



Health and Physical Education

STANDARD TWELVE





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Health and Physical Education

(For All Streams)

STANDARD TWELVE



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The Constitution of India

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a 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 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.

NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē
Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
Drāvida-Utkala-Banga

Vindhya-Himāchala-Yamunā-Gangā
uchchala-jaladhi-taranga

Tava subha nāmē jāgē, tava subha āsisa māgē,
gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē
Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē,
Jaya jaya jaya, jaya hē.

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.

Preface

Dear Students,

Welcome to Standard 12. We are delighted to present you the text book of Health and Physical Education. Today's age of technology has given us easy access to facilities that allow a comfortable life. Physical movements have reduced causing various psychosomatic diseases. Obesity, stress and various other disorders are gradually increasing because of the sedentary lifestyle and inappropriate diet habits.

It is therefore, imperative to provide access to understand exercise and health, and adopt appropriate habits leading to a healthy life. The objective of this curriculum is to make informed choices to inculcate the habit for suitable and regular exercise, wholesome diet, games and an active lifestyle leading to a healthy life.

The physical education curriculum is designed to develop an approach to exercise for life. It instructs on the importance of movement education, motivates to acquire necessary skills of various games and in the process discover potential within oneself. It is also designed to give information to students about the relation between games, sports and recreation.

The information in the textbook given in workbook form pertains to achieving the objective of a healthy body and healthy mind. Students can realize and constantly strive to achieve this objective, through an understanding of the various games, activities and exercises that need to be followed regularly. At the same time, students are informed of the scientific basis of sports skills they are developing, giving them recreation and joy while doing these activities.

The study group has got valuable help in editing from Dr. Deepak Shendkar and Quality reviewer Dr. Sandhya Jinturkar. The bureau is thankful for their cooperation.

For more information related to the component text Q.R. Code has been given. It will contain audio-visual information for a joyful learning process.

Do inform us regarding the difficulties and questions that come to mind while reading and understanding the book, and the parts you have liked.

Best of luck for your academic progress!



(Vivek Uttam Gosavi)

Director

Pune

Date: 21 February 2020

Bhartiya Saur : 2 Phalguna 1941

Maharashtra State Bureau of Textbook
Production and Curriculum Research, Pune

For teachers

We are very happy to present you the textbook of standard 12. This textbook curriculum structure is a link between what is taught to the student and what the student experiences in the outside world. Special focus has been to improve immunity and impart appropriate physical exercises based on individual need. The contents focus on physical exercise and boosting the immune system to transform health and overcome the ill-effects of the changing lifestyle.

The objective of nurturing sports talent through this curriculum is part of the bigger objective, which is 'To develop the concept of maintaining functional fitness throughout life'. Physical education aims to develop the individual personality as a whole.

We all should strive to achieve the objectives of physical education. For this:

- Firstly, understand the textbook yourself
- Understand the scientific basis of the curriculum and implement it to achieve the objectives.
- Use the book to master skills, techniques by developing various abilities appropriately.
- When implementing curriculum activities, manpower, time, space, materials, capacity of students should be given priority, planning and administration should be done according to the available geographical conditions.
- Use the QR code given in the textbook. The QR code should be constantly checked to get the latest information.
- Understand the subject thoroughly, using reference from web, websites, reference books and magazines.
- Develop sports skills in special students (divyang), using inclusive methods and according to their capabilities.
- Compulsorily check to ensure the completion of written work, given after every chapter of the book.
- Understand the perspective of the student through the written work. At the same time give directions for educational and professional careers in this field.
- Evaluation should be done as per Maharashtra State Secondary and Higher Secondary Board guidelines.
- Latest information about central and state sponsored scholarship schemes and competitions should be imparted.
- Regularly update students with information received from the District Sports Office and different Sports Associations.
- Useful suggestions regarding the textbook should be welcomed.

Best of Luck for the teaching experience!

Games bring joy and contentment. Enjoy playing games and making others happy.

For students

Education is a continuous process. Physical Education has gained a lot of importance in the present education system. One can see adverse effects on the body due to changes in environment, work format, increasing pollution, effect of television and screen time in today's situation. The ill-effects of these are various diseases, physical disabilities and disorders in today's youth. The lack of understanding of Health and Physical Education has led to youngsters facing various difficulties with health that last a lifetime.

Taking into consideration all the above aspects, contents of this textbook focus on conservation of fitness, scientific point of view exercise, study of yoga, diet, active lifestyle, inspirational stories, etc. Student's physical abilities as well as various skills are developed through daily exercise, various movements, games and recreational programmes. The growth and development, health, decision making abilities, emotional development, creativity, professional efficiency, innovative abilities, etc. has been areas for nurturing.

A healthy and strong individual functions better in personal and social settings, leading to a successful life in the present volatile and uncertain times. You have already learnt in previous classes the good effects of exercising and playing games on various systems of the body like the circulatory, respiratory, digestive systems, etc. However, not only exercise but diet, rest, sleep and daily routines are also important aspects. Contents on these aspects can be read in this textbook. It is important to inculcate a habit of regular exercise, playing your favourite game in leisure time and to cultivate a hobby. This movement oriented healthy lifestyle enables the brain cells to become efficient and improve neuroplasticity.

Every student needs to be aware and improve individual health. For this, select a favourite game or exercise type and consistently workout to maintain physical health. Similarly, along with games and sports skills, study and practice yoga to keep stress free and maintain good mental health.

For you to be actively engaged with the contents of the book, various supplementary studies as per the topic, noting down activities and games have been incorporated. Since there is a lot of variety in the activities, there is a lot of choice for selection.

Information about famous and successful sportspersons and awards have also been included to inspire and motivate you.

Prime mission – 'Health and Physical education for holistic development'

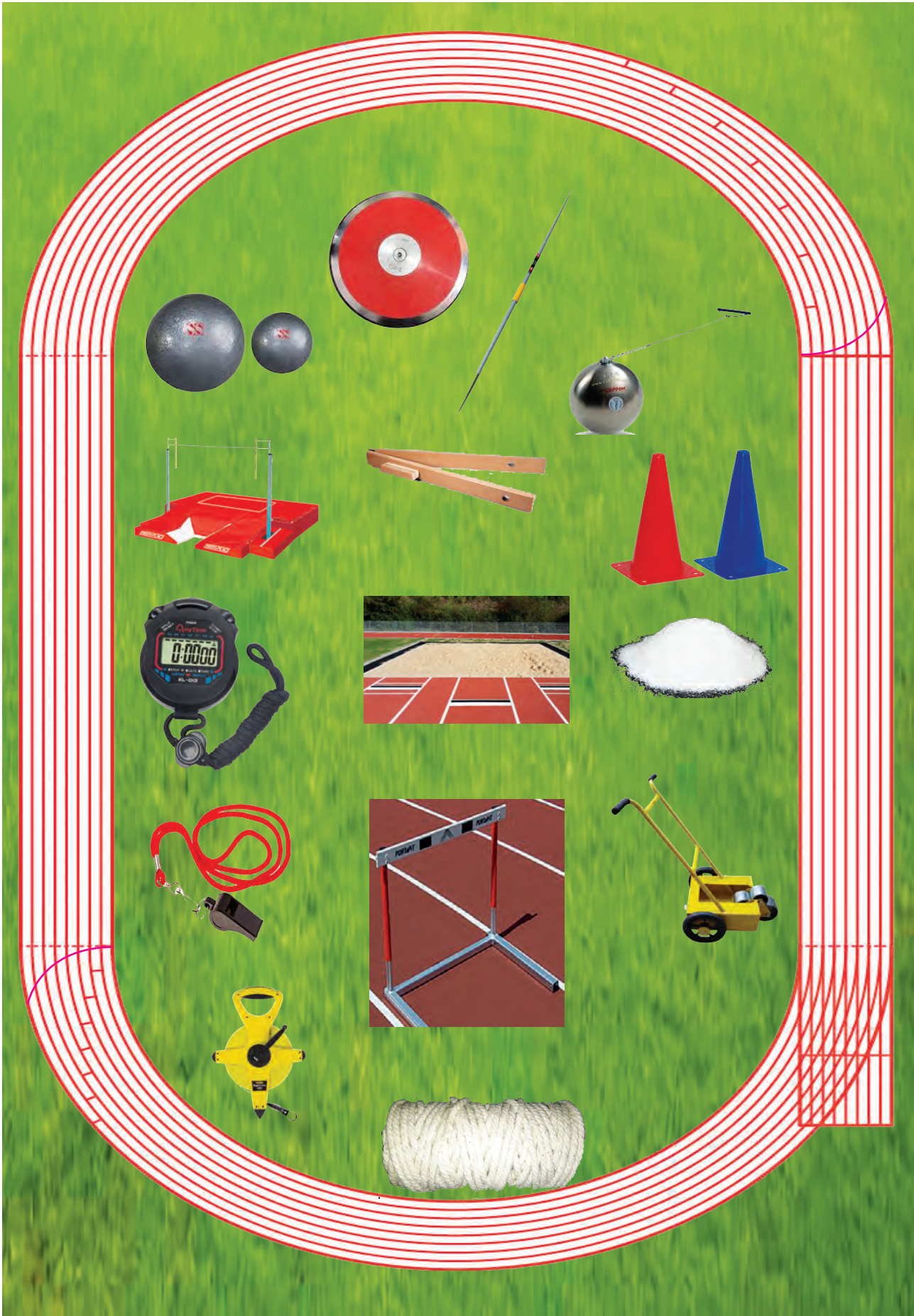
Health and Physical Education for standard XII

Competency statements

1. Development of physical fitness.
2. Plan exercise for physical fitness.
3. Develop skill related physical abilities.
4. Learn the advanced and technical principles of exercise.
5. Study yoga for getting rid from stress.
6. Plan a balanced diet for physical and mental health.
7. Engage in active lifestyle.
8. Use modern technology to improve physical fitness.
9. Be inspired by the success stories of medal winning sports personalities.
10. Gain information on different categories of awards in sports.

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Objectives

- To develop physical fitness being aware about individual fitness.
- To study the principles of fitness.
- Maintaining consistency in exercise by making it a habit.
- To accept a balanced diet and health habits.

Since ancient times, the role of physical fitness and health is important in human life. According to the law of nature 'Survival of the fittest', ones who are healthy and physically fit can live a healthy life in this situation. For this Physical fitness needs to be developed. For healthy life appropriate physical activity needs to be done.

1. The importance of physical fitness:

Everyone should know the importance of physical fitness. For this, everyone must have a basic knowledge of human physiology. This basic knowledge makes every individual capable of understanding physical fitness. Physical fitness also strengthens the mind. It also makes body relax and makes one capable of facing challenges in life. Increased physical fitness not only makes one healthy but it improves the performance.

2. Personal fitness program:

To enhance and maintain our fitness we need to exercise daily. For this choose the exercises that will develop different factors of fitness. Measure abilities with the help of various tests. Then do the appropriate exercises of those fitness factors more in which you have performed less.

1. Daily activities

Exercise at least one hour daily which will include exercises from medium to high intensity. There are more benefits if exercises are done for more than an hour.

This exercise can be done at home, at school or on the field nearby your home Choose exercises and sports in the daily routine which will increase your cardiovascular endurance. e.g. Cycling, Running, Swimming, Basketball, Hockey, Football, Skipping etc

Exercises that increases strength of muscle and bones should be done at least three times a week e.g. Weightlifting, Judo, Wrestling etc.

Yoga must be done to increase concentration and mental health, It must include Asanas in different positions along with Pranayama and Meditation.

2. Diet:

Eat a balanced diet every day. Avoid eating outside food, which is oily, spicy, and non-nutritious. Because these types of food cause more harm to the health.

3. The habit of exercise:

In your daily routine, morning or evening time should be reserved for exercise. This will develop the habit of exercising regularly. Yoga should also be included, so that your physical fitness will be increased and mental health will be maintained.

4. Exercise Session

Exercise Session is divided into three parts.

- (1) Warming Up
- (2) Main Activity e.g. game/ activity
- (3) Cooling Down

3. Principles of Fitness:

Everyday exercise is needed to enhance your fitness and maintain it. While preparing the exercise program which will have positive changes, principles of fitness must be followed

(1) Individualization

Fitness program must be designed as per the individuals need. Different people respond differently to the exercises. So in order to develop fitness of an

individual, his needs and abilities must be taken into consideration.

E.g. To improve the fitness, all shouldn't be trained with the same training program. Fitness program should be designed by considering everybody's need.

