



**CBSE**

**HOME  
SCIENCE**

**CLASS X**

Urvi Raval

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**A Text Book of  
CBSE  
HOME SCIENCE  
(Including Project Work)**

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In accordance with the latest syllabus prescribed by the Central Board of Secondary  
Education, New Delhi.

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**A Text Book of**  
**CBSE**  
**HOME SCIENCE**

**(Including Project Work)**

**CLASS X**

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**OSWAL PUBLISHERS**

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## Preface

It gives us immense pleasure in introducing the first edition of 'CBSE Home Science' textbook for class X. This edition strictly adheres to the latest syllabus prescribed by the Council for the C.B.S.E. examination. The topics mentioned in the syllabus have been meticulously studied and systematically dealt with in this book.

Home Science as a subject deals with teaching skills to manage every area of home life including cooking, clothing, furnishing and decoration of the house, childcare, household purchases and family relationships. With changing social and economic dynamics, managing a home requires the efforts of all the family members and therefore, having a strong understanding of this subject is crucial for both males and females. Home Science also lays down the foundation for individuals to pursue career in industries such as hospitality, media, childcare and education, quality control, food, textiles, resource management and many other fields.

The subject matter in this book is self-explanatory and is divided into six units with eighteen chapters in all. The language used is easy, simple and lucid. All endeavors have been made to make this book interesting and practically useful by adding latest information and facts, picture illustrations and relevant examples to suit the present day lifestyle and social scenario. All chapters have been updated with multiple choice, short and long type questions from past few years' board papers as suggested by the council to enable students to understand the format of board papers for practice and to enhance the ability of students to answer promptly.

We do hope that we have taken steps in the right direction towards guiding young minds into the realms of this vast yet beautiful discipline *viz.* Home Science.

Constructive suggestions are welcome and will be appreciated and thankfully acknowledged.

—The Publisher

# Syllabus

## **Unit I : Human growth & development II (30 periods)**

- (a) Play (0-5 years), role of play in growth & development of children. Types of play active, passive, natural, serious and exploratory, selection of play material for children.
- (b) Childhood. Adolescents and Adulthood : Special Features.
- (c) Problems of Adolescents
- (d) Old Age : Need of care

## **Unit II : Management of Resources : Time, Energy & Money (30 periods)**

- (a) Time Management - Definition & Importance
- (b) Time plans - Factors affecting time plan
- (c) Energy Management : Definition and Importance
- (d) Fatigue and work Simplification
- (e) Family Income & Types : Expenditure & Importance of Saving and Investment Schemes (Only Listing)

## **Unit III : Food & Personal Hygiene (18 periods)**

- (a) Principles of hygienic handling of food, including serving of food.
- (b) Hygiene in kitchen
- (c) Personal hygiene of food handler
- (d) Hygiene during food storage

## **Unit IV : Meal Planning (42 periods)**

- (a) Concept of Meal Planning
- (b) Factors affecting meal planning : age, sex, climate, occupation, cost of food items, number of family members, occasion, availability of food, family traditions, likes and dislikes
- (c) Basic food groups
- (d) Use of food groups in planning balanced diet, in context of self. RDA-ICMR (2010) and its uses in family diets.
- (e) Therapeutic adaptations of normal diet : Based on consistency and cooking methods

## **Unit V : Food Safety and Consumer Education (30 periods)**

- (a) Food Safety, mal-practices of traders, price variation, poor quality, Faulty weights and measures, non-availability of goods, misleading information, lack of standardized products
- (b) Food adulteration : Concept, adulterants & harmful effects of adulteration, FSSAI
- (c) Consumer Rights and problems faced by consumer, redressal and rights (Listing)
- (d) Sources of Consumer Education - Govt & Non-Govt. Agencies (Only listing)

**Unit VI : Care and Maintenance of Fabrics and Apparel (30 periods)**

- (a) Cleaning and finishing agents used in routine care of clothes.
- (b) Stain Removal
- (c) Storage of cotton, silk, wool and synthetics
- (d) Ready made garments, selection, need and workmanship

**Practicals**

1. Make suitable play material for children between 0-3 years (work in a pair)
2. Plan a balanced diet to self (only one meal).
3. Prepare a time plan to self for one day.
4. Prepare a report on any five mal practices you have observed in the market.
5. Undertake a market survey and collect five (5) food labels, analyze them and illustrate the labels.
6. Remove common stains of curry, paint, ball pen ink, grease, lipstick, tea and coffee.
7. List five areas of agreement and disagreement each with parents, siblings and friends, and present the solutions to class.
8. Examine positive & negative qualities of one readymade and one tailor made garment.
9. Prepare a care label for a readymade garment according to its fabric and design.
10. Practical File. 4 Marks
11. Viva Voce. 3 Marks



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# UNIT-I

## HUMAN GROWTH AND DEVELOPMENT



### *Unit's Objectives*

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

- understand the types of play and its role in a child's growth and development.
- list the stages of life and understand the various areas of development in childhood (early and late).
- describe the period of adolescence and the changes or problems adolescents go through.
- explain adulthood as a stage of life.
- understand the various needs of elderly people and the care required by old family members.



