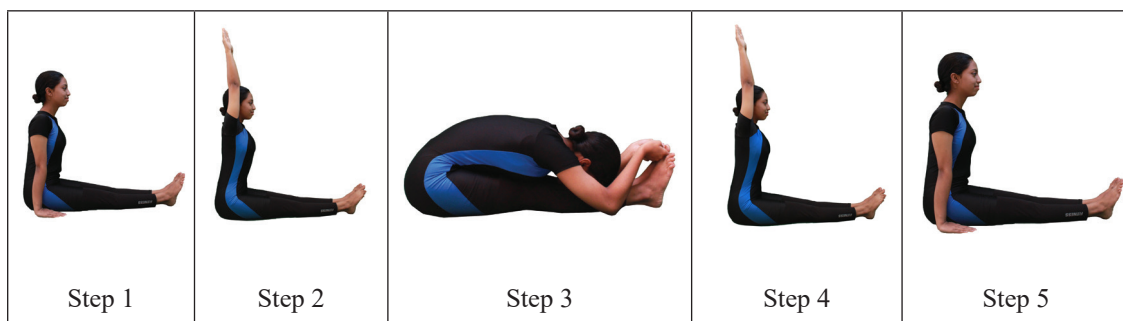
**ACTIVITY 8 : Paschimottanasana**

Figure 13

Steps :

1. Sit in a long sitting position with both legs stretched out and both the legs kept together without bending the knees.
2. Inhale as you raise your hands over your head and stretch upward.
3. Exhale while leaning forward and bringing your head towards your knees. Hold this position as long as possible while maintaining normal breathing.
4. Inhale slowly; lift your torso raising your arms over the head to the starting position. Lower the arms back to the sides.
5. Bring your arms down and come back to the starting position.

Benefits :

1. This posture stretches the entire spine extensors.
2. It also stretches the calf muscles, hamstrings and adductors of the inner thigh muscles.
3. It can bring a sense of calmness to the body and mind.

Do Paschimottanasana and experience the benefits.

**Assessment****A. Multiple-Choice Questions**

1. Flexibility refers to the ability of a joint to
 - a) run faster
 - b) move through a full range of motion
 - c) lift heavy weights
 - d) increase muscle size
2. Flexibility improves when the muscles are:
 - a) Cold
 - b) Warm
 - c) Tired
 - d) Weak

B. Answer the following questions

1. Why is flexibility important in daily life?
.....
2. Name any three factors that affect flexibility.
.....

3. What is the difference between static and dynamic stretching?

.....

Cardiorespiratory Fitness (CRF)



Figure 14

Every time you walk fast, climb stairs, play your favourite sport or even run to catch the school bus, do you notice changes in your body? What are they?

.....

.....

.....

.....

Your body needs extra energy to move, jump, run or play. To produce this energy, your muscles require more oxygen. As soon as you start moving faster, your heart pumps faster and your lungs breathe in more air to keep your body active and move efficiently.



ACTIVITY 9 : Non-Stop Skipping Rope

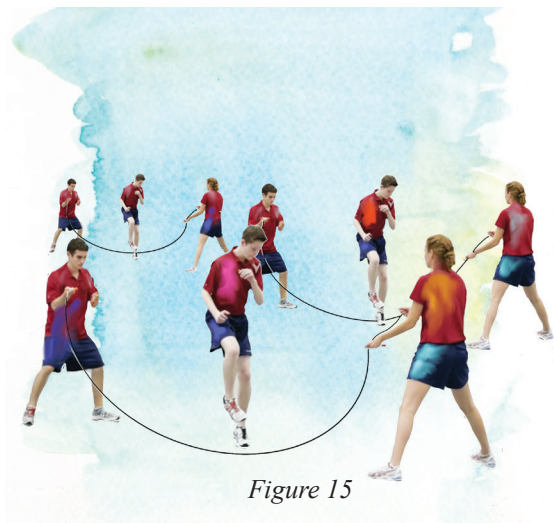


Figure 15

Play Area : The activity area should be a large open space, approximately 20m x 15m or similar to accommodate 6-8 skipping ropes arranged in a circle or line.

Equipment Setup : 6-8 long skipping ropes are arranged with adequate spacing between each rope. Each rope station should have a clear entry and exit point as mentioned by the teacher.

Participants : Students are divided into equal groups for continuous skipping. Some students (turner) hold the ropes on either ends and turn the ropes while others run over the ropes. Students exchange the roles (turners and jumpers) after a set time period (3-5 minutes).

Activity Rules : Students must keep moving through the course without stopping. Multiple students can enter through the same rope simultaneously. Students move in from one rope to the next. After each set time (3-5 min), rope turners and jumpers exchange positions.



Assessment

Rate of Perceived Exertion (RPE)		
☐	1	Very Light
☐	2	Light
☐	3	Moderate
☐	4	Somewhat hard
☐	5	Hard
☐	6	Very hard
☐	7	Maximum effort

- Which stage made your breathing increase the most? Why?
.....
- Did your heart beat faster at the beginning or at the end?
.....
- Which muscles were used the most? Did you feel any muscle soreness after the activity?
.....

When you walk, skip, jump and run continuously, your heart pumps faster to supply oxygen-rich blood to your muscles. Your lungs also work harder to take in more oxygen. This is called cardiorespiratory fitness, the body's ability to keep moving for a long time without getting tired quickly.

Cardiorespiratory fitness is the ability of the heart, lungs and blood vessels to work together efficiently during continuous physical activities. It helps the body deliver oxygen to the working muscles so that activities like running, skipping, cycling or playing games can be performed with less fatigue. Cardiorespiratory fitness improves energy level, strengthens the heart, increases lung capacity and keeps students active and healthy in daily life.



ACTIVITY 10 : Test for cardiorespiratory fitness

Yo-Yo Test

The Yo-Yo Endurance Test is a popular field test used to measure cardiorespiratory fitness (aerobic endurance) in students and athletes.

Equipment required : marking cones, measuring tape, CD, Mp3 player with good speakers, audio file, recording sheets.

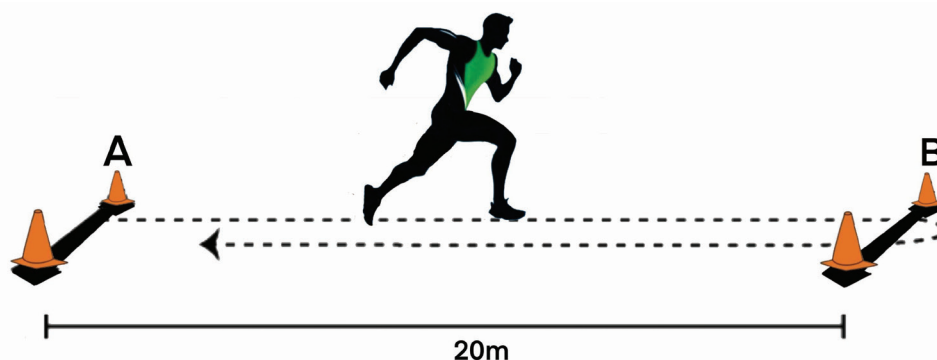


Figure 16

Procedure :

Use cones to mark out two lines 20 meters apart as per the diagram. The participants start with their foot behind one of the lines and begin running when instructed. They continue running between the two lines, turning when signalled by the recorded beeps. After each minute or so, the pace gets quicker.

Finishing the test :

1. The athlete has to keep pace with the beep sound. If not, a warning is given before elimination.
2. The test continues until the athlete reaches his/her limit.

Score sheet**Yo-Yo Test Recording Sheet***Yo-Yo Endurance Test Level 1*

1.1	1.2	1.3	1.4	1.5	1.6	1.7													
2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8												
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8												
4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8												
5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9											
6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9											
7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	7.10										
8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	8.10										
9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	9.10	9.11									
10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	10.10	10.11									
11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	11.10	11.11									
12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	12.10	12.11	12.12								
13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	13.10	13.11	13.12								
14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	14.10	14.11	14.12	14.13							
15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	15.10	15.11	15.12	15.13							
16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	16.10	16.11	16.12	16.13							
17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	17.10	17.11	17.12	17.13	17.14						
18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	18.10	18.11	18.12	18.13	18.14						
19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	19.10	19.11	19.12	19.13	19.14	19.15					
20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	20.10	20.11	20.12	20.13	20.14	20.15					

Date: _____
 Time: _____
 Surface: _____
 Conditions: _____

Benefits of cardiorespiratory fitness

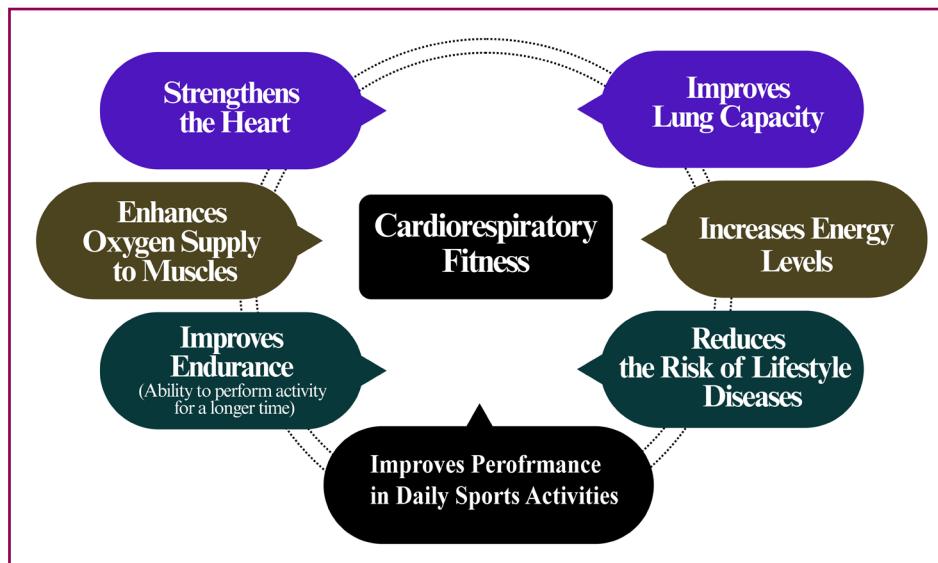


Figure 18

Factors affecting cardiorespiratory fitness

1. Age

As a person grows older, heart and lung function naturally decline. Heart rate decreases, lung capacity reduces and muscles weaken over time. Children and adolescents usually adapt more easily, while older individuals may require regular training to maintain their cardiorespiratory fitness.

2. Hereditary Factors

Hereditary factors play an important role in determining heart size, lung capacity, red blood cell count, muscle type and overall fiber aerobic potential. Some individuals naturally have a higher cardio respiratory fitness.

3. Physical Activity Level

Regular aerobic activities such as running, swimming, cycling, skipping and brisk walking greatly improve cardiorespiratory fitness. Active individuals have a stronger heart, higher lung capacity and better endurance compared to those with sedentary habits.

4. Healthy Behaviour

Smoking lowers lung capacity, reduces oxygen transportation and affects heart function. Alcohol and certain substances slow reaction time, reduce muscular efficiency and impair recovery. These habits directly damage the cardiorespiratory system and reduce fitness levels.

5. Body Composition

Body composition is the proportion of fat mass and muscle mass in your body. It plays an important role in how well your heart and blood vessels work. Studies have shown that having too much body fat can affect the efficiency of your heart.