(2) Specificity

While designing training program, the purpose, need and ability of the child must be taken into consideration and must be designed specifically. Our body response depends on the specificity of the training which will help him for better adaptation.

E.g. Gender, age, height, weight as well for what he wants to do the training program that means whether he wants to lose, increase or to maintain the weight. Considering all these aspects special training program must be given.

(3) Overload

While designing a training program, overload of exercise must be considered to have a positive effect on the body. For the adaptation of the body to training, overload is required. This can be done by increasing the load daily than the usual. And for this FITT principle must be considered

Frequency of Training (F)

How many sessions of exercise or

training, we do in a week is called as Frequency of training. Generally, to maintain our health it is necessary to exercise 3 to 5 days in a week. The frequency can be less or more according to individuals health or physical fitness.

E.g. To increase the strength of the biceps, exercise is usually done 10 to 12 times in a row. Means 10 to 12 times is it's frequency.

Intensity of Training (I)

Exercise intensity refers to how hard your body is working during physical activity. Generally, the intensity should be from moderate to high. Following steps should be followed to increase the intensity.

- 1) Increase the frequency
- 2) Increase the number of set
- 3) Increase the load
- 4) Increase or decrease the duration of exercise.

T = Type of Training

In fitness training same type of the exercises should be avoided. Variety of exercises must be included to make the fitness training more interesting. e.g. Cardiovascular endurance, Muscular endurance, Flexibility, Strength etc.

There should be variety in all these types so that it will be of great benefit to improve the fitness. Monotonous fitness program decreases the interest of a person.

T = Time of Training

The duration of any fitness program must be specified, by keeping it low at the beginning and should be increased gradually. Intense program in short time may lead to fatigue and injury.

E.g. While designing a fitness training program for any individual all these aspects should be taken into consideration. Overload should be avoided it otherwise it will affect on the performance and will lead to fatigue and may have injury.

(4) Progressive Overload

If there is a need for positive change in a player or an athlete with exercising, it is necessary to add more load to the exercise or training program. The intensity and load of the exercise should be increased slowly and steadily while increasing the load.

E.g. If in the first week a person is performing 20 sit ups and 20 push ups then after 8 to 15 days these numbers must be increased then only the progress will be seen.

(5) Variety

To have required positive transformations in the fitness, variety of exercises must be included in the training. It shouldn't be boring and must have variety in the training to avoid injury.

(6) Rest and Recovery

With adequate Rest and Recovery, body gets adaptable to the exercise, which is very important.

Recovery is required for better adaptation. Good recovery helps body to adjust to the stress and changes due to exercise. This can be done in a variety of ways, such as proper diet, aerobic exercises and stretching exercises.

(7) Reversibility

The reversibility is a concept that states when you stop working out, you lose the effects of training. This means that exercise and training after a gap benefits from the training.

(8) Consistency

To maintain and develop the fitness it is necessary to have consistency in the training program.

To improve your fitness, plan your exercise and training considering all these principles of training.

Development of Physical Abilities

- Which exercises you will do to improve the following health related physical abilities?
 1. Cardiovascular Endurance
 2. Muscular Strength
 3. Muscular Endurance
 4. flexibility
 5. Body Composition
- Which exercises you would do to improve the following skill related physical abilities?
 1. Speed
 2. Power
 3. Agility
 4. Coordination
 5. Balance
 6. Reaction Period

Q. 1 Fill in the blanks with appropriate word.

1. Appropriate is necessary for the development of healthy personality.
2. and is necessary to make the the individuals body ready for exercise
3. While increasing the exercise training the intensity and load should be increased by and
4. should be there for getting favorable changes in exercises.

Q. 2. Answer in one sentence.

1. What do you mean by frequency of exercise?

.....
.....

2. Which principles should be considered while doing exercises?

.....
.....

3. What should be done to improve mental health and concentration?

.....
.....

4. For how many hours exercise should be done daily?

.....
.....

Q. 3 Answer in brief.

1. Write the names of five components of health related physical fitness.

.....
.....

2) Write three main parts of an exercise session.

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

3) Which exercise should be selected to improve the cardiovascular endurance in daily exercise ?

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

Q. 4 Write your view.

1) Importance of fitness for healthy life.

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

2) Prepare your individual exercise or training program for developing physical fitness.

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

Supplementary Study:

Visit to your nearest college, arrange an interview with Physical Education Teacher/ Director of Physical Education and collect more information about Physical Fitness and note down them.

Objectives

- To be cognizant of the benefits of exercises.
- To understand the importance of warming up.
- To comprehend the importance of cooling down.
- To fathom the effect of exercises on various body systems.

Our ancestors have been telling us for centuries the need for exercise. The deadly coronavirus pandemic has created a fear with regards to health. The emergence of such diseases in the future is inevitable. To overcome such emergencies, the body's defense mechanism is its immune system. Regular exercise helps strengthen the immune system.

So, let us learn about exercise with a scientific approach.

1. Exercise

Exercise is the planned, structured, repetitive and purposeful movement of the body which is designed to improve or maintain physical fitness e. g. pushups, squats, running, etc. All the above factors should be considered to get the benefit of any exercise.

2. Importance of Warm Up

The body must be prepared to perform any exercise. This requires stimulation of the joints and muscles. Generally, sport or a fitness program requires vigorous physical activity. In preparation, all body systems and organs need to be activated

to work at an intense level. A proper warm up prepares the individual to perform efficiently without hurting.

Thus, warming up of the body before a workout:

- Improves range of motion in joints, flexibility of muscles and ligaments.
- Reduce the chances of injuries.
- Psychologically prepare the individual for the activity
- Improve reflexes.

Hence, warm up should be an integral part of daily exercise. Every physical activity, exercise or game should always begin with a proper warm up.

3. Cooling Down

After any type of training involving physical exercise or playing sports a cool down is must. Cooling down is necessary to:

- Gradually bring the heartbeat to normal.
- Bring the elevated respiratory rate to normal.
- Reduce the fatigue experienced in the muscles.
- Bring to normal the various systems of the body.

4. Importance of regular exercises

- Controls and maintain the weight.
- Maintain a healthy and symmetric physique.
- Increases the physical abilities.
- Exercise increases the strength and flexibility of the body.
- Improves functioning of the body's internal systems – respiratory, digestive, circulatory, etc.

- Cholesterol levels is regulated.
- Toughens and strengthens the body.
- Increases immunity.
- Reduces mental stress and keeps the mind refreshed.
- Increases efficiency in daily work, boosting self-esteem.
- Reduces sluggishness and enables sound sleep.

5. Effect of exercise and training on various body systems

Have you ever observed or recorded changes in your body while exercising? Running causes rapid breathing and increased heart rates. The body experiences pain or soreness. One or more such effects are experienced by the body, both, while or after exercise. Now you may wonder, why these changes are happening in the body?

When exercising, the body needs additional energy as the muscles need to do the extra work. Various systems in the body has to work to provide this additional energy. The body's circulatory system, respiratory system and muscular system work together to provide the excess energy required during exercise

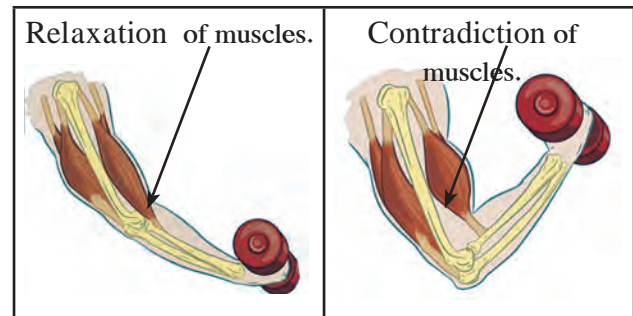
The muscles need more oxygen when exercising. Therefore, the respiratory system increases respiration rate and circulatory system increases the rate of blood circulation. This allows for large amount of oxygenated blood to be transported to the different parts of the body that need oxygen. Isn't this all fun? So, let us learn the changes that take place in the body due to exercise.

1. Muscular System

The continuous contraction and relaxation of the muscle fibers allows for

various movements in the body. This requires constant supply of oxygen to the muscle.

Therefore, blood flow towards the muscle is increased in the body. Exercises like weight training increase the size of the muscles as it involves repetitive contraction and relaxation of the muscle involved



During exercises, multiple muscle groups are used and they need to work efficiently. Exercises helps muscles to perform better. Exercising increases number and size of mitochondria in the muscles. Due to this, the exchange of gases between the blood vessels around the muscles increases. Stretching exercise decreases the amount of lactic acid (which is a by-product created during exercise). If this lactic acid gets stored in the muscle, pain and stiffness of muscle is experienced and may cause injury.

2. Cardiovascular System

Deoxygenated blood is transported from heart to the lungs, where oxygen is mixed with the blood in the respiration process. This oxygenated blood is transported back to the heart and is then pumped to the different parts of the body. During exercise, the need for oxygen elevates heart rate (number of heartbeats in one minute), to ensure the supply of oxy-

generated blood. Blood circulation in the body increases temporarily (from 5 to 6 liters of blood to 20 to 25 liters) during exercise.



It is important to know that exercising regularly over a period will improve the efficiency of the heart. The heart rate is reduced and the efficiency in blood circulation is still maintained despite the lower heart rate. Resistance training makes the right ventricle of the heart muscle thicker, which helps the heart to contract forcefully and allows more blood to be pumped from the heart in one beat (contraction). Regular exercises like running, swimming, cycling increases size of left ventricle. This allows for increased amount of oxygenated blood from lungs into the heart. It means that the body is now supplied with more oxygenated blood.

Such efficiency of the cardiac muscle is seen in those who regularly exercise or are sportspersons and such a heart is called as 'Athlete's Heart'. The product of the heart rate and amount of oxygenated blood pumped out in one-minute forms the 'cardiac output'. This output is generally more in players and

those who regularly exercise as compare to a layperson.

3. Respiratory System

The body needs more oxygen during exercise and in order to fulfil this need, a lot of changes take place in the respiratory system. Normally, in resting time the respiratory rate is 12 to 14 breaths' a minute and is called the respiratory rate.



While exercising, the need for oxygen increases temporarily, which causes respiratory rate to increase as long as exercise continues. Prolonged training can increase the depth of respiration. It is the volume of air entering the lung during a single breath. Regular exercising reduces the rate of respiration and increases the depth of respiration.

Prolonged training improves the respiratory system allowing more air to be carried into the lungs. The air sacks in the lungs exchange gases i.e. oxygen and carbon dioxide, more efficiently. The efficient absorption of oxygen into the blood in turn increases the supply of oxygenated blood to the body.

Do you know?

- Obesity is a disease of the body. This reduces the vitality in the body. An obese person cannot perform a physically active and heavy work. At the same time, normal work causes the body to fatigue easily. Uncontrollable obesity becomes a cause for many diseases. An obese person indirectly invites diseases like heart ailments, blood pressure and diabetes. Lack of exercise is one of the causes of obesity. The reasons for no exercise range from lack of time or space available, sedentary work occupation, reduced mobility and restraint of the mind.

Exercise

Q. 1. Fill in the blanks with appropriate words.

- 1) The year 2020 has brought about the deadly pandemic.
- 2) Any sport or fitness program requires physical activity.
- 3) should form an integral part of daily exercise.
- 4) After any type of exercise is a must.
- 5) The muscles need more during exercise.

Q. 2. Match the following.

'A' Group

(Answers)

'B' Group

- | | | |
|---------------------|---------|---|
| 1) Corona Virus | (.....) | a) mental preparation of sport. |
| 2) Warm up | (.....) | b) to bring the tired muscle to normal. |
| 3) Cooling down | (.....) | c) increase in physical ability. |
| 4) Regular Exercise | (.....) | d) to increase the immunity against the disease |

Q.3. Write whether true or false.

1. The body should be prepared before doing any exercise.
.....

2. Cooling down after exercise is not necessary to get the body back to normal.
.....

- 3) The cholesterol level in the body gets uncontrolled due to regular exercise.
.....

4) The heartbeats come to normal with a cooling down.

.....

5) The cardiac output of a person doing regular exercise or a player is more than that of a normal person.

.....

Q. 4. Write in short.

1) Write down the importance of warm up.

.....

.....

.....

2) Why cooling down is necessary after exercise?

.....

.....

.....

3) Write the benefits of regular exercise.

.....

.....

.....

4) Why stretching exercises are necessary after exercise?

.....

.....

.....