### Objectives

After completing this chapter, the students will be able to :

- understand what is play and its importance on the growth and development of a child.
- explain the role of play in a child's physical, emotional, cognitive, social and moral development.
- list the usual and other types of play.
- explain how to select age appropriate play and play material for optimum development.
- list the criteria to select the play material for children.

### 1.1. INTRODUCTION

Engaging in an activity for enjoyment and recreation rather than a serious or practical purpose that may have behavioural, social and psychomotor rewards is termed as 'play'.

Play takes different forms for different children. It provides freedom and invites their impulse to engage in foolishness. Yet it provides a means for ego development and a process by which social skills and physical skills develop as well. Play reinforces the child's growth and development. Some of the more common functions of play are to facilitate physical, emotional, cognitive and social development. Both indoor and outdoor games stimulate their growth and development.

Children are filled with abundant energy. Play helps the child to channelize this energy into positive ways. Children explore their environment using their five senses which gives them a chance to learn and develop to their optimum.

Play aids their physical development as their fine and gross motor skills get strengthened and refined. Play is also emotionally satisfying and it exudes a sense of accomplishment which in turn helps to build the child's self-esteem. Through play, they are able to express and deal with various emotions such as fear, stress, anger, frustration, jealousy, etc. Play also helps to mould the child's personality as he/she gets a chance to interact with others and thus develop socially also. A lot of morals and values can be indirectly taught to the child while playing.

Parents and teachers can provide a nurturing environment and age specific toys and games to enhance the learning process of the child.

## 1.2. ROLE OF PLAY IN GROWTH AND DEVELOPMENT OF CHILDREN

**1. Physical Development :** Play helps to develop both fine and gross motor skills. Children repeat certain body movements purely for pleasure, and these movements develop body control. For example, a child may first throw a ball, then run and try to catch it and then fling it in the air to catch or practice tapping the ball on the ground first with both hands then with alternate hands. This development happens from simple to more complex activities. Play helps the children to become strong, flexible, and agile and also helps to develop their co-ordination.

**2. Emotional Development :** Play helps children to express and work through their fears, anxieties and desires. Children at play, feel that they are in control of their world which gives them a sense of mastery over their environment. This builds a sense of competence that strengthens their self-esteem and confidence.

Children who are anxious may be helped by role playing. Role playing is a way of coping with emotional conflict. A child's self-awareness also deepens, as he/she explores an event through role-play or symbolic play.

When a parent or sibling plays a board game/sport with a child, the child feels secure and the child's self-esteem gets a boost with the communication and the spirit that parent/sibling passes to the child.

Play allows children to gain control of their thoughts, feelings, actions, and helps them to achieve self-confidence.

**3. Cognitive Development :** Children increase their understanding of size, shape, and texture through play. They begin to understand relationships of big and small, rough and smooth, safe and dangerous.

Children gain knowledge and develop skills such as imagination, creativity, various concepts, logic, reading, writing, arithmetic, reasoning, learning, etc., through their play. They exercise their abilities to think, remember and solving problems. They develop cognitively as they have a chance to test their beliefs about the world.



**Fig. Cognitive Development**

Children increase their problem-solving abilities through games and puzzles. Language is strengthened as the children model others and organize their thoughts to communicate. Imaginative play like kitchen-kitchen or doctor-doctor widens their imagination, language and perspective about things. Books, videos, and educational toys that show pictures and matching words also increases a child's vocabulary while increasing the child's concept of the world.

Play allows children to gain control of their thoughts, feelings, actions, and helps them to achieve self-confidence.

**4. Social Development :** A new-born child is not social at first; as he starts exploring his environment and interacts with family members; the infant begins to experience joy from contact with others and engages in behaviour that involves others. The infant discovers that when he/she coos or laughs, mother coos back. The child soon repeats this for fun, playing with his/her mother. Tickling the infant, playing peek- a- boo, etc., aids his social and other forms of developments too.

As children grow, they enjoy playing with other children. Children learn about boundaries, taking turns, teamwork and competition. Children also learn to negotiate with different personalities and the feelings associated with winning and losing. They learn to share, wait and being patient.

