ESSENCE STATEMENT

Home Science is a dynamic interdisciplinary field of study that seamlessly integrates elements from both science and art. Its aim is to empower learners with a comprehensive understanding of Foods and Nutrition, Home Management, and Clothing and Textiles. By nurturing their knowledge, skills, attitudes, and values, Home Science empowers learners to effectively address the diverse needs of the individual, family, and community.

Aligned to the social pillar of Kenya Vision 2030, Home Science underscores the pivotal roles of education, health, environment, gender equality, youth development, child welfare, housing, water, and sanitation. Within this framework, learners not only deepen their comprehension of resource conservation, food production, hygiene practices, and production techniques but also cultivate a deeper sense of responsibility towards societal well-being through knowledge and skills acquired in previous grades.

Furthermore, Home Science serves as a cornerstone for learners to explore and identify their unique talents and passions, potential careers, and opportunities to pursue further education and training. It lays a solid foundation for pathways into various fields such as Health, Nutrition and Dietetics, Food Science and Technology, Clothing and Textiles, Interior Design, Hospitality, Fashion, and Social Work. Competencies in Foods and nutrition will equip learners with abilities in meal planning, food preparation, cooking and service. Home management section will entail hygiene, laundry work, interior decoration, consumer education, maternal health and child care. The Clothing and Textiles component of Home Science is specifically designed to equip learners with essential skills pertaining to sewing tools, equipment, materials, textile fibers, and basic clothing construction processes.

In the senior school curriculum, learners are provided with opportunities to explore locally available materials while mastering the safe and proficient use of various tools and equipment essential for clothing construction processes, food preparation and home management. This hands-on approach not only enhances practical skills but also fosters creativity and innovation in utilizing indigenous resources effectively. Overall, Home Science serves as a foundational pillar for personal development, societal contribution, and career exploration in various related fields.

GENERAL LEARNING OUTCOMES

By the end of Senior School, the learner should be able to;

a) Apply knowledge on nutritive value of food to prevent and manage nutritional deficiency diseases and disorders for healthy living.

b) Utilise knowledge, skills and attitudes in meal planning, preparation, cooking, presentation and preservation of food for a healthy life.

c) Exploit individual talents in food preparation, cooking and service for leisure, self-fulfillment and entrepreneurship.

d) Develop skills for proper care of the home, care and maintenance of clothes and household articles in day-to-day life.

e) Apply principles of consumer education for family financial management

f) Choose fabrics for various uses based on their different characteristics.

g) Apply various techniques in drafting and grading basic pattern blocks for constructing garments.

h) Construct garments using various clothing construction techniques.

i) Appreciate Home science as a subject and the role it plays in improving the life of an individual, family and the nation.

SUMMARY OF STRANDS AND SUB STRANDS

1.0 FOODS AND NUTRITION

1.1 Overview of Foods and Nutrition

1.2 kitchen Layouts and Equipment
1.3 Food Hygiene and Safety
1.4 Methods of Cooking
1.5 Nutritive Value of Foods

2.0 HOME MANAGEMENT

2.1 Hygiene During Puberty
2.2 Safety in the Home

2.3 Housing the Family
2.4 Cleaning the House
2.5 Laundry Work
2.6 Consumer Education

3.0 CLOTHING AND TEXTILES

3.1 Sewing Tools, Equipment and Materials
3.2 Textile Fibres
3.3 Clothing Construction Processes: Stitches
3.4 Clothing Construction Processes: Seams
3.5 Clothing Construction Processes: Management of Fullness

STRAND 1.0: FOODS AND NUTRITION

SUB-STRAND 1.1: OVERVIEW OF FOODS AND NUTRITION

1. Importance of Foods and Nutrition as an Area of Study in Home Science:

Home Science is a field of study that equips individuals with knowledge and skills related to managing homes and families effectively. Foods and nutrition form a crucial pillar of Home Science because:

a) **Promoting Health and Well-being:** Understanding nutrition enables individuals and families to make informed food choices that support optimal health, prevent nutrient deficiencies, and reduce the risk of diet-related diseases like obesity, diabetes, and heart disease.