Q. 5. Write your view

1. What will you do to protect yourself from Corona Virus?

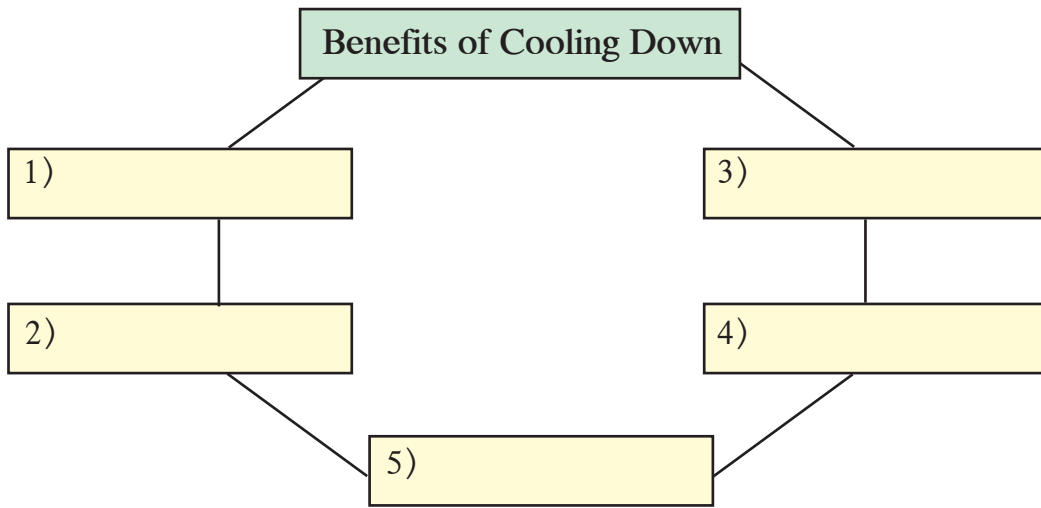
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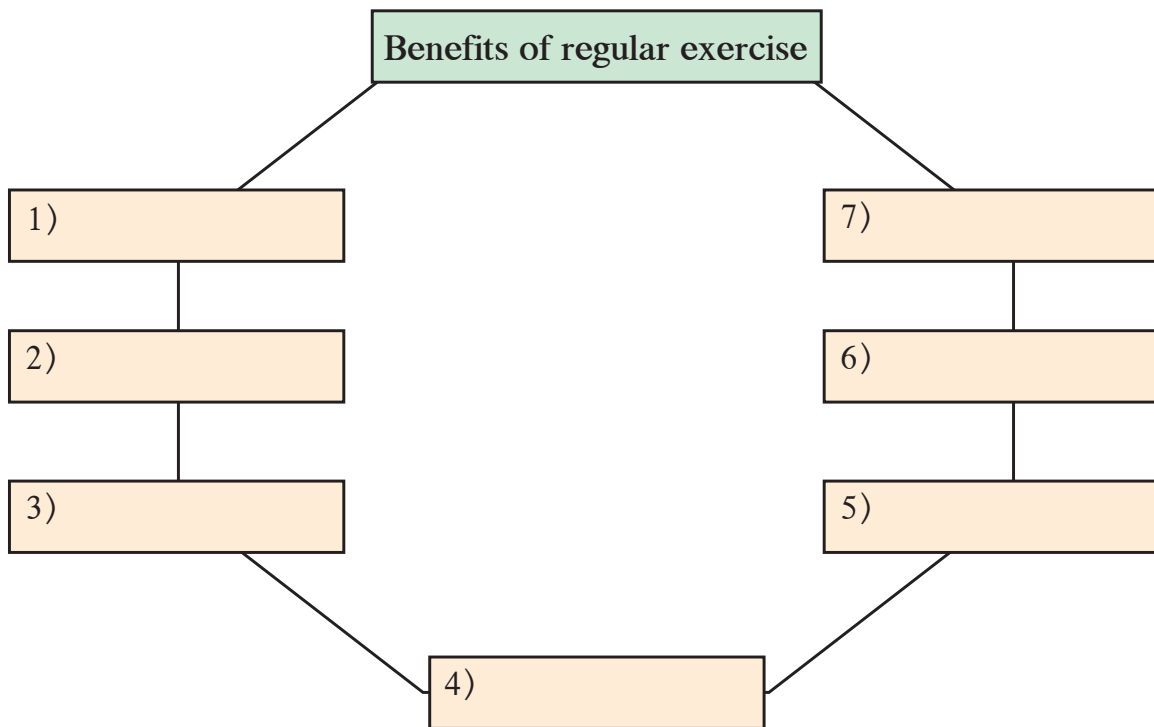
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Q. 6. Complete the following figure.

1)



2)



Supplementary Study :

- 1) Learn about the various joints that are useful for facilitating the movement of the human body using the internet.
- 2) Record the functions of various organs and system in the human body by browsing the internet.



Objectives

- To comprehend the information about Ashtanga Yoga.
- To understand the need and benefits of Yoga.
- To realize the benefits of Pranayama.

Yoga is a timeless practical science that shows the way to the physical, moral, mental, and spiritual, health of human race. It is a lifestyle developed since ancient times in the Indian culture.

In today's age of technology, mechanization has led to the deterioration of human health. There is a need to make conscious effort to maintain good physical and mental health. Practicing yoga regularly will help maintain your health.

The word 'Yoga' is derived from the Sanskrit root word 'Yuj'. Yoga is about joining and uniting.

'Ashtanga' of Yoga

There are different ways of practicing yoga. Here, Ashtanga yoga i.e. Rajyoga, the eight limbs for the purification of body, mind and soul, will be studied.

In order to develop various aspects of human personality, it is necessary to know the eight limbs of yoga and behave accordingly. These limbs are yama, niyama, asana, pranayama, pratyahara, dharna, dhyana and samadhi.

1. Yama : Yama means restraint. It deals with ethical standards,

individual's moral conduct or behaviour. There are five yamas:

- a) **Ahimsa**– 'A' means no. 'Himsa' means to kill or body pain. Not to hurt anyone by words, mind and body.
- b) **Satya** – Speak the truth. Truth is the best way of behaviour.
- c) **Asteya** – 'A' means no. 'Steya' means to steal. Asteya means not to steal.
- d) **Bramhacharya**– Self-restraint of body, words and mind.
- e) **Aparigriha**– 'A' means no. 'Parigriha' means to store. Aparigriha means not to hoard or collect things.

2. Niyama: Niyama is for the purification of soul. There are five types of Niyama:

- a) **Shoucha** – Shoucha means holiness. To keep the body clean and pure.
- b) **Santosha**– Satisfied and happy attitude.
- c) **Tapas**– Tapas means fire or heat, persistence. It means to increase the physical, mental and intellectual fire. Persevering in any situation to achieve a goal in life is Tapas.
- d) **Swadhyaya**–'Swa' means self, 'adhyay' means study. Swadhyaya means study of one self. It means to introspect oneself to study self-behaviour.
- e) **Ishwara-pranidhana** – Trustful surrender of ones actions, karmas and will power to God.

3. Aasanas: The position in which you experience stability and happiness is called asana. Asana is a stable and

pleasant pose. Because of asanas the mind and body are rejuvenated and disciplined.

4. **Pranayama:** The meaning of Pranayama is regulation of prana. Prana is the life force in breath. Ayama is to extend, stretch, increase the length or regulate. Pranayama means to hold or control the breath. It regulates all respiratory processes.
5. **Pratyahara:** To conquer the senses. The individual becomes free from external influences and internally focussed. This state called as 'Pratyahara'. It stabilizes the fickle mind and senses.
6. **Dharana:** Concentrate on the goals and get absorbed in them. This absorbed state means 'Dharana'. It trains mind to focus only on the object without distraction.
7. **Dhyana:** Dhyana is sustaining concentration of mind on singular object. It refers to meditation and is focussed inward.
8. **Samadhi :** The extreme of Dhyana is Samadhi. When the state of Dhyana is so deep and the two aspects, the meditator and dhyana disappear and only the goal remains, it is the state of Samadhi.

The first five limbs of 'Ashtanga', the Yama, Niyama, Asana, Pranayama and Pratyahara are called 'Bahiranga Yoga'. The next three limbs, Dharana, Dhyana and Samadhi are called 'Antaranga Yoga'

Importance of Yoga:

Study of Yoga is subjective and introspective and so it has great educative value. It brings about self-realization, which could change ones attitude towards life.

Benefits of Yoga:

1. Improves the function of internal organs of the body.
2. Increases immunity
3. Improves blood circulation
4. Spine becomes flexible
5. Body become flexible and agile
6. Increases the enthusiasm for work
7. There is no fatigue
8. You get peace of mind
9. Helps to improve concentration
10. Awareness of maintaining appropriate body posture is created.

Need of Yoga:

Nowadays, there is a considerable awareness about pollution. This pollution is of the external nature. The pollution in nature is manmade, but what about pollution within an individual, the internal pollution? i.e. the pollution of conduct and the pollution of thought. Whenever body, mind, concentration, will, thoughts get polluted, there arises the need for purification of the internal being. Yoga helps to achieve this purification.

Rituals and intellect modify an individual's thoughts, acts, work and deeds. Hence, every deed should be based on purity of heart and maturity. Today's fast-paced life is filled with stress and haste, taking us away from our very basic nature. This is evident from the disparity between our conduct and thoughts. In all areas of life, social and family, people are distancing from each other. The simplicity in life has been destroyed. Dissatisfaction is increasing and patience is lost. Living a tidy simple life and being honest is almost impossible now. When introspecting there is the realization of the internal pollution. Vices like envy,

jealousy, greed, anger has eroded the individual of the foundation of happiness. The greed for happiness and anger resulting from poor tolerance levels is a life-threatening condition. The pursuit of materialistic happiness rather than spiritual happiness is the root cause of mental illness. It is important to know that satisfaction lies in pure spiritual bliss. Therefore, there is a great need of yoga to eradicate these mental illnesses.

Pranayama

‘Prana’ means breath, respiration, life, life force and ‘Ayama’ is to extend or increase the length. To regulate the respiratory process.

From the time an individual is born, breathing is automatic. The process of respiration can occur in different ways depending on the situation. Respiratory flow can occur based on the needs and conditions of the body, mind and internal organs. Sometimes breathing is fast, sometimes slow and sometimes shallow. Breathe can also be held for short duration after inhaling or exhaling.

Basics of Breathing

Breathing occurs naturally. It can also be done voluntarily in a limited form. Respiratory system works to meet the oxygen needs of the time. Normally, awareness is poor when breathing naturally. Awareness sets in when work or exercise increases and the speed of respiration is elevated to meet the increased demand. This means that an increased need for oxygen or a disturbance in its supply diverts attention to breathing.

Breath is the great connector between body and mind. Similarly,

respiration, body posture and thoughts are interconnected. If breathing is normal and slow, automatically mind becomes calm and peaceful.

Breathing is a natural process. Humans have 15 to 17 repetitions of inhalation and exhalation in a minute. In Pranayama, breathing becomes controlled so automatically mind is also controlled. Respiration is satisfied through the process of inhalation and exhalation. An attitude of contentment can be cultivated by connecting self with awareness to the process of inhalation and exhalation. Therefore, the key to satisfaction is ‘Pranayama’.

In this chapter lets learn Ujjayi, Shitali and Anulom-Vilom pranayama along with one cleansing process i.e. Kapalbhati.

1. Ujjayi Pranayama

It is one of the type of pranayama. It involves the process of inhalation, inner retention, exhalation, outer retention. In pranayama inhalation and exhalation should be voluntary for the beginners to avoid retention of breath. There should be constriction at throat and hissing sound should be produced while doing Ujjayi.



While practicing it one should sit in any comfortable asana i.e. any meditative

posture. It can be practiced in standing position. Generally ujjayi pranayam is done in sitting position.

Method to practice Ujjayi in standing position: (For Information)

Stand with legs together. Keep your hand on waist, elbows slightly pulled back and chest lifted. Inhale with the constriction at the throat with hissing sound. During inhalation do not allow the abdomen to bulge out, let the chest expand. After completing inhalation, during exhalation chest should go inside and abdomen should remain steady. Proportion of inhalation and exhalation should be 1:2. If it is difficult to maintain, simply practice controlled inhalation – exhalation for few days.

Starting situation: Attention

Action:

1. Put your hands on waist.
2. Inhale with hissing sound and the constriction at throat, tummy should be tucked.
3. Exhale in the same manner.