Methods for developing Cardiorespiratory Fitness (CRF)

Method	Definition	Type	Duration
Fartlek Running (Speed Play)	Unstructured alteration of speed based on terrains	Running	20-30 min
Circuit Training	A series of exercise stations performed in sequence	A combination of movements	15-25 min
Continuous Training	Sustained activity at constant intensity (60 -80% of maximum heart rate) without rest	Running, Cycling, Swimming, Brisk walking	20-60 min
High Intensity Interval Training (HIIT)	Short burst of high intensity activity with low intensity recovery period	Running, Game, Stationary exercises	15-20 min



ACTIVITY 11 : Developing CRF

Look at the table and write the methods used to develop cardiorespiratory fitness. One method is already explained. Find the other methods and write about them.

1. Fartlek Running (Speed Play)

Fartlek is an unstructured form of interval training where speed and terrain dictate intensity. It combines aerobic and anaerobic

conditioning. The intensity alternates between moderate jogging (60 - 70% of maximum heart rate) and short bursts of high intensity (80-90% of maximum heart rate). It is recommended 2 to 3 times per week for endurance athletes. Beginners may start with once weekly. It can be road running, trail running or field-based speed play. Studies show that Fartlek improves cardiorespiratory fitness.

2. Circuit Training

.....

.....

.....

3. Continuous Training

.....

.....

.....

4. High Intensity Interval Training (HIIT)

.....

.....

.....



Assessment Questions

A. Multiple-Choice Questions (MCQs)

1. Cardiorespiratory fitness mainly improves when you do:
 - a) strength training
 - b) aerobic activities
 - c) sleeping
 - d) stretching
2. What is a major benefit of cardio-respiratory fitness?
 - a) Stronger bones
 - b) More oxygen for muscles
 - c) Bigger muscles
 - d) Lean body

B. Short Answer Questions

1. Why does your heart beat faster during exercise?

.....

2. Name any two aerobic activities that improve CRF.

.....

3. How does CRF help you in daily life?

.....

C. Activity-Based Questions

1. Measure your resting heart rate and heart rate after 2 minutes of jogging. What differences do you notice?
2. Perform any one endurance activity for three months (walking, running, skipping). Write your experience and share it with your friends.

3

Hydration, Supplements and Substance Abuse

Let's feel and learn hydration.

Grab your water bottle and play a game that reinforces the lesson



ACTIVITY 1 (A) : Let's play Ultimate Soccer

The class is divided into two teams as per the teacher's instruction. Play football continuously for 15 minutes. The game will be played without any interruption.



Figure.1

(B) Let's Discuss

After the play students assemble in a comfortable space and discuss about the level of thirst. The three levels of thirst are given below.

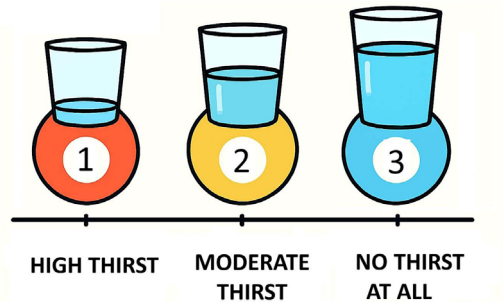


Figure.2

Rate your thirst level based on figure 2.

1. Your level of thirst before entering the game? ☐ 1 2 3
2. Your level of thirst after the ultimate soccer? ☐ 1 2 3
3. Is there any difference in the level of thirst? Yes/no
4. Write the reasons for the difference in the level of thirst?

5. How will you reduce your level of thirst?

Do you know the importance of water in our body?

Water is vital to our health. It plays a key role in various functions of our body, including bringing nutrients to cells, getting clear of wastes, protecting joints and organs and maintaining body temperature.

Hydration : Hydration refers to the state of having adequate water in the body, which is essential for physiological functioning, health protection and overall well-being.



Do you know

Tissue/Organ	* Water Percentage
Lungs	83%
Muscles & Kidneys	79%
Brain & Heart	73%
Skin	64%
Bones	31%

* These values are average and may vary based on various factors.

List down various benefits of staying hydrated.

1. Improved Brain Function
2. Increased Energy Levels

3. Effective Weight Management
4. Healthier Heart
5.
6.
7.
8.



ACTIVITY 2 : Hydration

Answer the following questions.

HYDRATION HABITS

1. How many glasses of plain water do you drink on a typical day?
.....
2. How many cans or glasses of soft drinks do you drink in a day?
.....
3. How many cups of tea or coffee do you drink in a day?
.....
4. What is your favourite drink when you are very thirsty?
.....
5. When do you usually drink a soft drink or juice?
 - a) With meal b) When watching TV/using phone
 - c) When you are tired d) When you are happy and celebrating
 - Other
6. Why do you choose a soft drink instead of water?
 - a) I prefer its taste b) It gives me energy
 - c) It's a habit d) I don't like the taste of water
 - Other.....
7. How often do you feel the following? (Answer each one)
 1. Feeling very thirsty : (Often / Sometimes / Rarely)
 2. Feeling tired or low on energy : (Often / Sometimes / Rarely)
 3. Having a headache : (Often / Sometimes / Rarely)
 4. Having a dry mouth : (Often / Sometimes / Rarely)
8. On a typical day, what colour is your urine most of the time?
9. Do you think your daily water intake is sufficient for maintaining good health? (Yes / No / Not sure)

Are YOU in the right path or not!

LET'S FIND.

Importance of Hydration



ACTIVITY 3 : Let's Hydrate

Refer the picture given below by Indian Council for Medical Research (ICMR) and answer the questions that follows.



Figure.3

Whole fruits are preferable as they contain fibre and other nutrients. Freshly made juices for one normal individual should be from not more than 100 - 150 gram fruits.

Observe the picture given.

(i) List the items to avoid and those to consume.

.....

(ii) Why whole fruits are preferred over freshly made juice?

.....

(iii) If you are consuming freshly made juice, suggest the quantity of fruit (in grams/person) for making it and why?

.....

Sip Smart, Live Strong

- The major components of soft drinks are water, sweeteners (sugar, High Fructose Corn Syrup (HFCS), or artificial), carbon dioxide, flavourings, acidulants and often colourings, preservatives and caffeine. The acidic nature affects the overall health.
- A standard 12-ounce (355ml) can of regular soft drink typically contains around 39-42 grams of sugar. Too much sugar in the blood stream elevates the glycemic level. High glycemic level elevates the functions of Pancreas and Liver which in turn, make us prone to metabolic syndrome, type 2 diabetes and coronary heart disease.
- Tender coconut water (nature's own soft drink) : Tender coconut water is a good hydrating beverage which contains several minerals and provides 15 kcal/100 ml.

How much water do I need to drink?

An individual's daily water requirement depends on several factors such as body weight, age, level of activity and climatic conditions. Several research studies suggests men to consume about 3.7 litres and women about 2.7 litres of fluid per day.

Importance of hydration during physical activity

Water plays a pivotal role in maintaining normal body functions. However, is it the same while engaging in more vigorous physical activity? Recall how you felt during the activity. You might have felt hotter, your heart rate might have elevated, and your muscles might have felt heavy. This is exactly where proper hydration matters.

Appropriate hydration during physical activity helps to:

- lower body temperature
- lower heart rate
- improve muscle performance
- prevent heat illness
- maintain electrolyte balance

Drink fluids before, during and after exercise.

You should make sure you are well hydrated, not only during exercise, but also before and after. During exercise, we have to get hydrated frequently depending on the duration and intensity of the exercise and the environmental conditions.

Sports Drinks

Sports drinks can act as a good option to provide the required nutrients and electrolytes that will restore energy sources. Therefore, if you are completing a high-intensity workout or a prolonged endurance session, sports drinks may be useful. Therefore, consuming sports drinks after the exercise session will help in replenishing the lost fluids and nutrients. Oral Rehydration Solution (ORS) is a simple form of sports drink.



ACTIVITY 4 : Make Your Sports Drink

We have learned that thirst after exercise is body's call to replace lost fluids and electrolytes. Further, we have understood the importance of sports drinks as well. Let's prepare our own sports drink at home using common kitchen ingredients like the ones shown in the image below.



Water



Salt



Sugar

Honey



Citrus fruits



Tender coconut



Ginger

Figure. 4

How did you prepare?

.....

.....

.....

.....



Do you know



Figure 5

FIFA has confirmed a major change to match regulations for the 2026 Men's World Cup in North America: Every game will now feature a mandatory three-minute hydration break in each half, regardless of weather conditions, venue or stadium technology.



ACTIVITY 5 : Gate Pass

The class is divided into different teams consisting of 6-8 members.

The game is played in a rectangular court with a 5 meter wide gate at the end of each half. The game starts with a pass from the centre point. Players may advance the ball only by passing, whereas, running or dribbling with the ball is not allowed. A team earns one point when they cross the opponent's gate by passing the ball. The opponent must intercept a pass to gain possession. However, physical contact is not permitted. After a point is scored, the conceding team restarts with a pass from the centre. The team with the highest points wins the game.

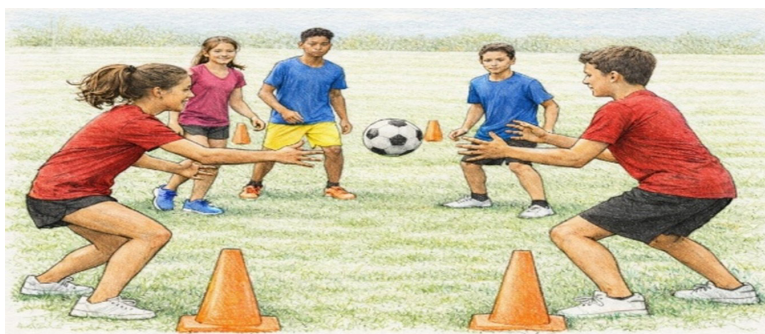


Figure. 6

Remember : Don't rush. Drink your water slowly and steadily sip by sip so your body can absorb it well and help you recover faster.

Let's drink some water and then discuss

Imagine that you didn't get water to drink after this one-hour long activity. You get water when you reach home after one to two hours. Generally, what is the current state of hydration in your body?

.....

Then what could it be?

It is a condition where the body loses excess amount of water and it affects normal body functioning. It occurs when the fluid loss is more than the fluid intake. It can also occur if you don't drink enough water, or if you're taking a medication that increases your urine output. This condition is called **dehydration**.

List down various symptoms of dehydration

- Headache
- Tiredness (fatigue)
- Dry mouth
-
-
-

Research consistently shows that staying hydrated is crucial during menstrual periods to ease cramps, bloating, headaches, and fatigue. It can be done by regulating fluid shifts, reducing water retention and managing hormonal impacts.