b) **Resource Management:** Studying foods and nutrition involves learning about planning, purchasing, preparing, and storing food efficiently, minimizing waste and maximizing household resources.

c) **Family and Community Health:** The nutritional status of family members directly impacts their overall well-being and productivity. Knowledge of foods and nutrition empowers individuals to nourish their families adequately and contribute to healthier communities.

d) **Consumer Awareness:** This area of study helps individuals become informed consumers, able to understand food labels, evaluate nutritional claims, and make wise purchasing decisions.

e) **Cultural Understanding:** Food is deeply intertwined with culture and traditions. Studying foods and nutrition provides insights into different food customs and dietary practices.

f) **Developing Practical Skills:** It equips learners with essential life skills in food preparation, cooking techniques, and meal planning, fostering independence and self-sufficiency.

g) **Foundation for Further Studies and Careers:** A strong foundation in foods and nutrition can open doors to various career paths and further studies in related fields.

2. Careers Related to Foods and Nutrition:

The field of foods and nutrition offers a diverse range of exciting career opportunities. Here are some examples:

a) **Dietitian/Nutritionist:** Provides expert advice on diet and nutrition to individuals and groups, helping them manage health conditions, achieve fitness goals, and promote overall well-being. They may work in hospitals, clinics, schools, sports organizations, or private practice.

b) **Food Scientist/Technologist:** Applies scientific principles to study the composition, properties, and processing of food. They are involved in developing new food products, improving food safety, and ensuring quality control in the food industry.

c) **Chef/Cook:** Plans, prepares, and cooks food in various settings such as restaurants, hotels, catering companies, and institutions. A strong understanding of nutrition can help chefs create healthier and more appealing menus.

d) **Food Stylist:** Arranges food attractively for photography, film, and other media. They need to understand how different foods look and how to present them in an appealing way.

e) **Food Journalist/Writer:** Researches and writes about food-related topics for newspapers, magazines, websites, and blogs. They may cover food trends, recipes, nutrition information, and food policy.

f) **Food Photographer:** Captures visually appealing images of food for various purposes, including advertising, cookbooks, and editorial features.

g) **Food Inspector/Safety Officer:** Ensures that food production and handling processes meet safety and hygiene standards to protect public health. They work for government agencies or food companies.

h) **Catering Manager:** Oversees the planning, preparation, and delivery of food services for events and functions. They need strong organizational and management skills, as well as knowledge of food and nutrition.

i) **Agricultural Scientist (specializing in food crops):** Conducts research to improve the yield, nutritional value, and sustainability of food crops.

j) **Food Marketing/Sales:** Promotes and sells food products to consumers and businesses. Understanding nutritional aspects can be a valuable asset in this field.

k) **Home Economics Teacher:** Educates learners on various aspects of home management, including foods and nutrition.

3. Role of Foods and Nutrition in Our Day-to-Day Life:

Foods and nutrition play a fundamental role in almost every aspect of our daily lives:

- ✓ **Providing Energy:** Food is our primary source of energy, fueling our physical activities, bodily functions, and mental processes. The nutrients we obtain from food, particularly carbohydrates, fats, and proteins, are broken down to release energy.
- ✓ **Supporting Growth and Development:** Nutrients like proteins, vitamins, and minerals are essential for the growth and repair of tissues, especially during childhood and adolescence.
- ✓ **Maintaining Body Functions:** Vitamins, minerals, and water are crucial for regulating various bodily processes, including metabolism, nerve function, and immune response.