Do's:

1. Inhalation and exhalation should be slow.
2. Proportion of breathing is to be 1:2 e.g. if you inhale for 5 seconds try to exhale up to 10 seconds.
3. Do not allow the abdomen to bulge out during inhalation and exhalation as well.
4. Breathe through both nostrils.
5. Sit in any meditative posture.

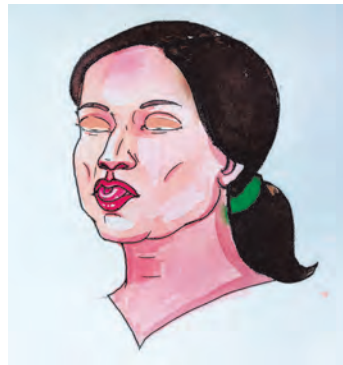
Dont's :

1. Avoid shallow and fast breathing.
2. Do not give any pressure for breathing.

3. Do not continue practice in case of discomfort.

Sheetali Pranayama:

Roll up the tongue, shape it as a tube, and inhale through it. Then close mouth and exhale through both nostrils. It completes one round of sheetali pranayama.



Action:

1. Open your mouth and take the tongue out.
 2. Roll the tongue and shape it as a tube.
 3. Inhale through the tube of tongue.
 4. Take tongue inside and close the mouth.
 5. Exhale through both nostrils.
- Note: Always exhale through nostrils.



(Pranav Mudraa)

Anulom – Vilom pranayama:

It is one of the type of pranayama. In this pranayama, breathing is controlled.

Anu = towards direction, **Loma** = hair, **Anuloma** = towards the direction of the hair. The hair in our nose is designed to filter our breath naturally. The direction

of these hairs is in inside direction. Hence breathing in the direction of the hair is called Anulom.

Vilom = in the opposite direction of the hair. It is also known as Pratilom. Hence exhaling is called Vilom.



In this pranayama, close the right nostril with right hand thumb. Inhale slowly through the left nostril. Now remove your thumb from right nostril and exhale. When exhaling use middle finger to close left nostril. Now inhale with right nostril and exhale through left nostril closing right nostril by thumb. This is one repetition of Anulom-Vilom. Ratio should be 1:2



As mentioned in Ujjayi Pranayama it is advisable to avoid holding the breath in Anulom - Vilom. Hence inhalation

(Purak) and exhalation (Rechak) should be controlled. You should close the other nostril to inhale through one nostril.

In Yoga when practicing pranayama, one has to use the other three fingers without touching the nose with index and middle finger. For this one has to close the index and middle finger and open the other three fingers. Use your thumb to close the right nostril and last two fingers to close left nostril. Sit in comfortable position while keeping the body straight.

Inhale slowly from left nostril while closing the right nostril with the thumb. Close the left nostril with last two fingers and exhale through the right nostril and inhale through the same nostril, close it with the thumb. Release the fingers and exhale through the left nostril. Do this 5-10 times or as many times possible. The tummy should not bulge while inhaling. It should be pulled in. Ratio of inhaling and exhaling should be 1:2

Body position: Sit in swastikasana, padmasana or any comfortable meditative asana.

Action:

1. Sit erect, rest your hands on respective knees.
2. Take your right and fold index and middle finger. Thumb and last two fingers should be straight. It is called Pranav mudra.
3. Close right nostril by thumb and inhale slowly by left nostril.
4. As you complete inhalation by left nostril, close it by last two fingers and exhale slowly by right nostril.

5. Now keep your left nostril close only and inhale by right nostril.
6. Now close right nostril by thumb and exhale through left nostril by removing last two fingers from it.
7. Keep rotating it for five to ten times as you should feel comfortable.
8. Now take your hand down and release the asana.

Do's:

1. Inhalation and exhalation should be slow, calm and quiet.
2. Tummy should be tucked while breathing.
3. As we inhale for five seconds try to exhale up to ten seconds.

Dont's:

1. Do not close your nostrils very easily, do not press fingers on it.
2. Do not make any sound of breath during inhalation and exhalation.

Cleansing process- Kapalbhati:

This is one of the kriyas of purification among the other kriyas in yogic science. This purification is mainly done through controlled use of breathing. This kriya is very easy to perform. It is important to exhale rapidly through the nose during cleansing process. The tummy should be pulled in rapidly for this and left loose after every exhalation. Means the breath is taken automatically. The movement of the tummy in this kriya is like the bellows of blacksmith. Hence, this kriya is called as Kapalbhati. The use of chest should be avoided in this kriya.

Position: Sit with your leg stretched

1. Place the right foot on the left thigh
2. Left foot on the right thigh

3. Place both the hands on the knees
4. Avoid movement of the chest
5. Exhale rapidly through the nose and pull the tummy inside
6. Keep the tummy loose and inhale easily
7. Do 10-12 repetitions of 5th and 6th process
8. Remove the hands over the knees
9. Remove both the feet over the thighs and sit with your legs stretched.

Do's:

1. Keep your backbone straight.
2. Chest should be stable while breathing.
3. Keep your face relax while exhaling.
4. Remain composed while breathing.

Dont's:

1. Do not give excess jerk to abdomen while exhaling.
 2. Do not practice after meal.
 3. Do not practice with speed until you get good command on breath.
- Repeat 10-15 times.



Note: Take tummy in for exhaling and out for inhaling.

Exercise

Q. 1. Fill in the blanks appropriate word.

1. The origin of yoga is in _____ culture.
2. Dharana, Dhyana, Samadhi these three limbs are called _____.
3. The study of oneself by self is called _____.
4. The state that gives stability to the body and happiness to the mind is called _____.

Q.2. Match the following:

'A' Group

Answers

B' Group

- | | | |
|----------------------|-------|---|
| 1. Tapas | _____ | a) Study of oneself by self |
| 2. Ishwar Pranidhana | _____ | b) to increase ones physical, mental and intellectual fire. |
| 3. Santosha | _____ | c) Trustful surrender of ones karma and will power to God |
| 4. Swadhyaya | _____ | d) Satisfaction and happy attitude |

Q.3. Write whether true or false:

- 1) The digestion system works to meet the need for oxygen.
.....

2. Asteya means not to steal.
.....

3. Asana enhances health and rejuvenates the body and mind.
.....

Q.4. Write in one sentence.

1. Name the Sanskrit word from which Yoga is derived?
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.....

2. What is Dhyana?
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3. Which are the five limbs of Bahiranga Yoga?

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4. What is Pranayama?

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Q.5. Write in brief.

1. Write the benefits of Study of Yoga.

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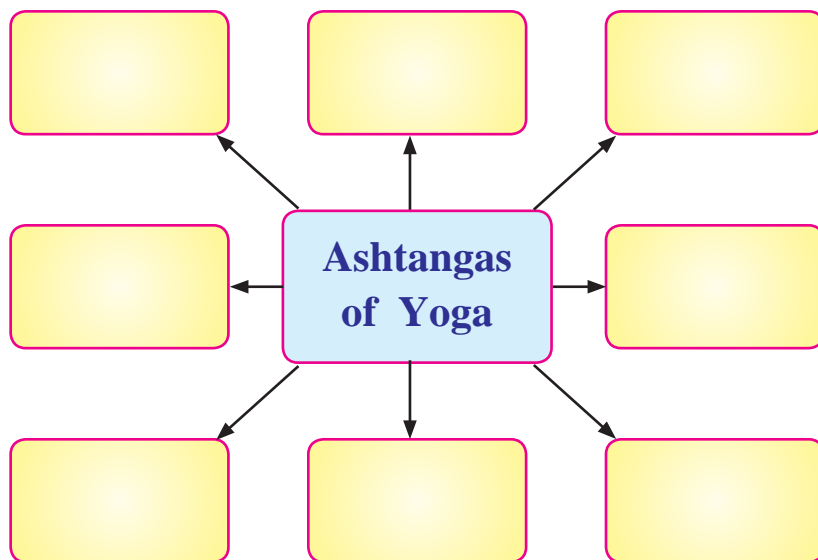
2. Write information of Asthanga Yoga.

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3. Explain the basics of breathing.

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Q.6. Complete the diagram below.



Q.7. Explain your views.

1. Explain your views on Pranayama, 'The key to social health'

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2. World Yoga Day - 21st June



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Supplementary Study:

1. Find out about the imaginary energy centers or chakras in the body through the internet.
2. Find out information about World Yoga Day and celebrate it.



Objectives

- To get information about the food nutrients, its sources and functions
- To know importance of Balanced Diet
- To know about energy sources for Sportsmen.
- To know energy requirements according to sports and information regarding diet.
- To know importance of maintaining balanced water level of sportmen.
- To know the relationship between diet and behaviour.

Diet is an important factor for good health. Adequate diet is essential for the growth of the body and good health. In fact, it is the food that fuels your body to function smoothly. Your health depends on the diet you eat.

The food we eat is called diet. Your diet majorly includes cereals, legumes, oilseeds, vegetables, fruits, milk, dairy products, eggs, meat, fish, oil, ghee, sugary substances, spices, etc. Although there are many types of nutrients, the

basic nutrients are minerals and water. The proportion of each of these components varies according to the quantity of the substance. The process of taking nutrients into the body and using them is called 'nutrition'. Nutrition is the study of nutrients in food.

Need of Diet and Nutrition

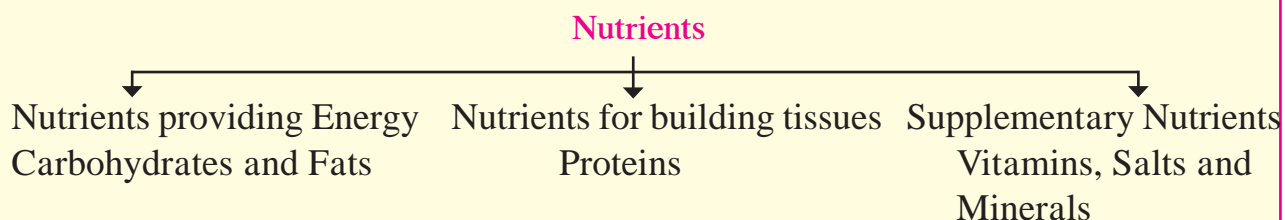
- * Energy for physical effort and movement.
- * For functions of cells, tissues and glands.
- * Growth and development of the body.
- * To maintain body temperature.
- * To develop immunity in the body.

Classification of Nutrients :

We receive many components from food which are called as nutrients. The nutrients are classified into two groups:

- 1. Staple Nutrients / Macro-Nutrients:** Carbohydrates, Protein and Fats are major nutrients and are required in higher quantities in the body.
- 2. Micro Nutrients:** Vitamins, Minerals these are required in lesser quantities in the body. These are called as Micro-Nutrients.

Classification of Nutrients according to its functions



Carbohydrates:

They perform important function of supplying energy to the body. From one gram of carbs one receives four kilocalories of energy. From the total energy required for the body one should receive 55-60 % from Carbohydrates.

We get carbohydrates From the following foods Cereals like Cow, rye, millet, maize, rice, etc. One gets carbohydrates from Fruits like mangoes, grapes, bananas, apples, potatoes, sweet potatoes and milk and milk products. After digestion, they are converted into glucose. Excessive amounts of glucose are stored in the form of glycogen. When body is deprived of food, this glycogen is broken down and re-formed into glucose and the body gets the required energy.

Protein:

It is essential for nourishment, growth and degeneration of the body as well as for strengthening the bones. four kcal of energy is obtained from 1 gm of protein. About 15% of the total energy requirement should come from protein sources. Pulses, legumes, groundnuts, cashews, almonds, apricots, milk, dairy products, meat, fish, eggs are other sources of protein.

Did you know?

One requires sufficient energy for daily routine work, maintaining body temperature, metabolism and support growth process. The Protein from our

daily diet are made from amino acids. They are needed for many functions that living beings perform. Nearly half of your body Protein are in form of muscles. The quality of the Proteins depends on the amount of essential amino acids available in the food.

Fats:

Fats are essential for energy production, controlling body temperature, lubrication of the joints and nourishment of the body. About 25-30% of the total energy you need should come from Fats sources. Oilseeds, Coconut, Oil, Ghee, Butter, Milk, Meat, Fish and Fish Oil are the main sources of Fats. Nine kcal of energy is derived from one gram of Fats.