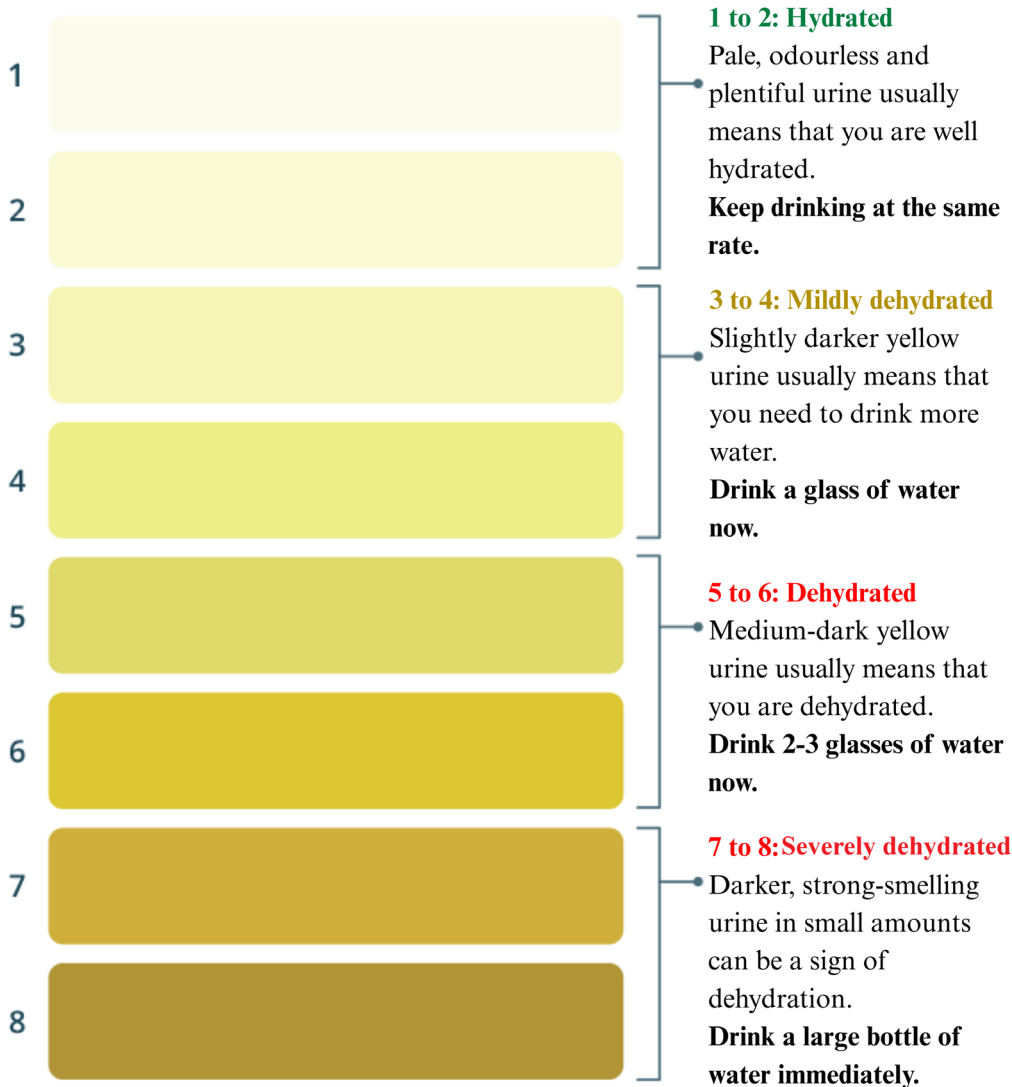


Figure.7



Am I drinking enough water?

Use this urine colour chart to check how hydrated you are.
It is important to drink plenty of water every day to stay healthy.



Do you know

What can change the colour of my urine?

Certain foods, medications and vitamin supplements may change your urine colour even if you are hydrated.

Severe cases of dehydration may result in various health issues :

1. **Heat injury :** People who don't drink enough fluids when they are exercising hard and sweating a lot, might end up with a heat injury. Heat injuries range from mild heat cramps to heat exhaustion or heatstroke, which can be deadly.
2. **Urinary and kidney problems :**
.....
.....
3. **Seizures :**
.....
.....
4. **Hypovolemic shock (Low blood volume shock) :**
.....
.....

Can dehydration be prevented?

Yes, we can prevent dehydration by:

- keeping track of how much fluid we drink.
- having a habit of drinking water throughout the day.
- avoiding soda, alcohol and caffeinated drinks.
- checking your urine colour. If it's clear, pale or straw-coloured, it's ok. If it's darker than that, keep drinking.

How do we get ourself and our loved ones drink more water?

1. Carry a water bottle with you. Keep it filled.
2. Introduce water break/ water bell activity in the school.
3.
4.

Now that we have explored the various aspects of hydration and dehydration, let's review the personal data you collected at the beginning of this chapter (Activity 2). Compare them with what we have learned. This is your opportunity to adjust your routine by following healthy hydration habits.

Self-Evaluation :

.....

.....

.....

My Resolutions :

.....

.....

Healthy usage of supplements



ACTIVITY 6 : (A) Let's play Vrith Kho Kho

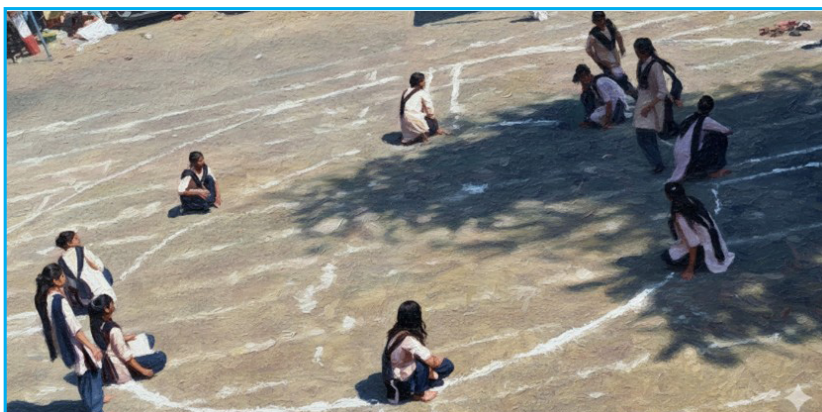


Figure.8

The class is divided into two teams. One team becomes the Chasers: Among the playing nine chasers eight chasers sit in squares alternatively facing opposite direction as shown in the picture, while one stands as the "Active Chaser." The other team becomes the Defenders, with only three players entering the play area at a time. The Chasers try to tag the Defenders. To switch chasing, the Active Chaser must touch a sitting teammate's back and shout "KHO". Then the sitting player becomes the new chaser and the other takes the respective sitting position. Once the new chaser starts moving, they must pick a direction clockwise or anti-clockwise and should not turn back or reverse until they pass the "Kho" to someone else. Defenders can run anywhere inside the big circle but are out if they are tagged, step out or enter the field late. Each tag scores one point; when all three defenders are out, the next three enter. Teams take equal turns chasing and defending and the team with the highest point within a period of nine minutes will be the winner.

(B) Let's discuss :

You have just finished your physical activity. Your heart is beating faster, the nutrients in your muscles are depleted, and you might be thirsty. Now your body is turning to "Recovery Mode." This is exactly when people begin to consider their food choices. Let's explore the science behind it.

You may have seen people around you using protein powders, vitamin tablets, energy boosters or herbal drinks. Athletes, gym-goers, and even students sometimes rely on supplements to feel stronger, perform better, or stay healthy.

1. What exactly are these supplements?

.....

2. Why do people use them?

.....

3. Are they always safe?

.....

4. Do all of us need them?

.....

Dietary Supplements

What are Dietary Supplements?

Dietary supplements (also called food supplements or nutritional supplements) are products designed to give you nutrients that might be missing from your diet. They are not medicines intended to cure diseases, but rather boosters for your nutrition.

Forms : Tablets, capsules, powders, liquid drinks or gummies.

Common Examples : Vitamins (C, D), Minerals (Iron, Calcium), Oils (Fish oil), and Herbal extracts.

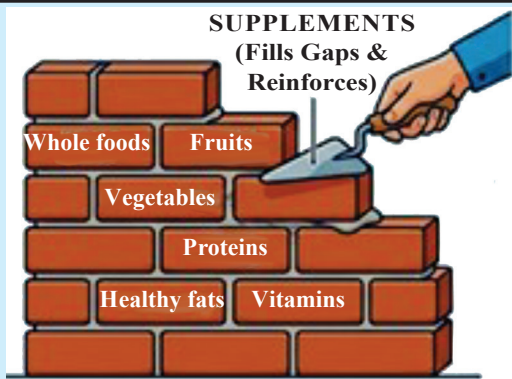
Why do people use them?

- For medical needs
- To correct nutrient deficiencies
- To support growth
- To enhance sports performance



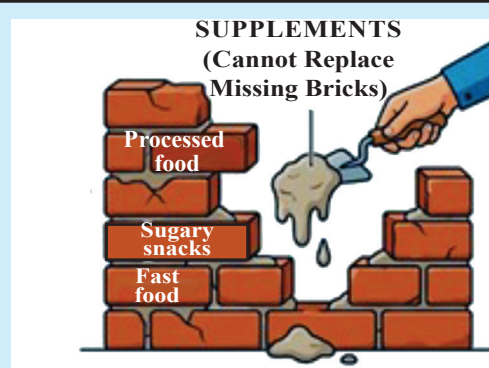
ACTIVITY 7 : Building Block Analogy

HEALTHY DIET : A SOLID FOUNDATION



Supplements enhance a strong structure, providing extra support where needed.

POOR DIET : A CRUMBLING STRUCTURE



Supplements cannot fix a weak foundation or replace essential building blocks

Figure. 9

Scan the given figure and answer the following questions.

(i) What is the theme of this figure?

.....

(ii) How do dietary supplements support a healthy diet?

.....

REALITY CHECK : Supplements are **not** replacements for real food. They only support your diet when your body needs extra help.

Types of Supplements

Knowing the major types of supplements helps you understand where each one fits in your health and performance needs.

Type	Examples	Functions
Vitamins	A, B complex, C, D, E, K	Immunity, Energy conversion, Healing, Eyesight
Minerals	Calcium, Iron, Zinc, Magnesium	Bone health, Blood formation, Muscle function
Proteins	Whey, Casein, Soy, Amino Acids	Muscle repair, Strength, Recovery
Herbals	Turmeric, Ginseng	Stress relief, Endurance, Immunity
Performance enhancing supplements	Electrolytes, Creatine, Gels	Endurance, Rapid hydration, Energy bursts

Safe Usage of Supplements

Using supplements should always be based on scientific evidence, not on advertisements, peer pressure or online trends.

Safe usage means :

- Consulting qualified professionals such as doctors, dietitians or sports nutritionists
- Following the dosage correctly
- Taking supplements only when needed
- Knowing the Recommended Dietary Allowance (RDA) for your age
- Checking labels for warnings, dosage and certifications
- Avoiding products with exaggerated claims or unknown ingredients
- Being aware of banned substances, especially for athletes

Remember : 'More' is **not** always "better."



ACTIVITY 8 : (A) Let's play Delayed command game

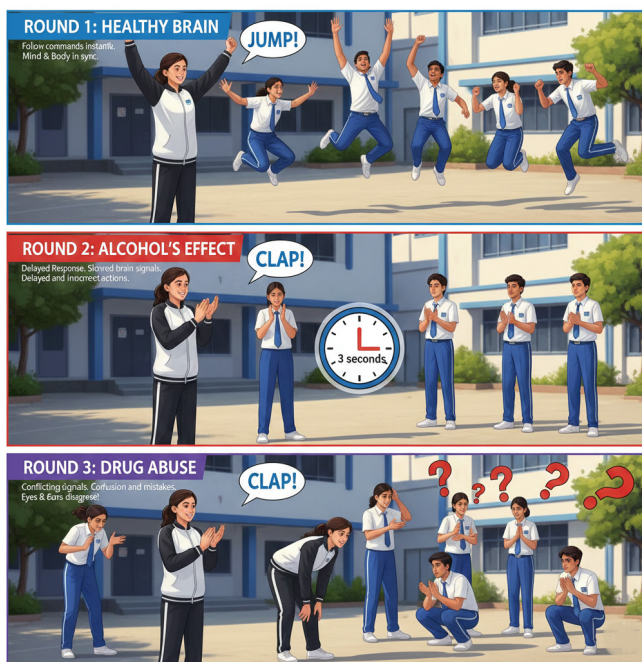


Figure.10

Form groups of 8–12 students and stand in a circle. Listen carefully to your teacher and follow the instructions for each round.

Round 1 - Instant action : Your teacher will call out simple actions like “Jump,” “Clap,” or “Turn Left.” Perform the action immediately. Notice how easily your body obeys your brain when you are healthy and focused.