**5. Moral Development :** Moral stories have indirectly played a big role in teaching children values and morals such as honesty, value of hard work, kindness, unity, etc. Also playing with others, teaches them to respect others, cheer for team members and to take failure positively. While playing in a group they learn how to care for others, be fair and not to cheat and also how to adapt and work as a team.

### 1.3. TYPES OF PLAY

Games/play with rules are rarely played by children younger than four years of age. Board games, card games and sports are enjoyed typically by school-age children. In these games, children learn to play with the rules and to take turns. Older children enjoy games with specific rules; however, younger children tend to like games that allow them to change the rules.

**1. Active Play :** A child is involved in playing and interacting with others and objects (toys/games). A child learns much by being involved in active play. It involves a lot of movement and physical activity. For example, running around in the building, building sandcastles, riding a bicycle, swinging in the park, playing catch and cook in the building, etc.



**Fig. Active Play**

**2. Passive Play :** This type of play is passive or non-interactive. A child does not want to interact with anyone or anything. Children usually need to have passive play when they are tired, angry or just need some time alone. For example, watching television, listening to music, etc.



**Fig. Passive Play**

This type of play should be monitored and restricted as far as possible. Onlooker play is present when the child watches others playing. Although the child may ask questions about the players, there is no effort to join the play. This type of play usually starts during toddler years, but can take place at any age.

**3. Natural Play :** It is intuitive and unstructured, constructive (or deconstructive), and timeless, encouraging interaction with *natural* materials, features, indigenous vegetation and creative landforms.



**Fig. Natural Play**

For example, watching/plucking out plants, jumping or balancing on logs, swimming in muddy water, making sandcastles or digging sand, playing in mud, stacking boulders or simply throwing stones in water, climbing up and down the hills and trees. It could also include play without any structured rules which the children play naturally like hopping, skipping, jumping, running, etc.

**4. Serious Play :** This is a structured, purposeful, goal oriented type of play useful in the learning process. For example, educational computer games, puzzles, rubics cube, board games, etc.

A child is completely engrossed and absorbed in this type of play as the end result is the major incentive and he finds it rewarding and satisfying.

**5. Exploratory Play :** A child naturally has a lot of curiosity and wants to explore his/her environment all the time. Children who are allowed to explore freely with not much restrictions are able to grow to their highest potential.

They learn a lot of things by using their five senses and exploring and manipulating things in their own ways. Infants try to reach out to anything and everything that is close to them. Colourful dangling objects attract them a lot. They try to explore every object with their whole body; especially with their mouth.

Pre-school children explore by dismantling and putting back together toys, blocks, equipments at home, etc. They also explore by filling things, emptying them, pouring, stacking, etc.

Through exploration they learn about characteristics of material, their shape, size, weight, behaviour, etc. Children learn dance and gymnastics very easily as they explore and learn position and spatial configuration.

### **Other Types of Play**

Though the above mentioned are the major types of plays; the following types of play also come under the above categories in some ways.

**1. Co-operative Play/Social Play :** This type of play is usually a form of active play, but could also be serious play or exploratory at times. It involves playing with a group of children. It could vary from playing games in the building compound to playing board games at home to basketball in a ground to make to believe play. Children learn social rules such as give and take, reciprocity, co-operation and sharing and they also learn to use moral reasoning to develop a mature sense of values.



**Fig. Social Play**

**2. Creative Play/Constructive Play :** This too can be active, serious and exploratory. It could include creative art and craft work with paints, clay, etc., or dance or building towers out of blocks. It may involve drawing on walls and furniture too in case of young children. It allows them to experiment with objects, explore which combinations work or don't work and learn basic knowledge of stacking, building, drawing with various mediums. It is also a constructive play when children manipulate words, ideas and concepts.



**Fig. Constructive Play**

**3. Dramatic Play/Fantasy Play :** This is like pretending or make to believe the play. It involves a lot of imagination. It may include role playing or creating scenes and situations with dolls and puppets which will create fun and sometimes new situations. They also experiment with language and emotions and develop flexible thinking. At certain developmental stages, children believe they can fly or disappear.



**Fig. Dramatic/Fantasy Play**

**4. Manipulative Play :** Play that involves eye-hand co-ordination and motor skills are of this type. For example, colouring, putting things together with a tool kit, playing with the slime, etc. Manipulative play starts in infancy. Infants play with their parents; for example, they drop a toy, wait for the parent to pick it up, clean it and return it, and then they drop it again. This interaction brings the infant and parent together in a game. Children move objects such as puzzle pieces and gadgets to better understand how they work.