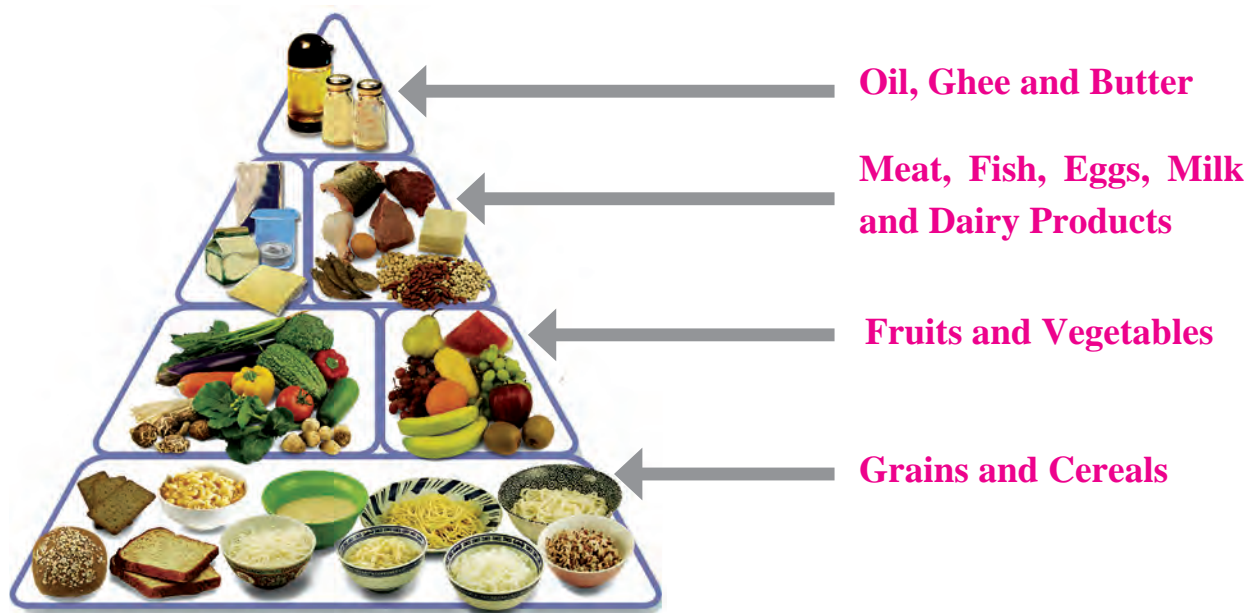
Minerals:

Minerals are required for good health and growth of body, teeth, bones and nerves. Green leafy vegetables, legumes, cashews, almonds, dates, sesame, pulses, eggs, meat, fish, marine and other sources are rich in minerals like calcium, phosphorus, iron, iodine, potassium, copper, magnesium, sodium, etc.

Vitamins:

Vitamins are essential nutrient for proper growth and development of the body. Lack of vitamins leads to many disorders. The body receives the required vitamins from a wide variety of vegetables and fruits such as green leafy vegetables, broken grains, bananas and animal products like eggs, milk, butter, meat and fish.

Food Pyramid



Types of Vitamins:

1. **Fat soluble Vitamins:** A, D, E and K

2. **Water Soluble Vitamins:** B (B1, 2,3,6,12) and C

Water:

Body contains 65-70% water which is essential to maintain the body temperature. Water is essential for digestion, absorption and to transport essential nutrients and also for excretion.

Balanced Diet:

A Diet consisting of a variety of different types of food and nutrients like carbohydrates, proteins, fats, vitamins, minerals and water in adequate amounts for good health is balanced diet.

- * A balanced diet provides good nutrition to the body.
- * One gets the required amount of calories on a daily basis. As a result, one gets better physical and mental health.

* Develops the ability to work.

* Increases immunity

A normal sedentary Indian requires 2500 Kcal energy. The individual should get his energy from 55-60% Carbohydrates, 10-20% Protein and remaining 25-30 % from Fats. Adequate balanced diet is required for the athletes so that they do not get tired due to the energy expended for daily exercise and practice and the energy needs to be replenished faster.

Diet Plan for Athletes:

The most important factor in achieving the highest level of performance for any player is the weight of the player. Similarly, the performance depends upon the amount of body fat and water, the capacity of muscles, respiratory and circulatory system. Diet depends on factors such as the game of the athlete, his weight, his age, level of training and environment. It is important for the athlete

to increase the amount of carbohydrates in the diet in order to produce an abundant amount of glucose. This is because the extra glucose is transformed into glycogen. At the same rate at which energy is used by the muscles, the same amount of energy is supposed to be generated which depends on capacity of muscles, ATP produced in muscles and similar processes. Glucose and Glycogen produces ATP. Athletes involved in sports requiring more muscles and efficiency should consume high-carb foods in larger quantities in their diet.

Only 5 to 15% of the total energy required by the body is derived from protein. Even if you exercise or play until you get tired, it does not affect your protein metabolism. Athletes require protein to develop muscles during training period.

In recent times an increase is seen in the use of these vitamin supplements for weight gain. However, according to physicians, such forms are harmful to the body. This can have a direct effect on the brain. Therefore, the diet should be proper. It is beneficial for the players as well as the general public to have a diet without taking any shortcuts. So don't neglect diet.

Types of Sports and Energy requirements

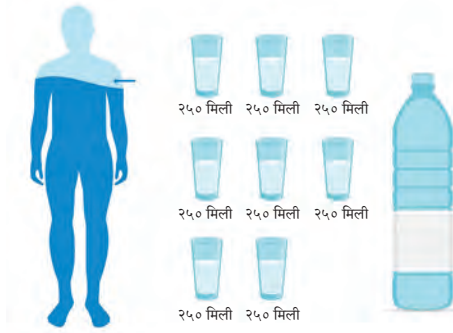
The need for energy increases according to the type of sport including more movement and more physical fitness. Athletes need to meet their

increased energy needs by taking adequate amounts of nutrients in their diet to enhance their performance. Athletes put in a lot of effort during training and they spend more calories.

Players work hard while training and much calories are used for energy. If more calories are being spent, then the same amount of calories should be consumed by the players. The proportion of nutrients i.e. Carbohydrates, Proteins, Fats, Vitamins and Minerals should be increased considering the increase in expenditure of Calories.

Water Balance in the Body

After activity there is increase in body temperature and to decrease the temperature, the body sweats. Even if the sweating is appropriate mechanism to decrease the body temperature one needs to take care that he doesn't get dehydrated due to the loss. The water loss due to sweating causes fatigue. If there is decrease in 2% body weight during activity it results in decreased muscular function and water needs to be replenished whenever athlete has the opportunity i.e. pre-during-post competition and also during breaks. It is beneficial for athletes to consume glucose water, lemon juice and sports drinks to prevent fatigue and generate energy. To prepare Sports drink at home add 1 tbsp salt + 4 spoon glucose + half lemon to 1 litre of water. It is important to consume adequate amount of water in sports of high sweating and high temperature.



Better Health through Diet

To achieve better health through Diet below mentioned things can be done:

- * The diet should be for health rather than for taste.
- * The duration between meals should not be less than three hours and more than 6 to 8 hours.
- * Dinner should be easy to digest. The duration between dinner and sleep should be minimum two hours.
- * Food should be fresh, hot and liquid/watery.
- * Include protein rich diet in case you are performing strengthening exercises.
- * Give priority to foods that are rich in fibre in your diet.
- * Your diet should include 25-30 gm sprouted pulses.
- * Consuming water in the morning, buttermilk in the afternoon and milk at night is beneficial for better health.

Diet and Behaviour

The conduct, thoughts and health of a person is the way he takes his diet. The diet we take determines the chemical

state of the blood. According to the research of Ayurveda and Yoga, human is considered to be meritorious.

- * **Satvik / Satvogun:** Enthusiasm, perseverance, toughness, Calm attitude, stability, etc.
- * **Rajas / Rajogun:** instability, volatility, anger, hatred, inflammation, etc.
- * **Tamisik / Tamogun:** lazy, sleepiness, aggressive nature, greed, jealousy, etc.

These are three qualities of human behaviour and similarly the food we eat contains three qualities.

- * **Satvik / Satvogun:** All sweet fruits, green leafy vegetables, vegetables, milk, ghee, honey, almond, pista and dates.
- * **Rajas / Rajogun:** legumes, fried foods, jaggery, sugary and fine flour
- * **Tamisik / Tamogun:** stale food, all meat, eggs, alcohol, tobacco and drugs.

For quality behaviour the individual should intake Satvik Diet. Considering the negative effects the Tamsik Diet is to be avoided.



**Satvik
food**



**Rajas
food**



**Tamisik
food**



Exercise

Q1. Fill in the blanks

1. Intake of Nutrients into the body and using it means
2. From 1 gm of Protein Kcal energy is received.
3. Players performing strengthening exercises should increase proportions of in their diet.
4. Normal sedentary individual requires Kcal energy daily.

Q2. Write only names

1. Factor regulating body temperature

.....

2. Fat Soluble Vitamins

.....

3. Energy-rich compound formed from Glucose

.....

4. Nutrient important for stronger bones

.....

Q3. Match the Following

Part A	Answers	Part B
1) Sprouted Food	(.....)	a) Temperature Control
2) Fried Food	(.....)	b) <i>Amrutann</i>
3) Water	(.....)	c) Vitamins
4) Micro-Nutrients	(.....)	d) <i>Vishann</i>

Q4. Answer in brief

1. Write the process to prepare Sports Drink at home.

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2. Write importance of Balanced Diet.

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3. On which factors the diet of Sportsmen depends?

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4. Classify Nutrients according to their functions.

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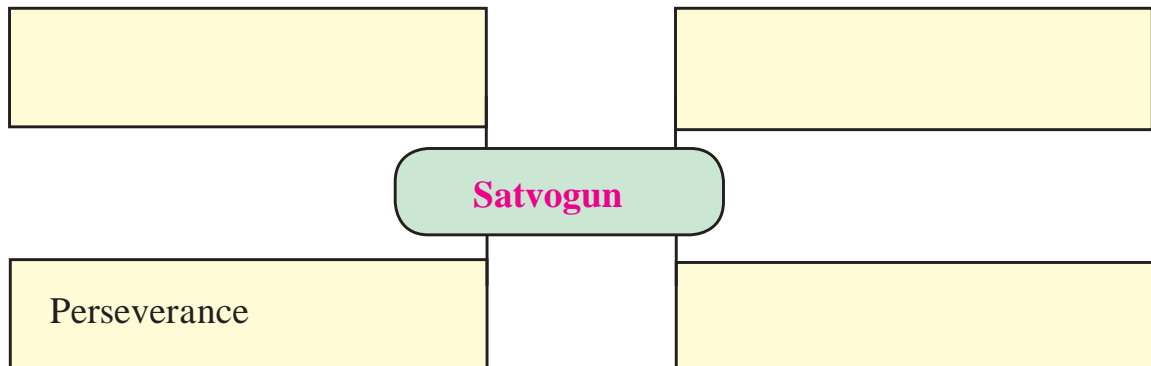
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Q5. Complete the following Diagram.



Supplementary Exercise:

- 1) Get information about different crops and food through internet.
- 2) Collect detailed information about Balanced diet.



Objectives

- Self-awareness.
- Maintain Physical Fitness.
- Enjoy life through active lifestyle.
- Match active lifestyle to the current facilities and amenities / lifestyle.
- Know the value of effort.
- Develop Creativity.
- Decrease the stress and tension in daily life.

Physical and Mental fitness is required to live a healthy, happy and energetic life. It is the need of today to inculcate Creative skills to live a disease free body and happy mind. 'Lifestyle is a special way of living daily life'.

Active lifestyle means to regularly participate in exercise or activities and if inactive then to consciously engage in physical exercise or active recreational activities. Today's lifestyle has become mechanical and sedentary in nature. Increase in luxury and speed and the competitive nature have increased the stress in life which affects both mental and physical health. The solution to this is to inculcate active life skills. Creative life skills means, to make good use of your free time from your daily routine by choosing an activity of liking and continue performing it. Some of the activities that

can be performed are specific sports and games, physical activity, dance, gardening, exercise of liking, etc. but one needs to spare time daily to perform the activity as it is important to be creative for better health. Happiness and fun is experienced from being active in your favourite activity. Making good use of free time through recreation one gets opportunity for creativity through valuing effort.

Through these activities different skills and capacities are developed and one becomes happy. Hence performing some activity of interest for lifetime is very essential for happy childhood, fitter adulthood and happy old age.