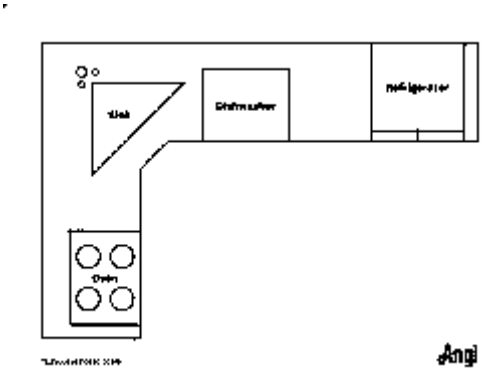
- ✓ **Preventing Diseases:** A balanced and nutritious diet can help strengthen the immune system and reduce the risk of developing chronic diseases such as heart disease, stroke, certain types of cancer, and type 2 diabetes.
- ✓ **Enhancing Mental Well-being:** Research suggests a strong link between diet and mental health. Certain nutrients can affect mood, concentration, and cognitive function.
- ✓ **Social and Cultural Significance:** Food plays a vital role in social gatherings, celebrations, and cultural traditions. Sharing meals brings people together and strengthens social bonds.
- ✓ **Economic Importance:** The food industry, from agriculture to retail, is a significant sector of the economy, providing employment and contributing to national development.

SUB-STRAND 1.2: KITCHEN LAYOUTS AND EQUIPMENT

1. Analysing Kitchen Layouts in the Home:

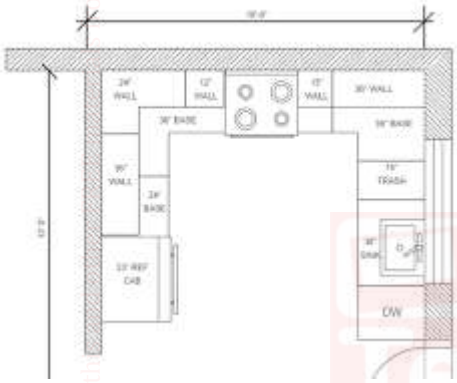
The layout of a kitchen refers to the arrangement of countertops, cabinets, appliances (like the cooker, refrigerator, and sink), and walkways within the kitchen space. A well-planned layout can significantly improve efficiency and safety. Here are common kitchen layouts found in homes:

- ❖ **L-Shaped Kitchen:**



- ✓ **Description:** Features countertops and cabinets along two adjacent walls, forming an "L" shape. This design often has an open end that can flow into a dining area.
- ✓ **Advantages:** Efficient workflow, good for small to medium-sized kitchens, allows for an open feel.
- ✓ **Considerations:** Corner cabinets can sometimes be hard to access; the length of each arm of the "L" needs careful planning for optimal workflow.

❖ **U-Shaped Kitchen:**



- ✓ **Description:** Consists of countertops and cabinets along three adjacent walls, creating a "U" shape. This layout typically provides ample workspace and storage.
- ✓ **Advantages:** Excellent workflow with easy access to all areas, plenty of countertop space and storage.
- ✓ **Considerations:** Requires a larger space, can feel enclosed if not designed well.

- **Corridor (Galley) Kitchen:**

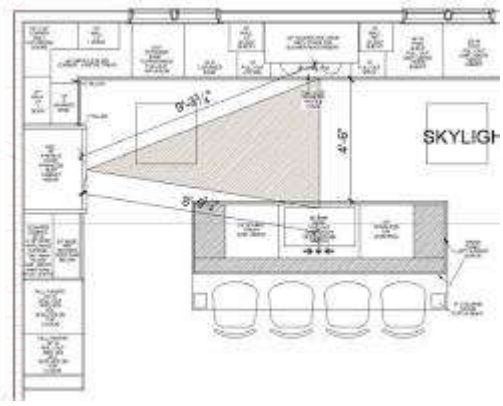
  - ✓ **Description:** Features two parallel walls with countertops and cabinets on either side, creating a walkway or "corridor" in between. This layout is often found in smaller homes or apartments.
  - ✓ **Advantages:** Very efficient for cooking as everything is within easy reach, maximizes space in narrow rooms.
  - ✓ **Considerations:** Can feel cramped if too narrow or long, limited counter space if not planned carefully, may become a bottleneck if multiple people are working in the kitchen.