**5. Quiet Play :** This involves children's mouth closed but minds open. For example, reading books, doing puzzles, beading a necklace, etc. Children usually intensely focus in this type of play.

**6. Motor/Physical Play :** These develop a child's gross and fine motor skills, strength and overall integration of muscles, nerves and brain functions.

Stimulating activities in turn enhances brain development too. For example, skating, cycling, dancing, basketball. This gives a sense of accomplishment and builds self-esteem as the child becomes better and better at his/her control over the skill. It may also include playing with sand/mud, playing with play dough, packing or wrapping things, etc.

#### 1.4. AGE APPROPRIATE PLAY AND PLAY MATERIAL

As children develop, they will move from individual (solitary) play to group play. How an older child chooses to play may depend on how they feel at that moment or their personal preference. The way most children play usually varies from day to day and situation to situation.

**1. Infant :** Infants have limited social, physical and cognitive skills and they normally enjoy solitary play. However, they enjoy the attention of their family members and like to watch, mimic and interact with them. They like to be carried around, talked to and sung to. They try to reach out to all things around them and try to grasp them. When they are very small, they are self-engrossed and play on their own by swaying their arms and legs in the air and by experimenting making sounds. They try to creep or crawl when placed on a mat or blanket on the floor. They enjoy colourful toys especially the one which give them oral stimulation. They like games such as tickling, peek-a-boo, copying sounds, etc.

Soft toys, baby gym, cradle mobile hangings, rattles and teething rings, blocks, mirrors, musical toys like drums and xylophones, bath toys, large print books are ideal toys for infants. Boxes, pots, pans and hoops can also encourage reaching, stretching, crawling and moving.

**2. Toddler :** They have better motor skills than infants. They enjoy exploring their environment, manipulating objects, filling and emptying containers, stacking and breaking beakers and blocks, feeling different textures, manipulating small objects, copying their elders. They are not very social yet they enjoy other children playing around them with their own toys.

Different sized balls, bubbles, bath toys, swings and walkers, big sized puzzles, large crayons, large print waterproof books, dolls, soft toys, big trucks and cars, shape sorters, Lego, etc., are stimulating toys for a toddler. Games like hide and seek and music is also enjoyed by them.

**3. Pre-schooler :** A pre-schooler has more developed physical skills. They enjoy running, hopping, skipping and jumping. They also become little more social and enjoy dramatic play and dress up games. They start understanding simple rules to play easy board/card games. They also like to ride a toy car and tricycle. Listening to rhymes and watching selective T.V. or videos which interests them. Their play is simple and imaginative. Things that stimulate them include sand, clay, slime, finger paints, stickers, colouring, balloons, etc.

Balls, skipping rope, tricycle, cars, clay and slime, sand toys, smaller lego, puzzles, colouring and activity books and simple board games are ideal toys for them.



**4. School-age Child :** The school going children get interested in sports related activities. They enjoy riding scooties and bicycles, they play games like catch and cook, hop scotch, etc. Their imaginative play is very creative. They like to have a collection of dolls, cars, G. I. Joes, cards, stamps, superhero characters, etc. They also enjoy guessing games, board games, riddles, reading, listening to songs, playing obstacle course of follow the leader or other competitive games. Walking barefoot on various surfaces like grass, sand, carpet, concrete, etc ., is enjoyable to them.

Nowadays with less building compound spaces and not so safe outdoors children have taken on to a lot of screen time. Occasionally, younger children are taken to soft play area and older children play games in malls. This is slightly harmful for their eyes, posture and overall physical and mental health.



### Ideas for Reducing Sedentary Behaviour and Screen Time for Children

1. Make meal time your family time and turn off the TV.
2. Turn the TV off after the program has finished.
3. Set limits and have rules around screen time.
4. Make your kid's bedroom, TV and computer free.
5. Play music or stories on CDs instead.
6. Take breaks on long car trips – stop at a park or rest area.
7. Give kids a break from the stroller and let them walk for some of the journey.
8. Try walking or riding a bike or scooter with your kids, for short trips.

### Play Therapy

Play with imagination and fantasy is the child's natural medium of self-expression and one that gives cues about the child's conscious and unconscious states. In play therapy, therapists employ various techniques designed to reveal the child's psychological and social development. Play is designed by a professional to facilitate understanding of the child and the child's healing process. Because play is the language of children, children who have difficulty putting in their thoughts, words can often speak clearly through play therapy.

When a child is ill or traumatized, the care plan may include therapeutic play which is guided by a health professional to meet the physical and psychological needs of the child.