Round 2 - Pause and Perform : In this round, when the teacher gives a command, you must wait exactly three seconds before moving. Count “1-2-3” in your head, then act. You may find yourself reacting too slowly or forgetting the instruction. This mimics the effect of alcohol in slowing down brain signals. Your reflex action and reaction time gets slower.

Round 3 - Conflicting Signals : The teacher will now say one command but do a different action. For example, he/she might say “Clap!” and then bend down. You must follow what the teacher says, not what he/she does. You will likely feel confused or make mistakes because your eyes and ears send different messages. This simulates the confusion caused by drug abuse. Here you completely lose your reflex action and reaction time.

(B) Let's discuss :

1. In Round 2, did you find it difficult to wait before moving?
.....
2. In Round 3, did you accidentally copy the teacher's movement instead of following the voice command?
.....
3. How would this “confusion” or “slowness” be dangerous if you were driving a car or playing a sport?
.....

Inference

This activity showed you what it feels like to lose control of your body. In the game, the confusion was caused by a simple rule. In real life, however, substances like alcohol and drugs cause this same “lag” chemically. If you found it difficult to simply clap or jump on time, imagine the danger of having that same slow reaction while driving a car or playing a sport. A healthy brain reacts instantly; a brain affected by substances is always dangerously slow.

Adolescence & Substance Use

Adolescence is a phase of rapid physical growth, emotional change, and new experiences. During this stage, you begin to think

independently, form strong friendships, and try to explore your identity. You may also face academic pressure, expectations from family and the desire to fit in with peers. These reasons are often related to emotions, social situations or daily challenges rather than a desire to harm oneself.

In such challenging situations, some young people may come into contact with substances like tobacco, alcohol or drugs often through friends, media or social settings. These encounters do not always happen by choice or intention but as part of everyday social life. Understanding this reality is the first step towards making safe, healthy and responsible decisions for yourself.

Michael Phelps - A Champion's Recovery



Figure.11

Michael Phelps, history's most decorated Olympian, faced an intense personal crisis after reaching his athletic peak. After the 2008 Olympics, he struggled with severe depression and turned to substances like alcohol and drugs to cope with the situation. In 2014, he was caught driving drunk. This was his lowest point. It made him realise that he needed help. Phelps courageously sought help at a rehabilitation centre, confronting his addiction and mental health struggles. He learned to deal with his sadness in healthy ways. He worked hard to get better, not just as an athlete, but as a person. He returned to swimming with new strength. In the 2016 Olympics, he won five more gold medals.

But his biggest win was off the swimming block. Michael now talks openly about his struggles, helping others who feel the same way. He shows us that it's okay to ask for help, and that you can come back stronger after a big fall.

Substance Abuse

What is Substance Abuse?

Substance abuse occurs when people repeatedly use substances such as tobacco, alcohol, drugs or certain medicines in a way that harms their body, mind, studies, relationships or safety. What often begins as experimentation or casual use can gradually turn into a habit that becomes difficult to control.



Do you know?

Your brain is still developing during adolescence and continues to mature up to around 25 years of age. The part of the brain responsible for decision-making, self-control and understanding consequences develops later than the part that seeks excitement and rewards.

Because of this, using substances during adolescence can affect brain development and increases the risk of addiction and long-term mental health problems later in life.

Think about this

Is the decision to use substance still yours?

.....

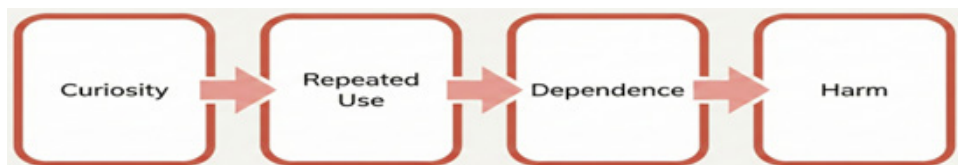
.....

Short - Term and Long - Term Effects of Substance Abuse

Substance abuse can affect the body and mind in different ways. Some effects appear quickly, while others develop slowly over time.

Short-Term Effects	Long-Term Effects
 • Reduced concentration  • Poor coordination  • Mood changes  • Risk-taking behaviour	 • Addiction  • Damage to brain and organs  • Mental health problems  • Academic and social difficulties

How substance use can become abuse



Protective Factors : Staying Safe and Healthy



Activity 9 : Protective factors from substance abuse

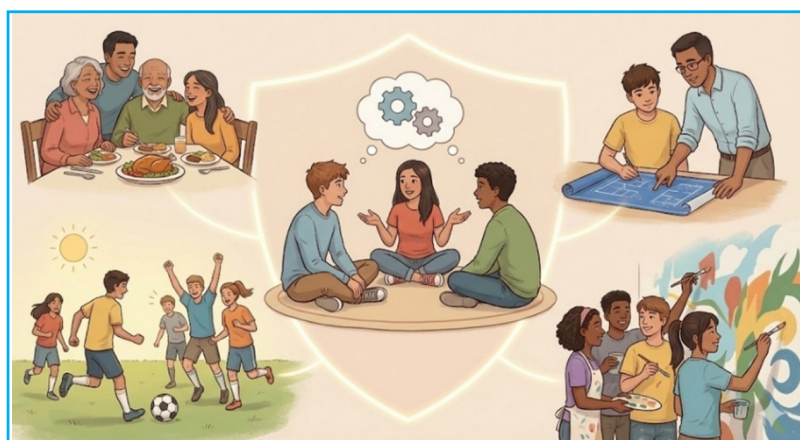


Figure.13

Scan the given figure. Identify various protective factors to stay away from substance abuse.



Figure 14.1

We are protected from substance abuse through :

- supportive family relationships
- participation in sports and physical activities
- strong and meaningful life
- good communication skills
- guidance from teachers and mentors



Figure 14.2

We are protected

You can also follow this to stay away from substance abuse.



ACTIVITY 10 : Think and Reflect

Incident from Rahul's life...

Read the incident and reflect on the following questions?

Rahul, a 16-year-old student, has recently stopped attending football practice. He avoids conversations with friends and often looks irritated in class. One day, his classmates notice that he smells of smoke and becomes angry when a teacher asks if everything is okay

These changes may not be a normal teenage behaviour. They can be warning signs that Rahul needs help and support from trusted adults.

1. Which changes in Rahul's behaviour suggest that he may be struggling?
.....
2. Why do you think it is important to notice such changes early?
.....
3. If you were Rahul's friend, whom would you approach for help?
.....

LIFE SKILL – SAYING NO

You can refuse substances in a calm, confident and respectful way while still maintaining friendships. Being clear and confident shows self-respect.



"No thanks, I'm not interested." ✓✓



"I have other priorities right now, so I will abstain from this." 



"I'm into sports and fitness. I don't want to risk health" ✓✓

You not need give long explanations or feel guilty for protecting your health.

Where to seek Help

If you or someone you know is struggling with substance use, you are not alone. Support is available, and reaching out for help is a positive and responsible step. Talking to a trusted adult such as a parent, teacher, school counsellor or doctor can make a significant difference.

Challenges with mental health or substance use can happen to anyone. Asking for support is the bravest and the vital first step towards feeling better.

If you or someone you know needs help, please reach out.

Support For	Helpline & Service	Details
Mental & Emotional Health	Disha Toll-Free: 1056	Kerala Government's 24/7 mental health helpline. Free, confidential counselling and crisis support
Drug & Alcohol Abuse	Vimukthi Toll-Free: 14405	Kerala Government's anti-drug helpline. Support for prevention, treatment and guidance for users and families.
Women & Child Safety	Women's Helpline: 1091 Childline: 1098	24/7 emergency assistance and counselling for women and children in distress

Doping

Fair Play and the Desire to Win

Sports teach us discipline, teamwork, confidence and respect for rules. Every athlete dreams of improving performance, winning matches and achieving success through hard work and training. As competition increases, so does the pressure to perform better, recover faster and stay ahead of others.

In this environment, some athletes may feel tempted to look for shortcuts instead of trusting proper training, rest and nutrition. Understanding this pressure is important, because true success in sports is not just about winning. It is about playing fair, staying healthy and living long respecting the spirit of the game.

What is Doping?

Doping refers to the use of banned substances or methods by athletes to gain an unfair advantage in sports. It goes against the rules of sport and violates the principles of honesty, fairness and equal opportunity for all participants.

Doping does not reflect true athletic ability or hard work. Instead of improving performance naturally through training and discipline, it harms both the athlete and the integrity of sport.



Do you know

Doping Is Not Just About Drugs

Doping is not limited to illegal drugs. It can also include the misuse of medicines, taking substances in higher doses than prescribed, or using certain methods to evade pain, fatigue or injury. Some athletes may do this to compete longer or recover faster.

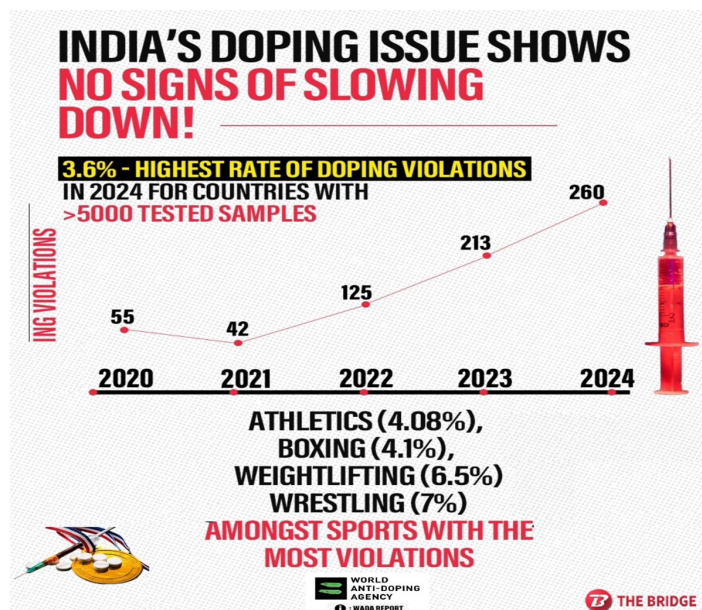


Figure. 15

- What can you generalise from the above picture?

.....

.....

.....

- Compare the doping status of India with other countries.

.....

.....

.....

Real-life example

In the 1988 Olympic Games, sprinter Ben Johnson won the 100-metre race but later lost his medal after failing a doping test. What was meant to be a moment of worldwide success became a reminder

that shortcuts taken under pressure can damage trust, reputation and the spirit of sports.

Why did Ben Johnson turn to doping?

.....

.....

.....

.....

.....

Think about this – Fairness in Sport

Is the competition still fair if some athletes use unfair methods to improve performance while others train honestly?

.....

.....

.....

.....

.....

Doping Vs. Training : What Builds Real Performance?

Training	Doping
Improves performance naturally	.....
.....	Encourages shortcuts
Protects health	.....
.....	Violates sports ethics

How doping damages sport?

Doping affects not only one athlete, but also harms the entire sporting system. When athletes use unfair methods, trust in competition is lost, honest players feel discouraged and the meaning of victory changes.

Ethical and health consequences of doping

Doping has serious consequences that go beyond winning or losing a competition. Athletes who engage in doping risk damaging their health and losing the respect of teammates, coaches and the public. Once trust is broken, it is difficult to regain.

Apart from health risks, doping can lead to disqualification, loss of medals and long-term bans from sports. The emotional impact

such as guilt, shame and loss of self-respect can affect an athlete's confidence and future opportunities.

Life skill : true strength in sport

True strength in sport comes from discipline, honesty and consistency. Athletes who train patiently, respect rules and take care of their health which enhances performances that last.

Winning without cheating brings confidence, self-respect and pride that no shortcut can provide.