The lifestyle of an individual depends upon his interest and thoughts. The individual's development is depended on various physical, mental, intellectual, emotional, social, financial and other factors and they impact his lifestyle. For active lifestyle one should make judicious use of the scientific advancements as required and also make necessary changes as per the changes in environment. Following things should be inculcated:

1. Know yourself

Adopt such a lifestyle which will increase your self-confidence. Choose

such a physical activity or work that will bring both physical activity and pleasure. E.g. Favourite exercises, sports, hobbies. Regular physical activity should be done for physical well-being, peace of mind and adjustment of stress in life. Choose from a variety of hobbies, such as walking, running, cycling, swimming, dancing, aerobics, gardening or physical activity.

2. Increase Physical Fitness:

You must have surely thought about maintaining good physical health. In adolescence, if you adopt a healthy, energetic and healthy lifestyle, it will benefit you for the rest of your life. The benefits of an active lifestyle are that your body will be symmetrical, well-built, your skin and hair will look radiant. Exercise in order to achieve physical fitness. Exercise according to your age and preferences and keep yourself healthy. See if you can enjoy it and have no stress at all. Make sure you regularly engage in these activities. This will help you to make the most of your free time and save the value of your life. To increase health related physical fitness the fitness capacities have to be tested and studied. Find out in which of these abilities you are lacking and choose the right type of exercise to increase your abilities. Spend at least one hour daily playing a favourite sport or select other sub-disciplines involving more physical

activity. E.g. Aerobics, dance, traditional sports etc.

3. Make good use of your free time:

Most of the children are spending their free time on screen, eating junk and drinking sugary drinks, luxurious relaxation and inactivity and enjoy prank, sabotage or quarrel at home and feel joy. Children are unaware that this is nothing but an invitation to major illness and diseases. Choose activity for better health and wellness. Addiction, laziness and aim less activities do not give you better health. For better health and wellness one needs to perform activities regularly. Engaging in sports, physical activity, any hobby for health is very essential. This helps you too make good use of your free time, entertains you, and reduces stress.

4. Active during Weekly holidays:

Be creative and enjoy your holidays by engaging in hobbies and active work. Participate in special camps, go on trips, participate in adventures, keep the house and home clean and keep the environment good. Apart from this, you should participate in other activities with care and plan your day and stay active.

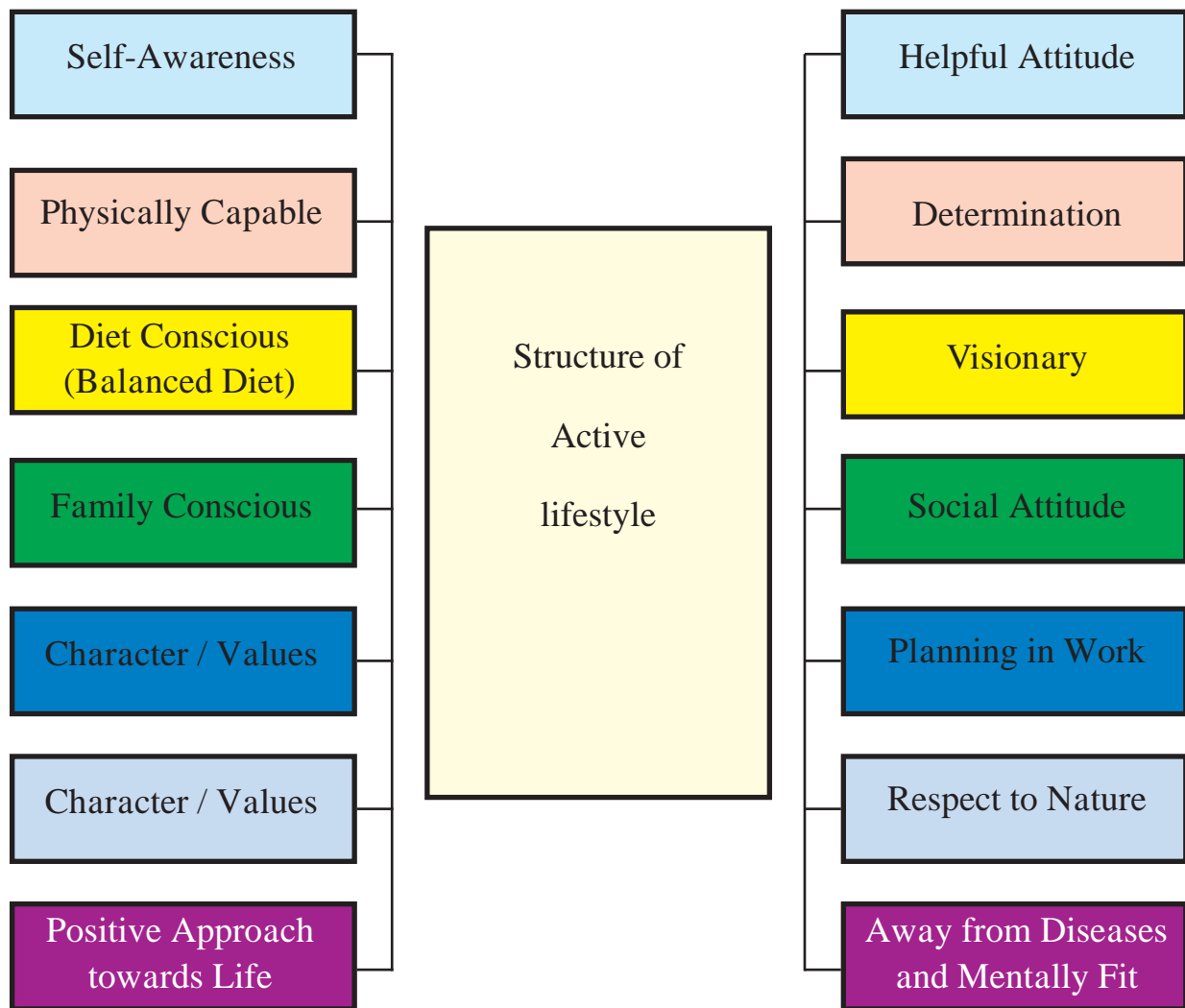
5. Know the Value of Efforts:

Effort in current era has decreased to a great extent due to which the value of efforts seemed to be lost. Effort brings physical and mental fitness but nowadays effort is compared to low self-esteem which is one of the prime reason for poor

fitness. Engage in daily household efforts like gardening and creating best out of waste will make you aware about the value of effort. In modern times problems can arise without any intimations and the best example is the COVID-19 pandemic which has made many individuals effortless. To overcome this pandemic better immune system is going to be vital. According to you what type of lifestyle is important – active or sedentary? Not only this, but we need to know which lifestyle

to inculcate to deal the new viruses and illnesses emerging in future. For this many scholars are suggesting various procedures for better immune system through various mediums. Infact physical fitness will result in energetic, happy and fresh mind. Hence healthy body is to be recognized as one of the basic needs of humans (food, clothing and shelter). Living an active, fit, and healthy life is in your hands.

With the help of following points one can adopt Active lifestyle.



Exercise

Q1. Fill in the blanks

1. To live a happy, energetic and healthy life it is necessary to have and fitness.
2. Each individual's lifestyle is depended on his and
3. In today's modern times, daily work has decreased.
4. power/strength in the body helps one to face any illness.
5. It is important to recognize body as one of the human's other basic needs.

Q2. Match the Following

Part A	Answer	Part B
1) Today's Lifestyle	(.....)	a) Good activities & Hobbies
2) Active Lifestyle	(.....)	b) Courage to face illness
3) Good use of Time	(.....)	c) Work of Mechanical and Sedentary nature
4) Better immune system	(.....)	d) Excellent Mental Health
5) Managing Stress & Tension	(.....)	e) Active for Health

Q3. Write if the following statements are True or False.

1. Lifestyle is a special way of living daily life.
.....
2. For better life one needs to change according to the change in environment.
.....
3. Good Health cannot be achieved through addiction, laziness and aimless work.
.....
4. In free time watching Television is advantageous.
.....

5. It is necessary to develop physical efficiency for physical fitness.

.....

Q4. Answer in brief

1. What can be done to remain active on holidays?

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

2. What should be done to develop/increase physical fitness?

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

3. What does it mean to know oneself?

.....
.....
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.....
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4. Which qualities are important to inculcate creative/active lifestyle?

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5. How to make the most of your free time?

.....

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Q5. Your Friend has become lazy and likes the currently available fast food available in the market. He has become obese due to this. He spends most of his free time watching Television. What are the effects of this on his future life? Suggest your opinion.

.....

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Q6. Fill the table given below based on your daily lifestyle.

My Daily Routine		
S.N.	Time	Daily Activity/Program
1)		
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		

Supplementary Study :

Collect information on individuals who through their planned active lifestyle have benefitted themselves and the society.



Objectives

- To get acquainted with people having motivational personalities.

Khashaba Jadhav (Wrestling)



Birth and Education

Khashaba Jadhav was born on 15 January 1926 in Goleshwar, a village in Karad taluka of Satara district in the state of Maharashtra. After primary education he took secondary education in Tilak High School at Karad from 1940-1947. In 1953 he graduated with an Arts degree from Rajaram College, Kolhapur.

Wrestling Training and Career

Khashaba had not taken any technical training for wrestling until his Physical Education Teachers, Gundopant Belapure and Baburao Balawde from Tilak High School, gave him training during his secondary education. He trained hard under their guidance. After passing Matric exam, he moved to Rajaram

College, Kolhapur. Nobody believed Khashaba to be a wrestler or player due to his thin stature and light weight. It was in Kolhapur that he started training in wrestling at the Motibaug Vyayamshala. He won the championship for his college in the wrestling competitions. His outstanding performance in many national and international events got him selected for the Olympic Games.

1952 Helsinki Olympics

Khashaba was very unhappy due to his failure in London Olympics, and so he started hard preparations for the next Olympics. He got up every morning and started running 11 miles. He used to do 2000 Dand & Baithakas (Push-ups and Squats) in one go. To go to Helsinki he faced major financial issues. The Principal of Rajaram College kept his bungalow on mortgage and gave Rs. 4000.

Finally Khashaba came to Helsinki on 11 July 1952. His first bout against Canadian Wrestler Poliquin was on 20th July. Khashaba skilfully showing wonderful skill defeated Poliquin in just few moments. In the 2nd bout he defeated Mexican Wrestler Vasutilus in just 10 seconds. Winning the 3rd and 4th bout easily Khashaba entered semi-finals. He went on to win the first bronze

for India in Olympics in the game of Wrestling.

Major Dhyanchand (Hockey)

When you see the players participating in various competitions from school level to national and international level of all castes, creeds and status with the sole intention of National Integration to win then the only religion for all the players is the sport.



Major Dhyanchand, born on 29th August 1905 and was the creator of the Golden period of Indian Hockey. His birth is celebrated as the National Sports Day in India. Major Dhyanchand was a real Patriot. At the finals held at Berlin, the Capital of Germany, between India and Germany the German Emperor Adolf Hitler was present for the match. In this match, The Indian hockey team, defeated the German team by 8-0 by skillful play of Dhyanchand, who was the captain of Indian team. Seeing the loss of the German Team in the presence of dictatorial Hitler, Hitler not only offered High Rank in the German Army but also big financial incentives if Dhyanchand decided to play for Germany instead

of India. Dhyanchand humbly rejected Hitler's offer saying that he valued his country more than the offered position and money. This is real Patriotism and What a Patriot!

Sportsman spirit and Players are nurtured by playing on the field. Sport develops the qualities of courage, perseverance, austerity, forbearance, discipline, fortitude, endurance, respect, readiness to work and develops the necessary playful attitude in life. As a result, curriculum values in school life are unknowingly adopted.

Sachin Tendulkar (Cricket)

Master Blaster Sachin Tendulkar is a mine of moral values.



Along with his coach Ramakant Achrekar, once Sachin went to a function. While going on the stage Achrekar's mic wires stuck into his feet and he stooped. Sachin immediately sat down and removed the entangled wires. You must have already known this event, but this is the

humbleness and courtesy shown by the the king of Cricket.

Sachin Ramesh Tendulkar is known as one of the best batsmen in the history of cricket. Sachin received the highest Indian Citizen's Award the 'Bharat Rantna'. He is the youngest and the first player to receive this award. Sachin has been awarded by Padma Vibhushan, Rajiv Gandhi Khel Ratna Award, Maharashtra Bhushan Award, Padmashri and Arjun Award. In 2008 Sachin received the Padma Vibhushan. After making his debut in 1989 Sachin has many records in batting to his name. He is not only the highest run getter but has scored most centuries in both One Day and Test Cricket. He is the only cricketer to score 14000 runs in International Matches.