Children act out or dramatize real-life situations. They act out of anxiety and from abuse, neglect and various painful physical experiences.

Many children draw pictures that reflect punitive images to explain unhappy experiences. They need reassurance that they are not being punished. Other children may draw pictures that are symbolic of death (an airplane crashing, boats sinking, burning buildings, or children in graves). These children need assurances that they are not going to die. Some express the child's fear of abandonment and loss of independence. Older school-age children and adolescents may not be interested in drawing, but they can make a list of experiences they like and dislike.

### 1.5. SELECTION OF PLAY MATERIAL FOR CHILDREN

Selection of play material and toys depends upon age, abilities, interest, likes and dislikes, cultural experience, personality and level of intelligence of the child.

The play materials should have the following characteristics :

1. Safe, washable, light weight, simple, durable, easy to handle and unbreakable.
2. Realistic, attractive, constructive and offer problem solving opportunities.
3. It should have no sharp edges or small removable parts that may be dangerous to small children who might tend to swallow it.
4. They should not be over stimulating and frustrating.
5. They should not be very noisy, inflammable or bear any kind of toxic paint or finish.
6. Electronic toys should be avoided for small children.
7. The toy/game should be child friendly and age specific.
8. All care and safety instructions must be mentioned on its packing.

### SUMMARY

- 'PLAY' plays an important role in the growth and development of children.
- They develop physically as their fine and gross motor skills get developed.
- They develop emotionally as they learn to express and work through various emotions.
- They develop cognitively as they learn logical reasoning and problem solving.
- They develop socially as they learn to get along with others which in turn develops their personality.
- They develop morally as they learn various values through group play and stories.
- Age appropriate play and play material give children a chance for optimum learning at each stage. The type of play changes from solitary to group play as they grow older.
- Active play, passive play, natural play, serious play and exploratory play are the usual types of play.

- Other play types include: social play, constructive play, dramatic play, manipulative play, quiet play and motor play.
- It is important to reduce screen time and find other options for entertainment.
- Play therapy is useful for children with social and emotional problems as it helps them to express their problems and work through them using play.
- Toys and games chosen for children should be safe, constructive, stimulating and age specific.

### TEST YOUR KNOWLEDGE

#### Multiple Choice Questions (Carrying 1 Mark)

- 1. School going children enjoy which kind of play ?**
  - (a) Hopping, skipping, and jumping
  - (b) Sports related games
  - (c) Big puzzles and simple board games
  - (d) Sand and clay play.
- 2. The toys chosen for children should be :**
  - (a) safe, washable and light weight
  - (b) unrealistic and de-constructive
  - (c) over stimulating and frustrating
  - (d) noisy and inflammable.
- 3. Cognitive development through play enhances :**
  - (a) fine and gross motor skills
  - (b) expressing and dealing with emotions
  - (c) problem solving and logical thinking
  - (d) morals and values.
- 4. How many senses does a child use while playing ?**

(a) Five	(b) Four
(c) Two	(d) None.
- 5. Which emotions can a child deal with during play ?**

(a) Jealousy	(b) Joy
(c) Excitement	(d) Surprise.
- 6. Play helps children to develop in which area ?**

(a) Physical	(b) Social
(c) Moral	(d) All of the above.

**7. Exploratory play mainly fulfils the child's need of :**

- (a) Socializing
- (b) Creativity
- (c) Curiosity
- (d) Being independent.

**Short Answer Type Questions (Carrying 2-3 marks)**

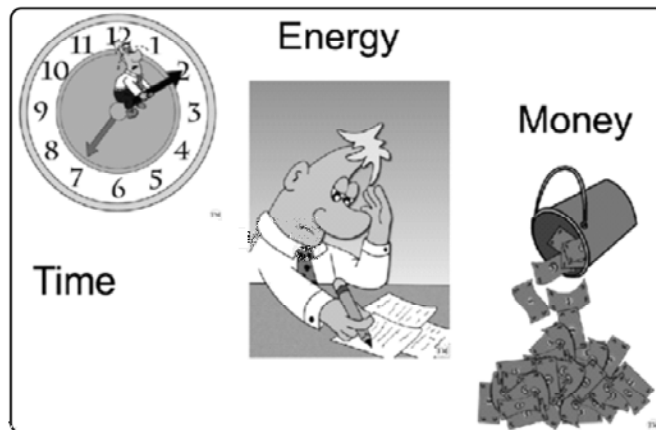
1. Which are the type of emotions a child is able to express through play ?
2. What are the type of morals and values a child learns through group play and books? Explain how exploratory play helps a child develop.
3. Explain fantasy play. Which age children like to play it ?