Where to seek help – Staying Ethical and Safe in Sport

Athletes may sometimes feel confused or pressured due to performance, recovery, or advice they receive from others. In such situations, seeking guidance from the right people is important to protect health and integrity in sport.

Talking to a physical education teacher, coach, sports doctor, physiotherapist, counsellor or a trusted adult can help athletes make safe and ethical decisions. Asking for guidance is a sign of responsibility, not weakness.



ACTIVITY 11 : Situation Reaction

Read the three situations carefully. Answer the questions that follows.

Situation 1 :

Your friend offers you a substance, saying, "Everyone is trying it. Nothing bad will happen."

Situation 2 :

An injured teammate says they are using a "quick recovery method" suggested by someone outside the team.

Situation 3 :

You feel stressed before an important competition and are tempted to take something to calm your nerves.

1. Write the intensity of pressure you may feel in the above situations? Fill your answers below.

Situation 1 :

Situation 2 :

Situation 3 :

2. What is the healthy and responsible choice in each of these situations? Write your answers.

Situation 1 :

Situation 2 :

Situation 3 :

3. Whom would you approach for guidance in these situations?

Situation 1 :

Situation 2 :

Situation 3 :



Assessment

Answer the following questions. These questions are meant to know your reflection, not for judgement.

1. Why is adolescence considered a sensitive stage when it comes to substance use and doping?
.....
2. Mention two reasons why athletes or adolescents may feel pressured to make unhealthy choices.
.....
3. Write one polite way you could refuse a substance if it is offered to you.
.....
4. State any one difference between natural training and doping.
.....
5. Mention any two trusted authorities/mentors one can approach whenever substance abuse related help is needed?
.....

Healthy choices today protect your body, your sport and your future.

4

Indigenous Game and Inclusive Sports : Empowering Sports Culture

1. Indigenous games of kerala

The indigenous games of Kerala are the most vibrant expressions of cultural heritage. These traditional games are played in various geographical locations unique to Kerala, such as open harvested paddy fields, rivers, hills and open grounds. The games are often simple in their setup and are played in natural settings. They make use of readily available materials. They not only serve as an entertainment but also have the capacity to act as a powerful link between generations. They are means for transmitting social norms and cultural values.

Name some of the indigenous games played in your locality.

-
-
-

Give a brief description in class.

Let's see some indigenous games.

1.1 Nadan Panthu Kali

Nadan panthu kali (Thalapand) is one of the several folk games that reflect Kerala's rural traditions, agricultural rhythms and festival customs. These games showcase the state's emphasis on collective festivities, creativity in making play materials from local resources and preservation of local sporting culture through generations.

Through its continued celebration, Nadan Panthu Kali (Thalapand) embodies Kerala's rich folk heritage, uniting culture, sport and community in a quintessential festive experience.



ACTIVITY 1 : (A) Playing Nandan Panthu Kali



Figure - 1



Rules and regulations

- a. Divide the class into two or more teams with 7 members (boys and girls) each in a team.
- b. The game is played bare foot between two teams of seven players each, on a rectangular court that measures approximately 35 meters by 75 meter.
- c. Nandan Panthu Kali consists of six innings called “vara”: Otta, Petta, Pidiyan, Thalam, Keezhu and Indan. Players must score points sequentially through these innings.
- d. The ball is made of salted dried leather stuffed with cotton.
- e. Teams alternate between “vettu” (serving) and defending in each inning. The serving team initiates scoring, while the opposing team tries to prevent the scoring.
- f. Players strike the ball in six specific ways corresponding to the innings, such as one-handed strike (Otta), striking the ball after throwing it with the other hand (Petta), placing one hand behind while hitting (Pidiyan) and other modes of play.
- g. A player is declared ‘out’ if the ball falls inside the strike area after being hit or caught by the opposing team.
- h. The team that scores the highest point across the six innings wins the match.

(B). Let's discuss

The game you have played is an indigenous game that originated in Kottayam, Kerala.

- i. What factors do you think have led to the origin of this game?

.....

.....

.....

.....

.....

.....

.....

- ii. What is the significance of indigenous games?

.....

.....

.....

.....

.....

Significance of indigenous games over modern sports

Traditional folk sports and games offer several unique advantages over their modern counterparts. Can you mention some advantages? Two of the advantages are mentioned here. Discuss and write other advantages too.

- a. Heritage and Identity: Folk sports are deeply rooted in the cultural heritage of a community, serving as living links to a region's history, traditions and values. Participating in these games helps preserve local identity and customs for future generations.
- b. Storytelling and Ritual: Many traditional games are intertwined with local stories, rituals and seasonal festivals. They often teach important cultural narratives and life lessons interactively and engagingly.

- c.
-
-
- d.
-
-

- e.



ACTIVITY 2 : How you feel?

Write down five unique experiences of yours after playing Nandan Panthu Kali.

- a.

 b.

 c.

 d.

 e.



Assessment

- a. Where did the native ball game (nandan pandhu kali) originate and for what purpose?

 b. How is the native ball game connected to culture? Have a discussion in class and write the summary.

c. What benefits do indigenous games have over modern sports?

.....

.....

.....

.....

1.2 Kalarippayattu

Kalarippayattu, one of the world's oldest martial arts, originated in Kerala over 3,000 years ago. The term itself comes from Kalari (training hall) and Payattu (practice/fight). Legends attribute its founding to Parasurama, who established training centres called kalaris. It drew from Dravidian combat techniques of the Sangam period and Sanskrit traditions, which flourished during medieval wars among South Indian dynasties, such as the Cheras and the Cholas.

The art reached its peak in popularity between the 14th and 16th centuries, with every village maintaining kalaris for training warriors, particularly those from the Nair and Thiyya communities. The British colonial rule banned it in 1804 after the Kottayathu War, leading to its sharp decline. Yet many masters preserved it in secrecy. Kerala's freedom struggle in the 20th century, led by prominent figures like K. Kelappan, sparked its revival, restoring it through dedicated practitioners to its current global recognition.

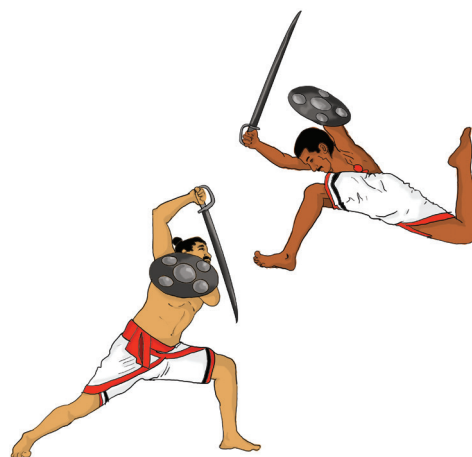


Figure - 2

Kalarippayattu is regarded as the world's oldest martial art, originating from Kerala. Today, it has training centres worldwide. It is practised by many to gain mental resilience, physical fitness, spiritual health and therapeutic knowledge. Studies on youth practitioners demonstrate the efficacy of kalarippayattu in enhancing confidence, emotional stability and self-esteem. Kalarippayattu features prominently in tour promotional campaigns, bundled with Ayurveda and massage. Many tourists visit Kerala to get an immersive experience in Kalarippayattu.

Prominent skills of Kalarippayattu

Today, Kalarippayattu is globally recognised not only as a martial art but also as a traditional healing practice (Kalari Chikitsa) and a vibrant performance art. The Kerala State School Games feature Chuvadukal, Maypayattu and Neduvattipayattu which are conducted under three separate categories. Come let's learn more about these.



ACTIVITY 3 : Field Trip

Visit a Kalarippayattu training centre near your school or home and watch various activities. Interact with the masters and trainees there. Give your response to the following questions.

1. What motivates these trainees to take up kalarippayattu?

.....

2. What benefits did the trainees report having received?

.....

3. Write your personal experiences about visiting the centre. What aspects fascinated you?

.....

4. Will you practise Kalarippayattu? Write your views.

.....

A. Chuvadukal (Chuvadu Payattu)



Figure - 3



ACTIVITY 4 : (A) Let's watch Chuvadu Payattu

(Students watch a video of Chuvadu Payattu)

(B) Let's discuss

'Chuvadukal' refers to the fundamental stepping techniques in Kalarippayattu. It includes coordinated footwork, balance, body positioning and rhythmic movements that form the base for all advanced techniques. Students learn how to shift weight, change directions, maintain stability and perform attack-defence transitions. Chuvadu Payattu helps improve agility, flexibility, coordination and full-body control.

Let's find

- i) What are the fundamental stepping techniques in Kalarippayattu?

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

- ii) Write the benefits of Chuvadu payattu.

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

B. Meypayattu



ACTIVITY 5 : (A) Let's watch Meypayattu

(Students watch a video of Meypayattu)

(B) Let's discuss

Meypayattu is the systematic practice of body movements that combine footwork, postures, strikes, blocks and jumps into a continuous sequence. It is similar to a martial art "flow routine" performed with speed, strength and grace. Meypayattu trains the body to move in harmony, enhances stamina, develops sharp reflexes and builds both power and fluidity. It also prepares the student for weapon-based training.

Let's find

- i) Write the benefits of Meypayattu?

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



Figure - 4

C. Neduvattipayattu (Neduvadi Payattu)



ACTIVITY 6 : (A) Let's watch Neduvattipayattu

(Students watch a video of Neduvattipayattu).



Figure - 5

(B) Let's discuss

Neduvadi payattu is the long-staff combat technique in Kalarippayattu. Using a long stick (Neduvadi), the performer practices offensive and defensive movements, including thrusts, blocks, spins and circular strikes. This payattu improves hand-eye coordination, precision, timing and control of force. It also introduces students to weapon discipline and traditional combat application.



Assessment

a. What is the significance of Kalarippayattu?

.....

.....

.....

b. How does Kalarippayattu become a voice of our culture?

.....

.....

.....

c. What is the scope of Kalaripayattu to promote sports tourism in Kerala?

.....

.....

.....

1.3 Kilithattu

Kilithattu is an ancient Indian field game that originated in Kerala and Tamilnadu. It belongs to a family of traditional "tag" or "dodge" game. The game has a history spanning thousands of years, with some estimates tracing its roots back over 5,000 years. Historically, this game is played during the Onam festival.



ACTIVITY 7 : (A) Play-Kilithattu



Figure - 6



Rules and regulations

- This is a team game. A team may have a minimum of 5 members. With the toss, one team becomes running team and the other becomes the defending team. The game is played for a duration of 30 minutes. After 15 minutes the running team becomes the defending team and vice versa.
- The play area has blocks (thattu). The running team aims to cross all the blocks and returns back again crossing all the blocks within the allotted 15 minutes. Successful players add one point to their team.
- The person guarding the block is called "Kili". Kili is allowed to move along the midline and sides of the block. The running team cannot hit the kili. Killi can tag the running player and send the player out of the game.
- The descending player is called "Pacha" (Green) and the returning player is called "Uppu" (Salt). Pacha and Uppu cannot appear in the same block at the same time.
- The team which gets the higher points wins the match.

(B) Let's Discuss

1. Write down five unique experiences of yours after playing Kilitthattu

.....

.....

.....

.....

1.4. Dappa / Chattiyeru

“Dappa” (or Dappa Kali) is a traditional outdoor team sport with deep roots in South India, particularly in the northern regions of Kerala. It is also known as ‘Ezhu Kallu’ (seven stones), chattiyeru, or ‘chilleru’. This game is popular in North India also and is known as ‘pithu’ or lagori. It is believed to have originated during the Chola era around 5000 years ago.