Not only Indians but the whole world appreciates this cricketer and hence Sachin is known as the 'The God of the Cricket'. Sachin started his International career at the mere age of 16 and in the meantime has achieved many new records. He might be the first batsmen to score 200 in international cricket or score 100 International Centuries in International Cricket. Sachin has many such records to his name.

Mary Kom (Boxing)



Birth and Childhood

In the most eastern states of India farming is the main occupation and Rice is the major crop. There lives a tribe named Kom. This tribe is very educationally backward and has very few educated individuals. Mangte Tonpa Kom was living in Kangathei village in Churachandpur district of rural Manipur. He was not much educated and the financial situation of the house was not good.

On March 1, 1983, in the village of Kangathei in Churachandpur district, to the couple Mante Tonpa and Akham, was born a future World Champion Female. Her name was Mary. Her full name is Mangte Chungneijang Mary Kom. Mary's parents were very fond of her. Mary's childhood was spent playing, roaming and dancing.

Education

Kom studied at the Loktak Christian Model High School at Moirang up to her sixth standard and thereafter attended

St. Xavier Catholic School, Moirang, up to class VIII. There was no one to guide her in the house and was not good in her studies, but she regularly did her studies and took her studies seriously. During this time, she took a good amount of interest in athletics, especially javelin and 400 metres running. Considering her performance in Sports she was admitted in the Special Secondary School, Imphal for Tribals. She had her interest in Sports and hence she neglected studies and couldn't pass the SCC Exam. She had no intention to reappear for the exam from the same school. She passed SSC exam from NIOS, Imphal and also completed B.A from the college.

Start of Boxing Career

She was fond of athletics, long jump and high jump, other sports since childhood. She used to compete and win medals in these competitions. Seeing her agility, perseverance, and athleticism Dinko Singh inspired and guided her to create a bright future by taking boxing as a career. Mary Kom started training under Dinko Singh and he gave Mary the right motivation to get success.

Mary always felt that Boxing was not a career for women but during regular training she avoided conveying this to her parents. At the age of 15 when she was in 9th standard she chose this sport. In 2000 she participated in her first Manipur State Boxing Competition and won the

championship. She won Gold in her first competition and due to this she was famous. After reading her news in the newspaper for the first time her parents became aware of her mastery.

National Boxing Career

At the age of 18 her stature was very marginal. She weighed 45 kg and was 5.4" tall. She couldn't even speak Hindi or English fluently. She participated in many competitions like Asian Boxing Competition, indoor games, Asian Games, Asian Women Boxing Sports Competition, World Boxing Competition, Amateur Women Boxing Competition, Summer Olympics, etc. Women Boxing was introduced in Olympic Games in 2012 and it was a proud moment for India as Mary Kom won Silver medal in these Games. She is a member of Rajya Sabha. She is the only women boxer to win the World Amateur Boxing Women Championship 6 times. She also became the first Indian Women to win Gold at the Asian Games 2012 and Commonwealth Games 2018.

She participated in the 45-48 weight category at International Competitions. In London Olympics, 2012 this weight category was not included and hence she had to participate in 51 kg group. The 29 year Boxer, mother of 2 children, had to face Indonesian Marua Rahili who was 8 inches taller and 5 kg heavier than Mary. She won the bout 15-6 points. In the final

she faced Nicola Adams of UK. The UK boxer was benefitted by the home crowd. Even though loud and favourable cheering, clapping she didn't get distracted. She fought like a lioness and the play she did at difficult situations is highly appreciable. Nicola was tougher to defeat due to her higher weight, strength and height. Mary lost the bout by 11-6 point difference. She participated for the First time

in the Olympics and also won the Bronze Medal at the Games. Nicola appreciated her for the tough fight. Usually women tend to leave sports after marriage and giving birth to children. Women lose the sports skill after marriage is a wrong concept. After appreciating the effort of Mary Kom, Nikola quoted that 'Mary Kom is a great boxer who made me fight very hard for the medal'.

Exercise

Q1. Take an interview of any one of the following personalities living near you.

Player / Coach / Gym Trainer / Sports Physiotherapist / Sports Manager

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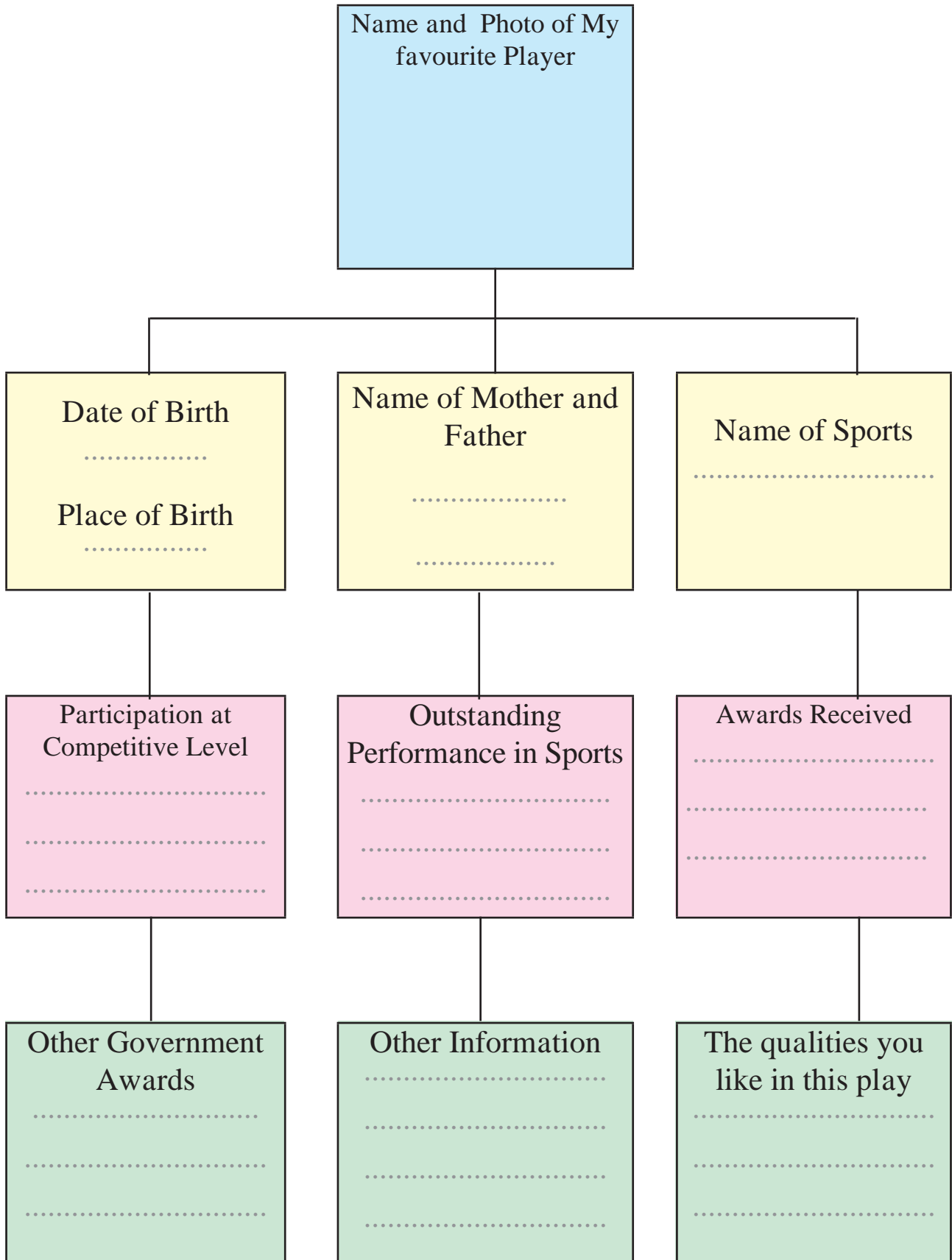
.....

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Q 2. Complete the following diagram



Supplementary Work :

Collect necessary information and complete the chart.

S.N.	Name of Player	Type of Sport	Sport Achievements	Awards
1	Harishchandra Birajdar			
2	Shantaram Jadhav			
3	Prakash Padukone			
4	Abhijit Kunte			
5	Dhanraj Pillay			
6	Shital Mahajan			
7	Virbhawal Khade			
8	Rahi Sarnobat			
9	Lalita Babar			
10	Smruti Mandhana			



Objectives

- To get information about various awards given by State and Central Government.
- To get information about objectives and nature of sports awards
- To gather information of Sports award winners

Players, organizers/activists, coaches from Maharashtra are felicitated by giving Shiv Chhatrapati State Sports Lifetime Achievement Award, Best Coach Award, Shiv Chhatrapati State Sports Award (Players, Organizer/activists), Eklavya State Sports Award (Specially abled), Adventure Sports Award and Jijamata Sports Award.

These awards are presented to felicitate renowned best sportsmen, sports activists and Sports coaches and similarly to people from Maharashtra who have worked very hard and given their service for years to the sports field.



Sports awards given by Government of Maharashtra

1. Shiv Chhatrapati State Lifetime Sports Achievement Award
2. Shiv Chhatrapati State Sports Award (Best Sports Coach) and Jijamata Award (Women Sports Coach)
3. Shiv Chhatrapati State Sports Award (Player)
4. Shiv Chhatrapati State Adventure Sports Award
5. Shiv Chhatrapati State Sports Award (Specially Abled Player)

1. Shiv Chhatrapati State Lifetime Sports Achievement Award

Objective of the Award

The objective of this award is to appreciate Sports Maharshi's like Senior Sportsmen, Sports Coach, Sports Organizer, activists and persons related to sports field who have offered everything for sports throughout their sports life for Maharashtra and achieved an incomparable place and have made a remarkable effect of their personality and sports working capability.

Information about the Award

This award is given to sports persons, sports coaches, activists/organizers and other persons from Maharashtra working in the sports field who are of 60 years of age or more, who have preserved the sports culture in Maharashtra by their incomparable work, made a remarkable

growth in sports and who have done a memorable achievement in raising the name of Maharashtra state in the country and international level or have done basic work in the sports field.

Nature of the award

The nature of this award is a Memento, Certificate, Blazer and Cash of Rupees Three Lakhs.

2. Shiv Chhatrapati State Sports Award (Best Sports Coach) and Jijamata Award (For Women Sports Coach)

Objective of the Award

The objective of this award is to motivate and appreciate the Sports Coaches working in the sports field in Maharashtra who have achieved an incomparable feat in creating players at the national and international level and also trying hard to raise the level of players at the national and international level.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees One Lakh.

3. Shiv Chhatrapati State Sports Award (Player)

Objective of the Award

The objective of this award is to appreciate the players of Maharashtra State who have achieved an exemplary performance in the sports field.

Information about the Award

A player is awarded Shiv Chhatrapati Sports Award directly if he has received 'Arjun Award' from the

Central Government.

Players who have achieved exemplary performance and raised the name of Maharashtra State and the country at national and international level are felicitated with this award.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees One lakh.

4. Shiv Chhatrapati State Adventure Sports Award

Objective of the Award

Any person above 18 years who has overcome adverse situations in water, field or air in adventure sports by risking his life and completed his task is called adventure.

The objective of this award is to felicitate outstanding achievement done by such adventurous players over 18 years from Maharashtra State.

Information about the Award

Adventurous Persons from Maharashtra State who have done an outstanding performance in Adventure Sports are felicitated with this award

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees One Lakh.

5. Shiv Chhatrapati State Sports Award (Specially Abled Player)

Objectives of the Award

The objective of this award is to felicitate Outstanding achievement in the sports field by specially abled players from Maharashtra State as per the definition of government rule 1995 for specially abled persons (equal opportunity, defense of rights and complete participation).



Information about the Award

Specially abled players from Maharashtra State who have achieved outstanding performance in the sports field at the national and international level are felicitated by this award.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees One Lakh.

Awards Given By Central Government

1. Dhyanchand Lifetime Achievement Award
2. Rajiv Gandhi Khel Ratna Award
3. Arjuna Award
4. Dronacharya Award
5. National Sports Motivation Award
6. Padma Award
7. Bharat Ratna Award

1. Dhyanchand Lifetime Achievement Award

Information about the Award

To motivate a player who has contributed to the sports field and who has been promoting the sports even after his retirement and has spent his entire life for the development of sports and those who have made a remarkable progress in the sports field for their country are felicitated by this award.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees Five Lakhs.

2. Rajiv Gandhi Khel Ratna Award



Information about the Award

Players who have done an outstanding and remarkable sports performance in the last four years are felicitated by this highest sports award.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees Twenty Five Lakhs.