**Long Answer Type Questions (Carrying 4-5 marks)**

1. Rohan watches lot of TV and plays computer games. Suggest three alternate ways he should adapt for entertainment.
  2. What is play? List three criteria for selection of play material for children.
  3. What play material is enjoyed by an infant? Explain how choosing the right play material encourages infants to move and crawl.
  4. List and explain the type of usual plays in detail.
  5. Explain in detail the role of play in a child's growth and development.
-

## UNIT-II

# MANAGEMENT OF RESOURCES : TIME, ENERGY AND MONEY



### *Unit's Objectives*

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

- understand the importance of time and time management.
- explain the importance of energy management and how work simplification methods help to reduce fatigue.
- know the types of income and its sources, the importance and making of a spending plan.
- understand the importance of savings and schemes of investment.



# TIME MANAGEMENT : DEFINITION AND IMPORTANCE

## Objectives

After completing this chapter, the students will be able to :

- realize time as the most important resource available to everyone.
- understand what is time management and its importance in our life.
- learn effective time management techniques that will help one leading a more productive and satisfying life.
- learn steps to make an effective time plan and factors affecting it.

Time is an important resource and is extremely crucial for every person. We all have equal time for doing all our activities. How we use that time to determine our success and failure ? We should not waste time and should plan it well. For home makers, time management is of utmost importance as he/she needs to manage her/his time in a way that he/she gets time to rest and involve in some leisure activity as well.

Time management isn't about squeezing as many tasks in a day as possible. It's about simplifying how to work, doing things faster, and relieving stress. It's about making enough time for work, people, playing and rest. Everyone gets the same number of hours per day, but it may take a bit of re-arranging and re-imagining to be able to do maximum amount of what you want to do and do it productively.

**"Time management"** is the process of organizing and planning how to divide your time between specific activities to use one's time effectively or productively.

Time management may be defined as *"a system of controlling and using time as efficiently as possible"*.  
–Iain Maitland.

The main objective of time management is the proper utilization of time available, so that an individual can accomplish the individual and family goals.

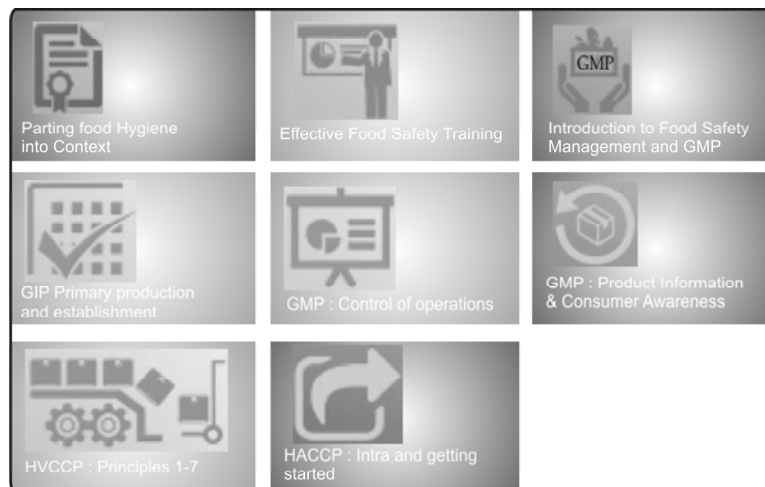
The old adage, "work smarter, not harder" is even true today.

## 6.1. IMPORTANCE OF TIME MANAGEMENT

**1. Improves Productivity :** Unnecessary and avoidable activities consume a large portion of a person's available time. Sometimes delays and lethargic work increases the problem. Time management ensures higher work rate and improved

## UNIT-III

# FOOD AND PERSONAL HYGIENE



### *Unit's Objectives*

After completing this Unit, the students will be able to :

- understand the principles of hygienic food practices during purchase, storage, preparation and serving of food.
- explain hygienic practices followed during food storage according to food perishability.
- list personal hygienic tips for the food handler.
- discuss the general hygiene to be followed in the kitchen and tips on handling food and equipment in the kitchen.



# SAFE AND HYGIENIC FOOD HANDLING PRACTICES

## Objectives

After completing this chapter, the students will be able to :

- understand the five key principles of food hygiene according to the W.H.O.
- explain safe purchasing, proper storage, proper food preparation and hygienic serving as hygienic food handling ways.
- understand how to hygienically store food based on their perishability.
- suggest personal hygienic tips for a food handler.
- list the importance of proper handling of food and equipment in kitchen.
- describe hygiene in kitchen.
- discuss hygiene during serving of food.