**ACTIVITY 8 : (A) Play Chattiyeru**

Figure - 7

**Rules and regulations**

1. This game uses approximately 7 pieces of marble slabs or flat stones stacked into a pile, and an ‘olappanthu’ (made from woven coconut leaves) or any softball.
2. The game is divided into two roles: the Throwing Team (Seekers) and the Defending Team (Hitters).
3. A player from the throwing team stands at a designated distance and attempts to knock down the stack of stones with the ball.

4. Each thrower usually gets three attempts to hit the pile.
5. A member of the defending team stands behind the pile. If the thrower misses the pile and the keeper catches the ball on the first bounce, the thrower is out.
6. Once the pile is successfully knocked down, the throwing team must scatter to avoid being hit by the ball while simultaneously trying to rebuild the stack to its original state.
7. If they successfully restack all the stones, they must shout "Dappa!" to win the round.
8. The defending team picks up the ball and tries to "out" the opposing players by hitting them with it before they can rebuild the pile.
9. Hits are only valid if they strike the opponent's body above the hip and below the shoulders.
10. A team wins the round if they successfully rebuild the stack and call out the game's name.
11. The throwing team loses the round if all their players are hit by the ball and declared "out" before the stack is rebuilt.
12. Teams switch roles after a successful rebuild or after all players on the throwing team have been eliminated.

B. Let's discuss

After playing 'chattiyeru', write answers to the following questions

1. How is 'chattiyeru' different from basketball, cricket or football? Write your observations.

.....

.....

.....

.....

2. Write your personal experience of 'chattiyeru'

.....

.....

.....

Inclusion in Sports and Physical Activities



Figure – 8



ACTIVITY 9 : Let's Include

Observe the students taking an active part during PE period. Are there any students who always stay away from participating? Why do they do so? Can you find out the reasons without intimidating them? Write down the reasons.

1.

2.

3.

Sports and games are natural and everyone should take part in them to enjoy their benefits. They are powerful activities that empower children, allowing them the right to enjoy their benefits. Some children shy away from participating in games due to lack

of fitness, motor skills or mental challenges. They should be made to understand that these abilities are trainable and can develop through regular practice. Gradually they will start playing and gain their benefits so that as a society, everyone will prosper.

Inclusion in sports is about ensuring that everyone participates in our play. It is a philosophy and practice where every individual has equal opportunity to participate in, contribute to and benefit from physical activity, regardless of their background, ability, age, gender or any other difference. It values diversity and seeks to eliminate the traditional separation or segregation of athletes based on ability.

Benefits of Inclusive Sports



ACTIVITY 10 : Activating Inclusive Sports

Participation in sports and games brings benefits to everyone who are meaningfully involved in the game. It may also benefit the differently abled students.

Complete the following based on the various health aspects indicated.

Benefits for Differently Abled Participants:

- A. Physical health
 - o Improved physical functionality
 - o
 - o
 - o
- B. Emotional health
 - o Increased self-esteem
 - o
 - o
 - o
- C. Social health
 - o Decreased sense of isolation
 - o
 - o
 - o

Benefits for General Participants:

A. Physical health

- o Improved physical fitness
- o
- o
- o

B. Emotional health

- o Increased self-confidence
- o
- o
- o

C. Social health

- o Increased team spirit
- o
- o
- o

Benefits for Society in general

- o Enhances social cohesion and unity within the community
- o
- o
- o

Identifying Barriers to Inclusive Participation



Figure - 9

While the goal of inclusion is universal, many challenges or barriers prevent people with disabilities (the differently abled) from

participating equally in sports and physical activities. Identifying these barriers is the first step towards removing them.

Barriers can generally be categorised into two types:

- Physical/Environmental barriers
- Attitudinal/Social Barriers

Barriers to Inclusion



ACTIVITY 11 : Looking for Barriers to Inclusion

Study the table given below, and describe the various physical and environmental barriers to inclusion in your institution.

Table : Barriers to Inclusion

Barrier	Description	Example in a School Context
Inaccessible Facilities	Design of buildings, grounds and fields that do not accommodate all needs.	Lack of ramps in school infrastructure.
Poor Transportation	Lack of accessible transport options to reach the sports venue or playground.	Lack of lifts or proper entry points for school buses or public transport near the school for wheelchair users.
Inappropriate Equipment	Absence of modified or adaptive equipment suitable for different abilities.	No visual or auditory aids for signalling in games for the visually or hearing impaired.
Safety Concerns	Uneven surfaces, poor lighting or the absence of necessary support infrastructure.	Uneven ground that poses a risk for students using crutches or wheelchairs.

Barriers to Inclusion in our Institution

-
-
-

Social and Attitudinal Barriers to Inclusion



ACTIVITY 12 : Socio-attitudinal Inclusion Barriers

Social and attitudinal barriers are deeply ingrained beliefs, perceptions, and fears held by individuals (peers, coaches, teachers) that discourage the participation of the differently abled. These are often the hardest barriers to overcome.



Figure - 10

Study the table given below, Describe various attitudinal and social barriers you have personally identified.

Table : Socio and Attitudinal Barriers of Inclusion

Barrier	Description	Example in a School Context
Negative Stereotypes	Preconceived, often incorrect, ideas about what people with disabilities can or cannot achieve.	It is a belief that a student with an intellectual disability “will slow down the team” or cannot understand complex rules.
Fear of the Unknown	Hesitation or nervousness from teachers or peers about how to interact or adapt activities that suit the differently abled.	The community avoids including a student with a physical disability because they don’t know how to modify the lesson.
Overprotection/Pity	Viewing the differently abled as weak or vulnerable leading to exclusion from challenging activities.	Peers or teachers refuse to pass the ball to a visually impaired student out of excessive concern that they might get hurt.
Lack of Awareness	Ignorance about the capabilities and varied needs of individuals with different conditions.	There is a tendency to apply rigid rules without considering simple modifications in games and sports.

Social and attitudinal barriers to inclusion in our school

-
-
-

The Core Pillars of Inclusion

The conceptual framework of inclusion rests on four key pillars that distinguish it from mere integration or basic participation:

Table : Four Pillars of Inclusion

I	II	III	IV
Equity, Not Equality	Belonging and Acceptance	Universal Design for Learning	Modification and Adaptation
Key concept - Equity is key to fairness.	Key concept - Participation must be meaningful.	Key concept- Plan for everyone from the start	Key concept- Flexibility in delivery
Explanation - Equality means giving everyone the same resources (e.g., the same cricket bat). Equity means giving everyone the specific resources they need to achieve the same outcome (e.g., using a lighter ball or an adjustable tee). It acknowledges that participants start from different points.	Explanation - It is not enough to be physically present. Participants must feel valued, respected and considered as an essential part of the team or group. This addresses the psychological barriers to participation.	Explanation - Activities and facilities are planned from the outset to be usable by the widest range of people without the need for major adaptation (e.g., having ramps as the primary access, not just emergency exits). It makes inclusion the norm, not an exception.	Explanation - This involves the willingness and skill to modify one or more of the following elements to suit participants' needs: Task, Equipment, Area, or Method/ Rules. This allows a single activity to be simultaneously challenging and successful for a varied group.



ACTIVITY 13 : Tackling the Inclusion



Figure - 11

This is the picture of inclusive athletics conducted by Kerala. This is a 100 m race by visually impaired athletes. What modifications were made to include visually impaired athletes? What were the benefits? Discuss with your PE teacher and write down in the space provided.

Challenge		Adaptations / Modifications	
Visual impairment			
			
Category	Physical benefits	Emotional benefits	Social benefits
Visually challenged student			
General student			



The Kerala School Sports Meet 2024 : A Historic Milestone

In November 2024, the state of Kerala created history in the Indian sports sector by organising the Kerala School Sports Meet (popularly known as the “Kerala School Olympics”) in Ernakulam. For the first time in the history of Indian school sports, the event was conducted according to the “Olympic model,” bringing together over 24,000 teenage athletes to compete in a single city.

A New Era of Inclusion

The most significant feature of this event was the introduction of Inclusive Sports as an official part of the competition. Unlike in the past, where students with special needs competed in separate, isolated events, this meet integrated them into the main arena, allowing them to compete alongside general category students.

- **Participation :** More than 1,000 differently-abled students from all over Kerala participated in the event.
- **Unified Events :** To foster true inclusion, “Unified Sports” rules were applied in team games. For example, in Football (7-a-side) and Handball, teams were required to have a specific composition of players with different abilities (e.g., students with intellectual disabilities, visual impairment and mobility impairment) playing together. In some cases, students from the general category were allowed to participate as goalkeepers to support the team.
- **New Disciplines :** The meet introduced ‘Bocce’ specifically for girl students with disabilities, alongside other events like the 100m sprint, Mixed Relay (4x100m), Standing Long Jump and Badminton.

This initiative proved that sports can be a powerful tool for social integration, breaking down the walls between “regular” and “special” education students.

Special Info

Explore more


PARALYMPICS


SPECIAL OLYMPICS



Assessment

- Why do you think the organisers allowed a “general category” student to be the goalkeeper in inclusive football and handball?

.....

.....

.....

.....

- What is the significance of inclusive sports?

.....

.....

.....

.....

- What are the barriers to inclusive sports?

.....

.....

.....

.....

- Write your suggestions to overcome the barriers of inclusiveness?

.....

.....

.....

.....

5

Management Skills and Sports Activities

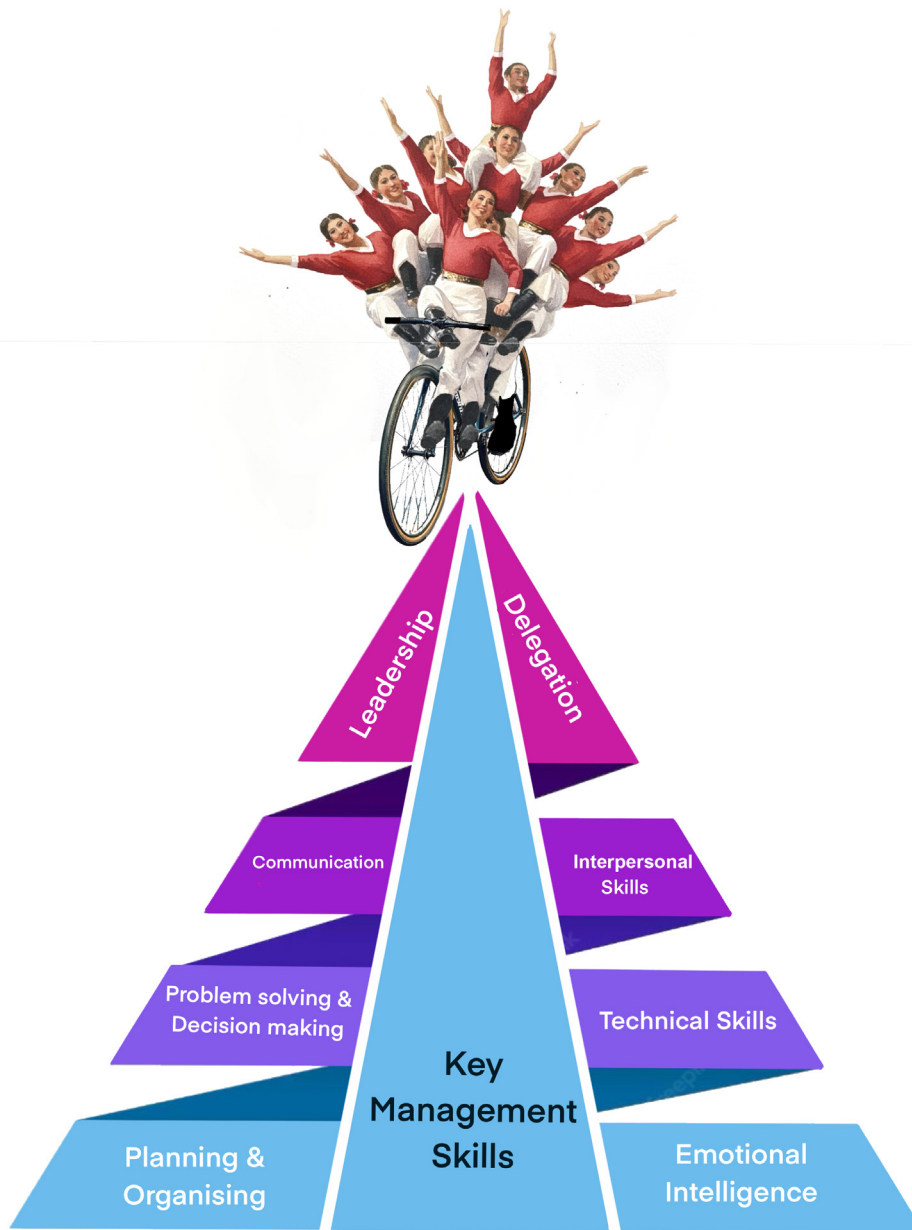


Figure - 1



ACTIVITY 1 : Single stick creative team challenge



Figure - 2

Let's learn management skills through action

The whole class is divided into 2 to 4 teams, each consisting of 8 to 10 students. Each team is given one long stick (Bamboo/ PVC Pipe). As shown in the picture, only one finger of each student is used to lift the stick together. Holding or gripping the stick is not allowed. Students must not change fingers during the activity. The goal is to lift the stick smoothly with proper coordination and team work.