3. Arjuna Award



Information about the Award

Players with outstanding performance at the international level are felicitated with this award.

Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees Fifteen Lakhs.

4. Dronacharya Award

Information about the Award

This award is given to motivate the coaches who have coached the players who have done outstanding performance at the international level and made the country proud.



Nature of the Award

The nature of this award is a memento, certificate, blazer and cash of Rupees Five Lakhs.

5. National Sports Motivation Award



Information about the Award

Those persons who have actually participated in the promotion of sports in the country by working in the different organizations, associations, federations and sports control board and have given their valuable contribution are honored by giving this award with a memento.

6. Padma Award

Information about the Award

Padma awards are one of the highest civilian awards and are of great reputation. These awards are given for

outstanding services in different fields. The criteria for this award is excellent work in the respective field having social work as one of the aspect.

Nature of the Award

The nature of this award is a medal and a certificate. These awards are given by the hands of the President of India.

1. Padmavibhushan Award Medal



Front View Back View

2. Padmabhushan Award Medal:



Front View Back View

3. Padmashri Award Medal



Front View Back View

7. Bharat Ratna Award



Front View Back View

Information about the Award

‘Bharat Ratna Award’ is the highest civilian award of our country. Cricket player Sachin Tendulkar is the only player recipient of this award. He received this award in the year 2014.

Note : There may be changes in the criteria, objective and nature of the awards given by the State and Central government. So, reserach for updates from time to time, for further study.

Exercise

Q1. Complete the sentence and rewrite by filling the appropriate word.

1. Shiv Chhatrapati State Sports Award (Player) is directly awarded after receiving _____ award from the Central Government.
2. Shiv Chhatrapati Sports Lifetime Award is given by _____ government.
3. _____ is the highest civilian award of our country.
4. Adventurous persons from Maharashtra State with special outstanding performance are felicitated by _____ award.
5. Women Sports Coach who strive to raise the level of players at the national and international level and help to increase the honour of the state are felicitated by giving _____ award.

Q2. Match the following

'A' Group

Answers

'B' Group

1. Award given to persons in various (.....) fields for outstanding service a) Bharat Ratna Award
2. Award given to Adventurous persons above 18 years from Maharashtra State (.....) b) Dronacharya Award
3. Highest civilian award (.....) c) Shiv Chhatrapati State Adventure
4. Award given to coaches (.....) d) Padma Award

Q3. Write whether True or False

1. Players under eighteen years are felicitated by giving Shiv Chhatrapati State Adventure Sports Award.
.....
2. Rajiv Gandhi Khel Ratna Award is an award given by the Central Government.
.....
3. 'Padma Awards' are highest civilian awards given for outstanding performance in various fields.
.....
4. National Sports Motivation Award is given to players for the excellent performance at the national level.
.....
5. Player who has given outstanding performance at the international level is felicitated by 'Arjun' award.

Q4. Answer in short

1. Which are the various awards in the sports field given by Maharashtra Government?

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

2. Which are the various awards in the sports field given by Central Government?

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3. What is the objective of the Shiv Chhatrapati State Sports Life Time Achievement Award?

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4. Who is awarded the Dhyanchand Life Time Achievement Award?

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2. Performance of Indian athletes in Olympics.

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3. Facilities given by government for Olympians.

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Supplementary Study:

Browse the internet for getting more information on awards given to players by Maharashtra State and Central Government.



Practical Work

Games, asanas and activities mentioned below are few examples that the teachers can use to develop physical abilities in students. Practical evaluation of students can be done considering the facilities available in the respective Junior College.

Health Related Physical Fitness Factors		Skill Related Physical Fitness Factors	
1) Cardiovascular Endurance		1) Speed	
2) Muscle Strength		2) Power	
3) Muscle Endurance		3) Agility	
4) Flexibility		4) Coordination	
5) Body Composition		5) Balance	
		6) Reaction Time	
Team and Individual Games			
1.	Indian Games	eg. Kabaddi, Kho-Kho, Mallakhamb, etc.	
2.	Gymnastics events	eg. Horizontal Bar, Balance Beam, Floor Exercise, etc.	
3.	Ball Games	eg. Hockey, Football, Basketball, Throwball, Handball, Volleyball, etc.	
4.	Racquet Games	eg. Table Tennis, Badminton, Lawn Tennis, Piquel Bal, etc.	
5.	Combat games	eg. Judo, Karate, Wrestling, Taekwondo, etc.	
Athletics – Events			
Running Events		Jumping Events	Throwing Events
Short Distance races 100, 200, 400 meters		Long Jump	Shot Put
Middle Distance races 800, 1500 meters		High Jump	Discus Throw
Long Distance races 3000, 5000, 10000 meters		Pole Vault	Javelin Throw
Relay – 4x100, 4x400 meters		Triple Jump	Hammer Throw
Asanas			
1.	Standing Position – eg. Tadasan, Vrukshasan		
2.	Sitting Position – eg. Bhadrasan, Vajrasan		
3.	Prone Position (Sleeping on Stomach) – eg. Bhujangasan, Shalabhasan		
4.	Supine Position (Sleeping on Back) – eg. Halasan, Shavasan		
Pranayam			
Pranayam – eg. Anulom Vilom Pranayam, Sheetali Pranayam, Ujjai Pranayam, etc. (It is always necessary to do conditioning exercises and loosening after demonstration of yoga or any activities related to it).			
Various Activities			
Various Activities eg. Walking, Cycling, Swimming, Aerobics, Zumba Dance, Lezim, Traditional Games, Recreational Games, etc.			

Note (For Students)

- 1) Fill in your information as per the points given in the column. While noting down the measurement of physical fitness, study the difference between the first term and second term. Similarly do a medical test and write down in the note book along with the date.
- 2) Measurement of physical fitness should be done after the school starts and study the comparative change between the first term and the second term.
- 3) Choose any event of Athletics from Running, Jumping and Throwing and note performances in the same. A personal comparison of the performances can be made if checked in both the terms.
- 4) In the beginning of the first term, calculate and note your BMI, WHR and THR. Calculate the same just before the final exams and take note of any changes in the scores.

Include the following points while noting down:

1. Personal information and Medical test of a student

Name of the student:

Mother's name:

Date of Birth:

Blood Group:

S. No.	Personal information of the student	First Term	Second Term
1	Height (cms)		
2	Weight (kg)		
3	Stomach Circumference (cms)		
4	Waist Cirucmference (cms)		
5	Hip Circumference (cms)		

2. Measurement of Physical Health (Any Five from Health Related and Skill Related)

S.No.	Name of the activity	First Term	Second Term
1			
2			
3			
4			
5			

Note: From the Health related and skill related fitness variables, select any five factors to measure and note them in the first term and second term.

3. Use the formulas given below to measure BMI, WHR and THR of oneself.

1. $BMI = \text{Weight (kg)} / \text{Height (meters)}^2$

2. $WHR = \text{Waist circumference} / \text{Hip circumference}$

3. $THR = 60\% \quad THR = (220 - \text{Age}) - RHR \times 0.60 + RHR$
 $= 70\% \quad THR = (220 - \text{Age}) - RHR \times 0.70 + RHR$

(Note: Resting heart rate for a minute should be measured after waking up with ease from sleep)

Signature
Health and Physical Education Teacher

My Game

1. Name of the Game (Individual/Team game)

.....

2. Equipment for the game –

.....

.....

3. Ground marking –

4. Number of players –

5. General Rules of the game –

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6. Important skills used in the game –

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7. Achievement / Experience in the game –

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.....

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8. I love this game because –

.....

.....

.....

.....

Handwriting practice area with 20 rows of dotted lines on a yellow background.

A list of some websites of some sports have been given, Accordingly visit the websites of your favorite games and get more information.

1. Websites of different competitions

www.olympic.org
www.thecgf.com
www.olympic.ind.in/national-games
www.kheloindia.gov.in
www.sgfibharat.com

2. Websites of different league competitions

www.prokabaddi.com
www.prowrestlingleague.com
www.pbl-india.com
www.indiansuperleague.com
www.provolleyball.in
www.iplt20.com

3. Websites for Physical Fitness

www.brainmac.co.uk
www.sport-fitness-advisory.com

4. Websites of different sports

www.basketballfederationofindia.org	www.boxingfedertion.in
www.handballindia.in	www.indiaboxing.in
www.the-aiff.com	www.BCCI.tv
www.hockeyindia.org	www.ballbadmintonindia.com
www.volleyballindia.com	www.indianarchery.info
www.badmintonindia.org	www.aitatennis.com
www.swimming.org.in	www.thenrai.in
www.indiangymnastics.com	www.fencingassociationofindia.com
www.khokhofederation.in	www.indiankabaddi.org
www.indiaskate.com	www.rollball.org
www.ttfi.org	www.wrestlingfederationofindia.com
www.ipa.co.in	www.indiancarrom.com
www.onlinejfi.org	www.indiasquash.com
www.indianathletics.in	



Seat Number

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Date:

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Certificate

This is to certify that,

Master/Miss

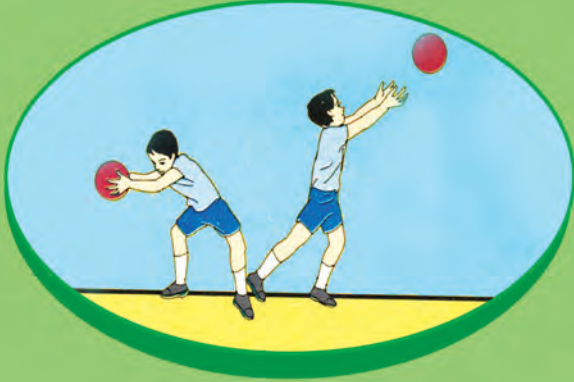
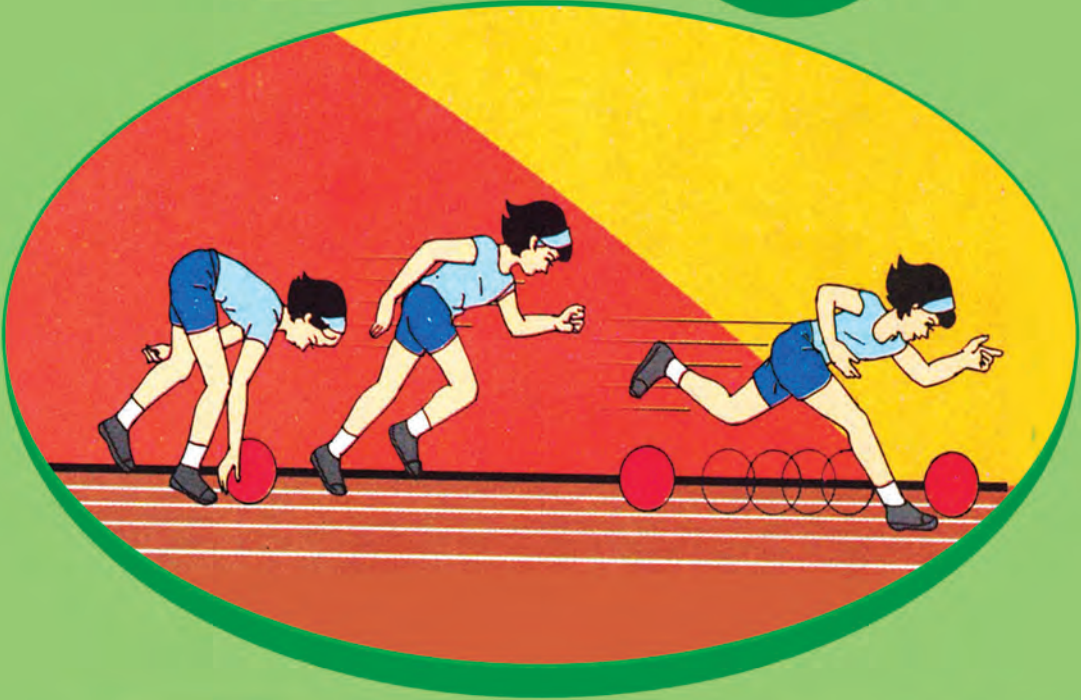
of Std 12th Arts/Commerce/Science/....., division.....,
has attended and successfully completed the required practicals,
games-skills and activities in fulfilment of the practical assessment of
the subject Health and Physical Education for the year 20..... - 20.....

Signature

Health and Physical Education Teacher

School
Stamp

(Signature)
Principal





**Maharashtra State Bureau of Textbook Production and
Curriculum Research, Pune 4.**

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