All foods, if handled properly, can be safe. Most instances of food poisoning do not happen at all, and can be avoided by following simple guidelines. Handling food properly and safely is essential to prevent food borne illnesses. It is important to know how to handle food safely, right from buying food, to storing, cooking and serving food. Cleanliness is the most important factor when it comes to food handling. Right from personal hygiene, safe handling of foods during preparation and clean utensils, equipments, appliances, storage facilities to cleanliness in kitchens and dining areas.

Hygienic food handling involves the following :

1. Safe purchasing
2. Proper storage
3. Proper food preparation
4. Hygienic serving

### 9.1. PRINCIPLES OF FOOD HYGIENE

According to WHO, there are five key principles of food hygiene, they are :

1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.



# UNIT-IV

## MEAL PLANNING



### *Unit's Objectives*

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

- understand the concept of meal planning.
- understand the factors affecting meal planning.
- describe basic food groups.
- understand the use of food groups in planning balanced diet, in context of self, RDA-ICMR (2010) and its uses in family diets.
- understand the therapeutic adaptations of normal diet, based on consistency and cooking methods.



# MEAL PLANNING

## Objectives

After completing this chapter, the students will be able to :

- understand the concept and principles of meal planning.
- explain the factors affecting meal planning
- explain the various meals of the day.

## 10.1. CONCEPT AND PRINCIPLES OF MEAL PLANNING

Meal planning involves deciding what to eat each day at each meal. Meal planning is making a plan of meals with adequate nutrition for every member of the family within the available resources (time, money, etc). It is a simple exercise which involves applying the knowledge of food, nutrient requirement, and individual preferences to plan adequate and acceptable meals. It is a skill which improves with practice.

Meal planning is an art and science of implementing the principles of nutrition in one's daily diet in an appetizing way by meticulous planning, food purchase and meal preparation and serving.

### Principles of Meal Planning

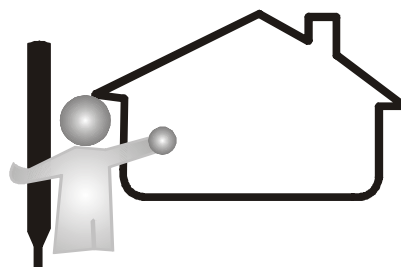
1. Knowledge of nutritional needs of the family member according to their age, sex and occupation (I.C.M.R.).
2. Use of all food groups in diet plan *i.e.*, green leafy and other vegetables, citrus and other fruits, cereals and millets, milk and milk products, nuts, oils and butter, egg, fish, poultry and meat products.
3. Knowledge of nutrients, nutritive value of foods and their available sources. Also how to create variety using same ingredients.
4. Use of recommended tables (charts) of balanced diets (I.C.M.R.).
5. Budget of the family—ability to source foods with high nutrients and yet economical and good knowledge of seasonal foods. Knowledge of using alternative cheap sources of food for same nutrients *e.g.*, pulses instead of meat for protein.

## UNIT-V

# FOOD SAFETY AND CONSUMER EDUCATION



**Food Safety**



**CONSUMER  
EDUCATION**

### *Unit's Objectives*

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

- make consumers aware about food safety, malpractices of traders and other problems consumers face and how to overcome them.
- raise awareness about consumer education to equip the consumers to use his/her rights and responsibilities for redressal with the help of government and non-government agencies.
- understand the concept of food adulteration, detect adulterants in common foods and know their harmful effects on health and therefore be cautious not only while buying food but take appropriate action in case of food found to be adulterated.



# FOOD ADULTERATION

## Objectives

After completing this chapter, the students will be able to:

- understand what is food adulteration and under what specifications, P.F.A. considers food to be adulterated.
- explain intentional and incidental food adulterants and common foods, they are present in.
- list tests to detect intentional adulterants.
- discuss the health hazards of adulterants.
- understand food laws and how to make a complaint for redressal.

### 13.1. CONCEPT AND DEFINITION OF FOOD ADULTERATION

Instead of just being concerned about the calories in our food, we also need to pay attention to its substance and quality. We need to learn how to protect ourselves from the rampant food adulteration practices. Adulteration means non-compliance with food standards prescribed by the Prevention of Food Adulteration Act (P.F.A. 1954) and rules (1955).

Food is essential for life. It should be pure, nutritious and free from any type of adulteration for proper maintenance of human health.

Despite careful handling in production, processing and packaging, more and more cases of food adulteration and the health hazards caused by it are surfacing today.