How to execute?

Step 1 - Ground level

Place the stick on the ground. All team members place one finger underneath the stick. No gripping, holding or changing fingers is allowed.

Step 2 - Shoulder level

Lift the stick slowly and together. Hold it at shoulder level for 5 seconds without losing balance.

Step 3 - Overhead level

Continue lifting smoothly and in coordination to the overhead position.

Winning the game

The team that completes a successful lift by strictly following all the rules is declared the winner.

Note – If the stick falls at any point, the team must restart the activity from the beginning.

Let's do the activity

Stage 1 : Act without any discussion:

Without any discussion, follow all three steps one by one and complete the activity.

How was your performance?

Stage 2 : Discuss and act

Stage 2 : Discuss and act with proper management for the successful performance of the Single Stick Creative Team Challenge. Effective managerial skills are required to complete the task.

Managerial skills needed for this activity



Figure 3

Details of Planning and Management in Groups

Task	Managerial skills	Actions
- Fixing the position of each member - Usage of the finger - Time constraint - Lifting as one team	Planning and organisation Coordination Time Management	- Assigning positions to team members - Command for lifting - Command for each stage
Deciding the leader	Leadership quality	Proper guidance
Command and direction by the leader	Communication	Proper communication at various stages
Analysing potential problems and making quick decisions	Problem-solving and decision-making	Proper timing of lifting by each member
Assigning tasks for each member	Delegation	Ensuring whether the assigned duty is properly carried out
Training all members to work as a team	Interpersonal skills	Ensuring that everybody is cooperating with the leader and among themselves

After the planning and discussion perform the 'Single Stick Creative Team Challenge' again. How was the performance this time compared to stage 1?



Assessment

- Explain the objective of the Single Stick Creative Team Challenge. How did team communication help in completing the task successfully?

.....

.....

.....

- Discuss the principles of management applied during the activity and its implication.

.....

.....

.....

- Analyse how the lack of coordination affected performance in the initial attempt and justify which management skills were crucial for success.

.....

.....

.....



ACTIVITY 2 : Let's find

Design a similar group activity to the 'Single Stick Creative Team Challenge'. Write the following details in your notebook.

- Name of the activity
- Mention the management skills used
- Explain how the skills were applied.

What is Management?

Management is a process of planning, organising, directing and controlling available resources effectively to achieve goals.



ACTIVITY 3 : Household Management



Figure - 4

Look at the picture.

- Describe the activities in the picture.

.....

.....

.....

Who do you think is acting as the manager? How did you arrive at this conclusion?

.....

.....

.....

What is Sports Management?

Sports management is the process of planning, organising, directing and controlling sports activities and events. The core events include managing personnel, equipment, finances, and marketing activities to enhance fan experiences, generate revenue and organise events effectively. Sports management is an emerging career field related to sports.



ACTIVITY 4 : Blanket Volleyball



Figure - 5

Equipment Required

- One large blanket or sheet per team
- One soft ball
- One net or rope to mark the net line



Rules and regulations

1. Divide the class into teams of four members each. Form as many teams as required based on the class strength.
2. Select three teams (12 students) to act as the organising committee. The organising group is responsible for planning the game, arranging equipment, forming teams, explaining the rules, conducting the matches and ensuring fair play.
3. All players must hold the blanket using both hands.

4. The ball must be caught and thrown only using the blanket.
5. Players must communicate with each other before every catch and throw.
6. No player is allowed to leave the blanket during play.
7. The game is played up to 11 points.
8. The decisions of the officials are final.

The competition you played is called an Intramural Competition.

What is Intramural Competition?

Intramural competitions are sports and games conducted within an institution, such as a school or college, where students compete among themselves. The word intramural is derived from the Latin words intra (within) and mural (walls), which means the activities conducted within the walls of the institution. The main aim of intramural competitions is maximum participation, not merely winning.

Guidelines for participation

- Participation is compulsory for all students.
- Respect the rules, official and opponents.
- Winning is secondary to participation.
- Accept both success and failure positively.

Objectives of Intramural Competitions

- To encourage mass participation
- To promote social development
- To provide enjoyment and relaxation
- To identify talented students
- To develop sportspersonship
- To provide opportunities for learning new skills
- To promote physical fitness and health
- To develop the ability to face both success and failure



Assessment

1. List any four intramural committees formed for organising Blanket Volleyball.

2. Explain why role allocation and committee formation are important in the organisation of intramural competitions.

3. Identify the objectives of intramural competitions fulfilled by organising Blanket Volleyball.

4. Which management skills were applied while organising the intramural Blanket Volleyball event?

Stages of organising competition

a. Identification of goals

- Recreation
- Learning managerial skills
- Fitness development
- Talent identification

b. Plan of action

- Type of game
- Venue and date
- Rules and regulations

c. Division of labour

- Technical officials
- Invitation and reception committee
- Finance committee
- Equipment committee

d. Supervision

- Ensure smooth conduct of the event
- Promote fair play
- Ensure that rules are followed

e. Evaluation

- Achievement of goals
- Identification of strengths
- Problems faced during organisation
- Areas requiring improvement



ACTIVITY 5 : Friendly Football Match



Figure - 6

With the permission and support of your school authorities, invite a neighbouring school team and conduct a friendly football match. Apply the managerial and organisational skills learned in this chapter while planning and conducting the match.

Extramural Competition

When teams of two or more institutions compete against each other, it is called an extramural competition. Extramural competitions are sports events conducted outside the institution, where students represent their school or college and compete with teams from other institutions.

The word extramural comes from the Latin words extra (outside) and mural (walls), which means the activities conducted outside the walls of an institution. Inter-school, district, state, national, and international competitions are examples of extramural competitions. In extramural competitions, participants take part not only as players but also as representatives of their institution, district, state or country, carrying its name, reputation, discipline and values.

Objectives of Extramural Competitions

- To improve sports standards
- To provide competition experience
- To promote physical fitness
- To foster sportspersonship and fraternity
- To broaden sports participation
- To develop leadership qualities



Assessment

1. Explain the meaning of extramural competition. Identify any two management skills used in organising an extramural friendly match and explain how they are applied.
.....
.....
.....
2. Does organising extramural competitions help develop leadership and responsibility among students? Justify your answer with suitable examples.
.....
.....
.....
3. Prepare a plan to organise a friendly extramural match between your school and a neighbouring school.
.....
.....
.....
4. Which objectives of extramural competitions were achieved when you organised the friendly football match? Explain with examples.
.....
.....
.....

Annexure

- ☐ Life style Tips
- ☐ My New Routines
- ☐ Warming up
- ☐ Cooling down

Life Style Tips

Food habits

- Dine with your family.
- Avoid the use of digital devices during dining.
- It is better to eat one hour after and two to three hours before exercise.
- Never skip your breakfast. Chew food properly and eat slowly.
- Drink two to three litres of boiled water everyday.
- Ensure rainbow diet (fruits and vegetables of different colours).
- Enjoy nutritious home made food. Avoid adulterated fast food, carbonated drinks and junk food as far as possible.
- Have dinner at least two to three hours before going to bed.



Exercise habits



- Enjoy exercising with family members. Give preference to aerobic exercises like walking, jogging, cycling, swimming etc.
- Students of age group 5 to 17 must do aerobic exercise for atleast one hour daily. They should indulge in strength training for 3 days a week (Source - World Health Organisation).

My New Routine

- Engage in short duration physical activities before going to school. Help your parents with domestic chores.
- You may go to school by walking or cycling. If you travel by vehicle, find time to walk with your friends whenever possible.

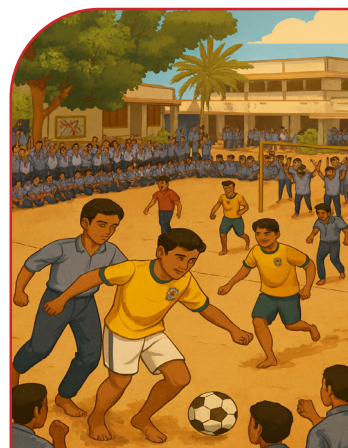


During class time

- Stretching should be practised during short breaks.
- Walk as much as possible while at school. Keep the habit of visiting the school library and lab everyday, so as to develop the habit of being physically active.

During Interval

- Use opportunities to engage in leisure time physical activities.
- Participate in curricular and creative activities as far as possible.



After reaching home

- Engage in recreational sports with family and friends. You may also take your pet for a walk, if you have one.
- Be mindful of recreational screen time. Practise digital balance by prioritising offline activities.



Study time

- Doing simple exercises and listening to music in short breaks during studies help you to recharge and refocus.
- Pressing the stress ball/squeeze ball during study hours reduces stress.
- Schedule your study time by setting realistic goals.



Sleep

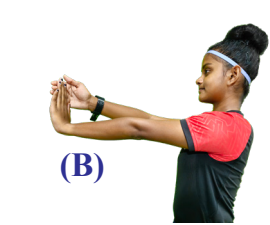
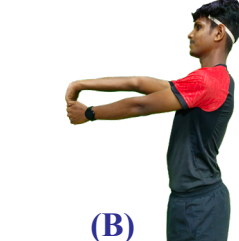


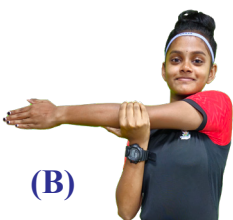
- Set a consistent sleep schedule to improve the quality of your rest.
- World Health Organization (WHO) recommends 8 to 10 hours of sleep for children aged 13 to 18 years.
- One can sleep in supine or sideways position so as to maintain the natural curves of the back.
- Stop using electronic devices half an hour before going to bed. Keep such devices at least 1 metre away from your body.