- **One-Wall Kitchen:**

  - ✓ **Description:** All countertops, cabinets, and appliances are located along a single wall. This layout is common in studio apartments or very small homes.

- ✓ **Advantages:** Space-saving, simple and cost-effective.
- ✓ **Considerations:** Limited counter space and storage, workflow can be less efficient as all tasks are performed in a line.

❖ **Island Kitchen:**



- ✓ **Description:** Incorporates a freestanding countertop unit (the "island") in addition to one of the other basic layouts (usually L-shaped or U-shaped). The island can provide additional workspace, storage, seating, or even house appliances like a sink or cooktop.
- ✓ **Advantages:** Increased workspace and storage, can create a focal point, provides a social hub if it includes seating.
- ✓ **Considerations:** Requires a larger kitchen space to accommodate the island and walkways around it, can increase the overall cost.

2. Factors to Consider When Choosing Kitchen Layouts, Tools, and Equipment:

Several factors should be considered when planning a kitchen layout and selecting tools and equipment:

- ✓ **Available Space:** The size and shape of the kitchen area will largely determine the most suitable layout.

- ✓ **Budget:** The cost of renovations, cabinets, appliances, and tools can vary significantly.
- ✓ **Lifestyle and Needs:** Consider how you use your kitchen. Do you cook frequently? Do you entertain often? How many people typically use the kitchen?
- ✓ **Workflow and Efficiency:** The layout should facilitate a smooth and logical flow of tasks (preparation, cooking, serving, cleaning). The "work triangle" is a key concept here.
- ✓ **Storage Requirements:** Adequate storage for food, cookware, and utensils is essential to keep the kitchen organized and clutter-free.
- ✓ **Safety:** The layout should allow for safe movement and prevent accidents. Appliances should be placed away from walkways, and there should be sufficient ventilation.
- ✓ **Accessibility:** Consider the needs of all users, including children, the elderly, or individuals with disabilities.
- ✓ **Personal Preferences and Aesthetics:** While functionality is crucial, the layout and equipment should also align with your personal style and preferences.

3. Identifying and Classifying Kitchen Tools and Equipment:

Kitchen tools and equipment are essential for preparing and cooking food. They can be classified based on their function, size, or the materials they are made from.

- ❖ **Classification by Function:**
  - ✓ **Preparation Tools:** Used for tasks like measuring (measuring cups, spoons, weighing scales), cutting (knives, peelers, scissors), mixing (bowls, whisks, spoons), and shaping (rolling pins, molds).

i. Measuring tools

			
Measuring cups	Spoons	Measuring scales	

ii. Cutting tools

		
Knives	Scissors	Peelers

iii. Mixing tools

		
Bowls	Whisks	Spoons

iv. Shaping tools

	
Rolling pin	Molds

- ✓ **Cooking Equipment:** Used for applying heat to food, such as cookers (gas, electric, induction), ovens, microwaves, pots, pans, and pressure cookers.

			
Cooker	Oven	Pans and pots	Pressure cooker

- ✓ **Serving Utensils:** Used for serving food, including spoons, forks, serving dishes, and ladles.

			
Spoons	Forks	Dishes	Ladles

- ✓ **Cleaning Tools:** Used for maintaining hygiene in the kitchen, such as brushes, sponges, dishcloths, and mops.

			
Brushes	Sponges	Dishcloths	Mops

- ✓ **Storage Containers:** Used for keeping food fresh and organized, like airtight containers, jars, and cling film.

❖ **Classification by Size:**

- ✓ **Small Utensils:** Handheld tools like knives, spoons, whisks, and graters.
- ✓ **Small Appliances:** Portable electric devices like blenders, toasters, and food processors.
- ✓ **Large Appliances:** Major kitchen units like refrigerators, cookers, ovens, and dishwashers.

❖ **Classification by Material:**

- ✓ **Glass:** Baking dishes, measuring cups, storage containers.

- ✓ **Wood:** Cutting boards, spoons, rolling pins.

- ✓ **Plastic:** Mixing bowls, storage containers, some utensils.