It's not only the food which is mixed with inferior substances are adulterated; packaged food can be adulterated too. Any substance, artificial or natural can be an adulterant and any food can get adulterated.

We all have become a little sceptical of the purity and quality standards of the food we consume these days. Food colours, chemicals and additives often creep up not just in our local produce, but even in packaged products. Injecting fruits & vegetables to ripen quickly and maintaining fresh colour are also forms of intentional adulteration.

Food adulteration can be intentional or incidental.

Incidental adulteration generally happens due to improper handling and storage of food.

## UNIT-VI

# CARE AND MAINTENANCE OF FABRIC AND APPAREL



### *Unit's Objectives*

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

- understand the steps in laundering garments made of various fibers and the laundry reagents used.
- understand the different types of stains and use suitable stain removal methods and reagents in laundry.
- describe ways of storing clothes to prevent them from spoilage against pests, moth, mildew and dust.
- understand the need of readymade garments, their workmanship and how to select them.



# LAUNDERING OF CLOTHES

## Objectives

After completing this chapter, the students will be able to :

- understand the steps of laundering a garment.
- list and explain the procedure for cleaning various natural and man-made fibers.
- describe the various other laundry reagents.

There are different fabrics available in the market and according to their characteristics they should be washed and treated accordingly in the best possible way. If treated with care during laundry and storage, we can prolong the life of the fabrics/clothes.

There are a set series of steps used for cleaning the fabrics. The main aim of cleaning is to remove the dirt, grease and stains in a fabric.

*Laundering is a combination of cleaning and finishing.*

Laundering consists of three main steps :

1. Regular washing of fabric to remove the dirt, grease or stains.
2. Finishing the fabrics to give them body and shine and also to restore its colour and original finish, and
3. Storing the fabric well after proper ironing and folding it.

While most of the laundry processes are carried out at home, there are some processes to be carried out at the commercial laundry as it demands complex methods, use of chemicals and special equipment can be used with some expertise.

## 15.1. METHODS OF CLEANING

The methods of cleaning can be broadly divided into :

1. Wet cleaning method (using water, soaps, detergents, etc.)
2. Dry cleaning method (using solvents and absorbents and no water)

The **usual equipment's** required for wet cleaning method include :

1. A stainless steel or enamel sink.
2. Boiler and pair of tongs to disinfect clothes and to restore their whiteness.

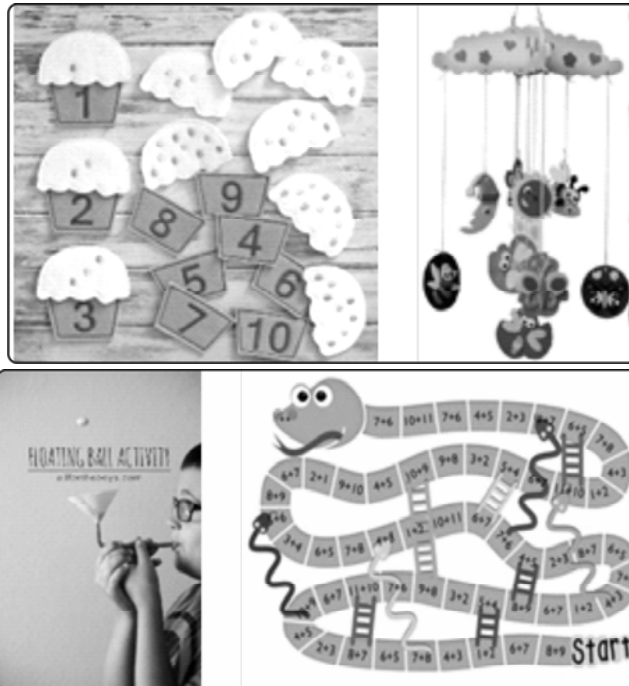
# PRACTICALS

## Activity 1: Make suitable play material for children between 0-3 years.

**Tool :** Making age specific play material.

**Method :**

- The teacher introduces what is play and how it is important in the overall growth and development of a child. Then he/she briefs the children on the motor, social and cognitive skills of children between 0-3 years.
- A discussion should then take place about what are the type of toys and play material that is available in the market according to their age; are they educational toys? Do they specify certain goals that help children develop in any way? What play material can they design or make for children?
- In groups of 2-3 students, age specific play material is created keeping in mind certain themes or goals. For example, a colourful mobile hanging or rattle made out of craft paper and other easily available materials for infants, big 4 piece puzzle out of foam paper on vehicles for 1.5-2 years, a simplified snakes and ladders and dice for 2-3 years old, a kaleidoscope, drums out of waste boxes, etc.



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