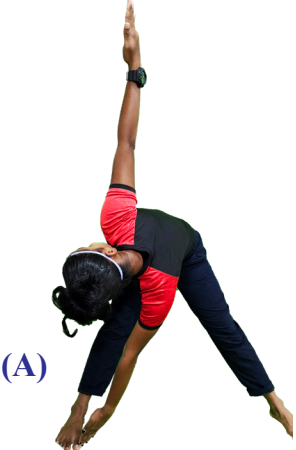
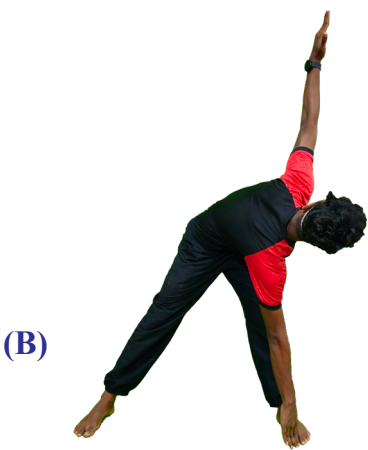
There might be certain changes in your routine during holidays. However, it is better to ensure that you exercise, eat, study, enjoy and sleep on time even during holidays.

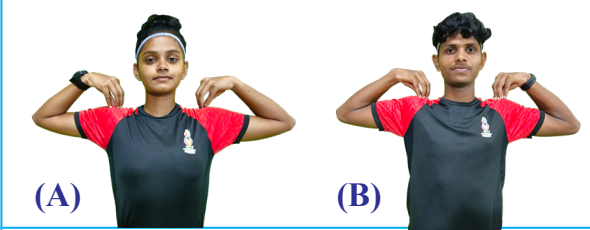
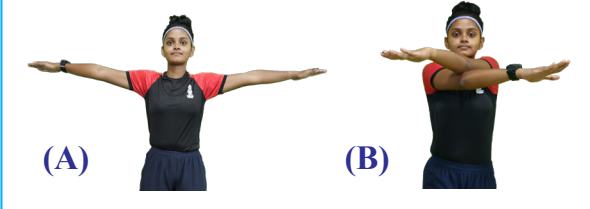
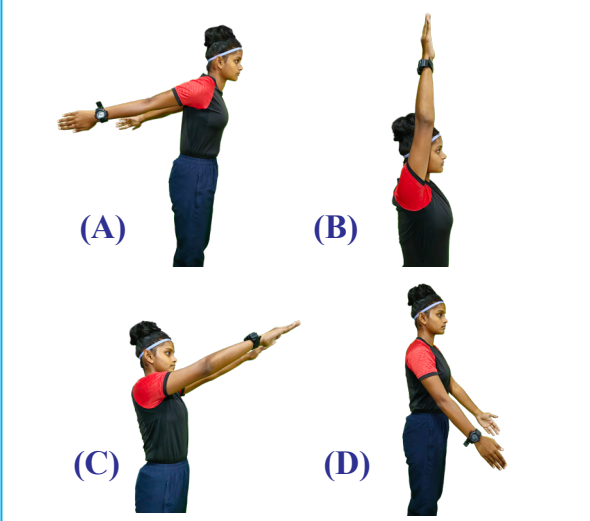
Warming up

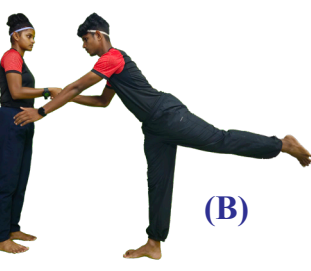
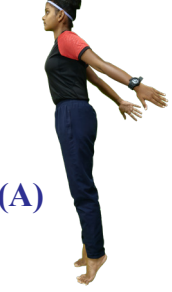
- Warming up is the preparatory phase prior to a physical activity or sports event. It will help to enhance performance and prevent injuries.
- All stretching exercises should be held for a specific period of time and repeated in the reverse direction.
- All other exercises should be practiced around 10 times and repeated on the other side of the body.

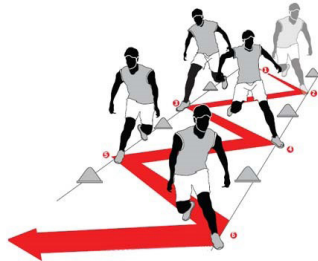
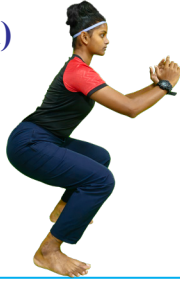
1	NECK STRETCH	 (A)  (B)  (C)  (D)
2	OVERHEAD SHOULDER STRETCH	 (A)  (B)
3	WRIST EXTENSION STRETCH-I	 (A)  (B)
4	WRIST EXTENSION STRETCH-II	 (A)  (B)

5	SHOULDER STRETCH	 
6	CROSS ARM SHOULDER STRETCH	 
7	BACKSIDE SHOULDER STRETCH	 
8	LUNGE WITH SPINAL TWIST	
9	HAMSTRING STRETCH	 

10	STANDING KNEE TO CHEST	 
11	CALF STRETCH	 
12	KNEELING HIP FLEXOR	 
13	CROSS BODY TOE TOUCH	 

14	SIDE LUNGE TO KNEE RAISE	
15	SHOULDER CIRCLE	
16	ARM SWING	
17	ARM ROTATION	
18	HIP CIRCLE	

19	DORSIFLEXION & PLANTAR FLEXION	 
20	ANKLE INVERSION AND EVERSION	  
21	JUMPING JACKS	 
22	LEG SWING: FORWARD AND BACKWARD	 
23	TUCK JUMPS	 

24	ZIGZAG JUMPS	
25	SQUAT WITH WALKOUTS	(A)  (B)  (C) 
26	SIDE PLANK LEG RAISE	(A)  (B) 

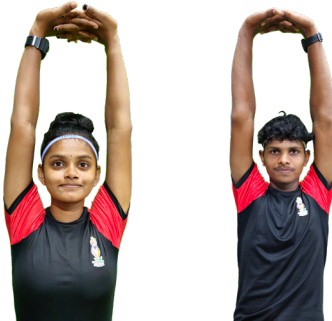
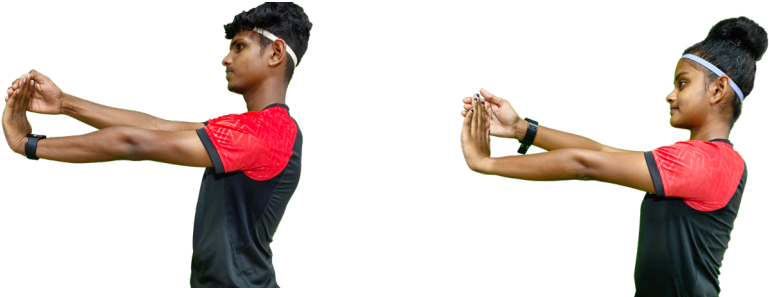
27. Major activities (Choose one of the following activities and do it for 10 minutes)

- Various exercises using hula hoops, skipping rope resistance band, swiss ball etc.
- Cycling, swimming, martial arts, aerobic dance, zumba dance etc.
- Going up and down the stairs continuously.
- Jogging (start at a low pace and gradually increase the pace)
- Play any fun games learned in the class.

Cooling down

- This is a simple exercise done after the competition or physical activity to bring the body back to its original state. It helps to recover fast, prevent injuries and improve performance.
- Stretch, hold and relax all stretching exercises for around 10 seconds and repeat on the other side.

1.	WALK SLOWLY	
2.	JOG SLOWLY	
3.	SLOW JOGGING (with arms relaxed and raised to the side)	

4.	SLOW WALKING AND JOGGING (with both arms bent forward.)	
5.	NECK STRETCH (A)  (B)  (C)  (D) 	
6.	OVERHEAD SHOULDER STRETCH	
7.	WRIST EXTENSION STRETCH-I	

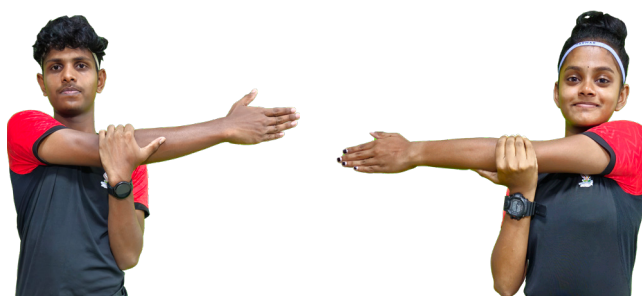
8

WRIST EXTENSION STRETCH-II

9.

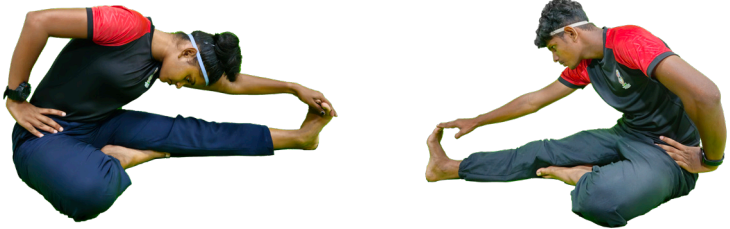
SHOULDER STRETCH

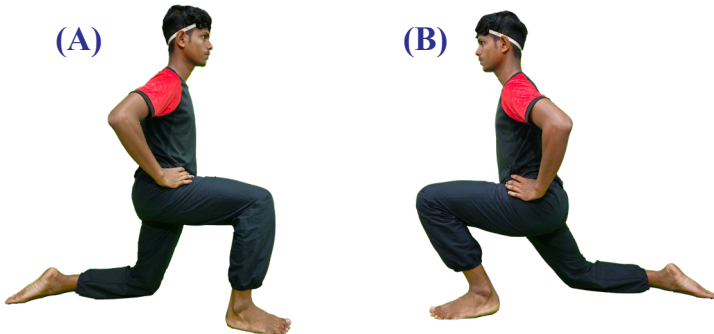
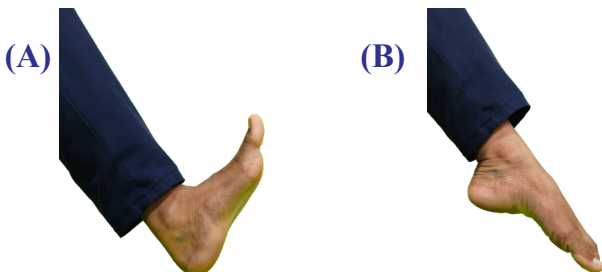
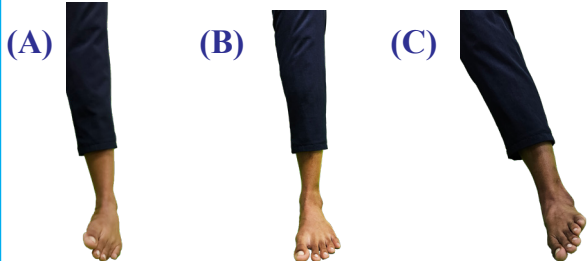
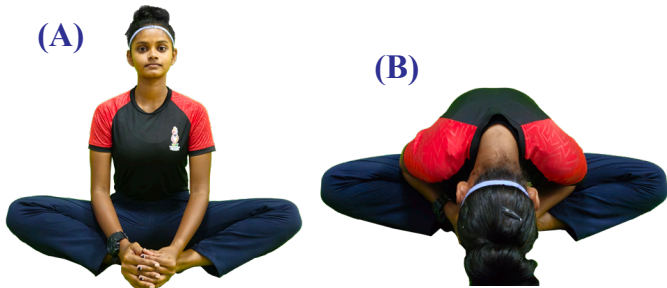
10.

CROSS ARM SHOULDER STRETCH

11.

STANDING BACK BENDING STRETCH

12.	SIDE BEND STRETCH 
13.	HAMSTRING STRETCH 
14.	QUADRICEPS STRETCH 
15.	CALF STRETCH 

16.	KNEELING HIP FLEXOR 
17.	DORSIFLEXION & PLANTAR FLEXION 
18.	ANKLE INVERSION AND EVERSION 
19.	BUTTERFLY STRETCH 

20.	LYING HARMSTRING STRETCH (A)  (B) 
21.	LIE DOWN AND RELAX 