- ✓ **Melamine:** Plates, bowls, serving platters (not suitable for microwave or oven use).

- ✓ **Metals (Stainless Steel, Aluminum, Cast Iron):** Pots, pans, knives, some utensils.

- ✓ **Earthenware (Ceramics):** Baking dishes, serving ware.

4. Caring for Tools and Equipment Used in the Kitchen:

Proper care of kitchen tools and equipment is essential for their longevity, safety, and hygiene. The method of care depends on the material of the item.

- **General Guidelines:**
  - ✓ Always read and follow the manufacturer's instructions for use and care.
  - ✓ Clean tools and equipment immediately after use to prevent food from drying and becoming difficult to remove.
  - ✓ Use appropriate cleaning agents and methods for each material.
  - ✓ Dry items thoroughly before storing to prevent rust, corrosion, or mildew.
  - ✓ Store tools and equipment safely and in an organized manner to prevent damage and accidents.

- **Care Based on Material:**
  - ✓ **Glass:** Wash with warm soapy water or in a dishwasher. Avoid sudden temperature changes to prevent cracking. Store carefully to prevent breakage.
  - ✓ **Wood:** Handwash with mild soapy water and dry immediately. Avoid soaking in water. Season wooden items like cutting boards with food-grade mineral oil to prevent drying and cracking. Store in a dry place.
  - ✓ **Plastic:** Most can be washed in warm soapy water or a dishwasher. Avoid using abrasive cleaners that can scratch the surface. Check if plastic containers are microwave-safe before using them in a microwave.
  - ✓ **Melamine:** Wash with warm soapy water. Do not use in a microwave or oven as it can release harmful chemicals. Avoid abrasive cleaners that can scratch the surface.
  - ✓ **Metals:**
    - **Stainless Steel:** Generally dishwasher safe. For stubborn stains, use a non-abrasive cleaner. Dry thoroughly to prevent water spots.
    - **Aluminum:** Handwash with warm soapy water. Avoid using harsh alkaline detergents that can cause discoloration. Do not put aluminum in contact with acidic foods for extended periods.
    - **Cast Iron:** Wash by hand with hot water and a non-abrasive sponge or brush. Dry immediately and season with oil to prevent rust. Avoid dishwashers and soaking in water.
  - ✓ **Earthenware (Ceramics):** Most can be washed in warm soapy water or a dishwasher. Handle with care to avoid chipping or breaking. Avoid sudden temperature changes for some types of ceramics.

5. Improvising Kitchen Tools and Equipment Using Safe and Locally Available Materials:

In situations where standard kitchen tools or equipment are not available, it's possible to improvise using safe and locally available materials. This requires creativity and an understanding of the basic functions of the missing item.

- **Examples of Improvisation:**
  - ✓ Using a strong, clean bottle or a smooth stone to pound or crush ingredients.
  - ✓ Using a clean, sturdy leaf or a piece of banana stalk as a temporary plate or serving surface.
  - ✓ Using a sharpened stick or a strong piece of wire as a skewer.
  - ✓ Using a clean, tightly woven cloth bag to strain liquids.
  - ✓ Using a calabash or a hollowed-out gourd as a bowl or container.
  - ✓ Creating a makeshift grill using stones and metal rods.

Important Considerations for Improvisation:

- ✓ **Safety First:** Ensure that the materials used are clean, non-toxic, and will not contaminate the food. Avoid using materials that could splinter, melt, or release harmful substances when in contact with food or heat.
- ✓ **Functionality:** The improvised tool or equipment should be able to perform the basic function of the original item, even if not as efficiently.
- ✓ **Hygiene:** Clean the improvised items thoroughly before and after use.

SUB-STRAND 1.3: FOOD HYGIENE AND SAFETY

1. Importance of Hygiene and Safety When Handling Food:

Maintaining high standards of hygiene and safety when handling food is paramount for several reasons:

- ✓ **Preventing Foodborne Illnesses:** Food can become contaminated with harmful microorganisms (bacteria, viruses, parasites) or toxins, leading to foodborne illnesses (food poisoning). Good hygiene practices minimize this risk.
- ✓ **Protecting Public Health:** In food businesses and even at home, improper food handling can affect many people. Maintaining hygiene prevents the spread of illness to a wider population.
- ✓ **Ensuring Food Quality:** Proper handling and storage prevent food from spoiling, retaining its nutritional value, flavor, and texture for longer.
- ✓ **Reducing Food Waste:** When food is handled and stored correctly, it lasts longer, reducing unnecessary waste and saving resources.
- ✓ **Maintaining a Clean and Safe Kitchen Environment:** Good hygiene practices contribute to a clean and organized kitchen, reducing the risk of accidents and pest infestations.
- ✓ **Legal and Ethical Responsibilities:** In food businesses, there are legal requirements regarding food hygiene and safety. Ethically, anyone handling food has a responsibility to ensure it is safe for consumption.
- ✓ **Building Consumer Confidence:** For food businesses, adhering to high hygiene standards builds trust and confidence among customers.

2. Differentiating Between Food Spoilage and Poisoning:

- (Food spoilage)

Food that has mold growing on it

It's important to understand the difference between food spoilage and food poisoning, although both can make food unsafe to eat.

Feature	Food Spoilage	Food Poisoning
Definition	Deterioration in the quality of food, making it undesirable for consumption due to changes in taste, smell, texture, or appearance.	Illness caused by consuming food contaminated with harmful microorganisms or their toxins, or by naturally occurring poisons in food.
Causes	Enzymes within the food, reactions with oxygen, moisture loss or gain, physical damage, and the growth of some microorganisms (yeasts, molds, some bacteria).	Primarily caused by pathogenic (disease-causing) bacteria, viruses, parasites, or the toxins they produce. Can also be caused by chemical contamination or naturally poisonous foods.
Signs in	Change in color (e.g., mold	Often, the food may look, smell, and

Food	growth), change in texture (e.g., slimy, mushy), unpleasant or "off" smell, undesirable taste.	taste normal, making it difficult to detect contamination. In some cases, there might be subtle changes.
Signs in Humans	Generally, spoiled food will taste unpleasant, and you are unlikely to eat much of it. If consumed, it might cause mild digestive upset in some cases.	Symptoms can range from mild (nausea, vomiting, diarrhea, abdominal cramps) to severe (dehydration, fever, neurological symptoms, even death), depending on the type and amount of contaminant. Symptoms can appear within minutes to several days after consumption.
Prevention	Proper storage (temperature control, humidity), protecting from physical damage, using food within its shelf life, and good hygiene during handling.	Thorough cooking of food, proper chilling of perishable foods, preventing cross-contamination, using clean water and raw materials, and good personal hygiene of food handlers.

3. Applying Hygiene Practices When Handling Food:

Good hygiene practices are essential at every stage of food handling, from purchasing to serving. Here are key practices to follow:

- **Personal Hygiene:**
  - ✓ **Wash hands thoroughly:** Wash hands with soap and running water for at least 20 seconds before handling food, after using the toilet, after touching pets, after coughing or sneezing, and after handling raw meat, poultry, or fish.
  - ✓ **Wear clean clothing and protective gear:** Aprons, hairnets, and gloves (when appropriate) can help prevent contamination.

- ✓ **Avoid touching ready-to-eat foods with bare hands:** Use utensils, tongs, or disposable gloves.
- ✓ **Cover cuts and wounds:** Use waterproof bandages to prevent bacteria from entering food.
- ✓ **Avoid eating, drinking, or smoking in food preparation areas.**
- ✓ **If you are sick (especially with vomiting or diarrhea), avoid handling food.**

- **Kitchen Hygiene:**
  - ✓ **Keep surfaces clean and sanitized:** Regularly clean and disinfect countertops, cutting boards, and other surfaces that come into contact with food. Use appropriate cleaning and sanitizing agents.
  - ✓ **Wash utensils and equipment thoroughly:** Wash all utensils, cutting boards, and equipment with hot, soapy water after each use. Sanitize them if necessary.
  - ✓ **Use separate cutting boards and utensils for raw and cooked foods:** This prevents cross-contamination.
  - ✓ **Control pests:** Take measures to prevent pests like flies, cockroaches, and rodents from accessing food preparation and storage areas.
  - ✓ **Dispose of waste properly:** Use covered bins and empty them regularly.
- **Food Storage Hygiene:**
  - ✓ **Store food at safe temperatures:** Refrigerate perishable foods promptly (within 2 hours, or 1 hour if the temperature is above 32°C). Ensure your refrigerator is at the correct temperature (4°C or below). Store frozen foods at -18°C or below.
  - ✓ **Separate raw and cooked foods in the refrigerator:** Store raw meat, poultry, and fish on the bottom shelves to prevent their juices from dripping onto other foods.

- ✓ **Use airtight containers for storing food:** This helps prevent contamination and keeps food fresh.
- ✓ **Follow the "first in, first out" (FIFO) rule:** Use older food items before newer ones.
- ✓ **Check expiry dates and "best before" dates:** Discard food that has expired.

- **Food Preparation and Cooking Hygiene:**
  - ✓ **Wash raw fruits and vegetables thoroughly under running water before use.**
  - ✓ **Cook food thoroughly to the correct internal temperatures:** Use a food thermometer to ensure that meat, poultry, eggs, and seafood reach safe internal temperatures to kill harmful bacteria.
  - ✓ **Avoid cross-contamination during preparation:** Keep raw and cooked foods separate. Wash hands and utensils after handling raw food.
  - ✓ **Reheat food thoroughly:** Ensure reheated food reaches a temperature of at least 75°C.
  - ✓ **Do not refreeze thawed food:** Refreezing can increase the risk of bacterial growth.

4. Adopting High Hygiene Standards When Handling Food:

Adopting high hygiene standards is not just about following rules; it's about developing a mindset and habits that prioritize food safety. This involves:

- ✓ **Awareness and Understanding:** Recognizing the potential risks associated with poor food hygiene and understanding the principles behind safe food handling practices.
- ✓ **Responsibility:** Taking personal responsibility for ensuring that the food you handle is safe for consumption.

- ✓ **Consistency:** Practicing good hygiene habits consistently, every time you handle food.
- ✓ **Continuous Learning:** Staying informed about best practices in food hygiene and safety.
- ✓ **Leading by Example:** If you are in a position to influence others (e.g., at home or in a food business), promoting and demonstrating high hygiene standards.

SUB-STRAND 1.4: METHODS OF COOKING

1. Reasons for Cooking Food:

Cooking food is a fundamental human activity with several important purposes:

- ✓ **Improving Digestibility:** Cooking breaks down complex carbohydrates, proteins, and fats, making them easier for our bodies to digest and absorb nutrients.
- ✓ **Enhancing Flavor and Aroma:** Heat can transform the flavor and aroma of food, making it more palatable and appealing. Chemical reactions during cooking create new and desirable tastes and smells.
- ✓ **Destroying Harmful Microorganisms:** Cooking food to the correct temperature kills bacteria, viruses, parasites, and other pathogens that can cause foodborne illnesses, making it safe to eat.
- ✓ **Changing Texture:** Cooking can soften tough tissues in meat and vegetables, making them more pleasant to eat. It can also create crispy or tender textures.
- ✓ **Increasing Shelf Life:** Cooking and then properly preserving food (e.g., canning, pickling) can extend its shelf life by destroying spoilage-causing microorganisms and enzymes.
- ✓ **Developing Culinary Skills and Creativity:** Understanding different cooking methods allows for greater creativity in the kitchen and the development of valuable culinary skills.

- ✓ **Cultural and Social Significance:** Cooking and sharing food is often a central part of cultural traditions and social gatherings, fostering a sense of community and belonging.

2. Categories of Methods of Cooking:

Methods of cooking are broadly categorized based on how heat is transferred to the food. The main categories are:

- **Moist Heat Cooking:** This involves using water, steam, or other liquids to transfer heat to the food.
  - ✓ **Boiling:** Cooking food in water or another liquid that is heated to its boiling point (around 100°C at sea level). Examples: boiling potatoes, eggs, pasta.

  - ❖ **General Rules:** Ensure enough liquid to cover the food, bring liquid to a boil before adding food (unless starting with cold water is desired), control the heat to maintain a gentle boil, and cook until the food is tender.
  - ❖ **Advantages:** Relatively simple, can cook large quantities of food at once, helps to tenderize some foods.
  - ❖ **Disadvantages:** Can lead to loss of water-soluble vitamins and minerals, may make some foods mushy if overcooked.

- ✓ **Stewing:** Cooking food slowly in a small amount of liquid (stock, sauce, or water) in a covered pot. The food is often cut into small pieces. Examples: beef stew, vegetable stew.

  - ❖ **General Rules:** Brown the meat (if using) for added flavor, add enough liquid to just cover the food, bring to a simmer and then cook gently over low heat for a longer period, allowing flavors to meld.
  - ❖ **Advantages:** Tenderizes tougher cuts of meat, develops rich flavors as ingredients cook together, retains moisture.
  - ❖ **Disadvantages:** Takes a longer time to cook.
- ✓ **Steaming:** Cooking food over boiling water, allowing the steam to transfer heat. The food does not come into direct contact with the liquid. Examples: steaming vegetables, fish, dumplings.

  - ❖ **General Rules:** Use a steamer basket or rack placed above boiling water, ensure the water level is below the basket, cover the food to trap the steam, and cook until tender.
  - ❖ **Advantages:** Retains nutrients, color, and flavor of food better than boiling, requires little or no added fat.

- **Disadvantages:** Can be slower than boiling for some foods, may require specialized equipment.

✓ **Poaching:** Cooking delicate foods in a liquid (water, stock, milk, or wine) that is heated to a temperature just below boiling (around 70-85°C). Examples: poaching eggs, fish fillets, fruits.

- **General Rules:** Use enough liquid to cover the food, maintain a gentle simmer (small bubbles forming but not rapidly boiling), cook until just cooked through.
- **Advantages:** Gentle cooking method that preserves the delicate texture and flavor of food.
- **Disadvantages:** Requires careful temperature control, not suitable for all types of food.

- **Dry Heat Cooking:** This involves using hot air, direct flame, or hot surfaces to transfer heat to the food.

✓ **Roasting:** Cooking food in an oven using hot, dry air circulating around it. Often used for larger pieces of meat, poultry, and vegetables. Examples: roasting chicken, potatoes, a leg of lamb.


- **General Rules:** Preheat the oven to the desired temperature, place food on a roasting pan or rack, baste occasionally to keep moist (if needed), and cook until the internal temperature is reached.
- **Advantages:** Develops rich flavors and crispy exteriors, can cook large pieces of food evenly.
- **Disadvantages:** Can dry out food if not done properly, takes a longer time.

✓ **Grilling:** Cooking food over direct heat from a heat source below (e.g., charcoal, gas grill, electric grill). Examples: grilling meat, fish, vegetables, kebabs.


- **General Rules:** Preheat the grill, oil the grates to prevent sticking, cook food over medium to high heat, turning as needed to ensure even cooking and prevent burning.

- **Advantages:** Imparts a smoky flavor, creates attractive grill marks, relatively fast cooking method for smaller pieces of food.
- **Disadvantages:** Requires careful attention to prevent burning, can produce smoke.

✓ **Baking:** Cooking food in an oven using hot, dry air, similar to roasting, but often used for foods with a more delicate structure, like bread, cakes, pastries, and casseroles. Examples: baking bread, cakes, cookies, lasagna.


- **General Rules:** Preheat the oven to the correct temperature, follow specific recipes for mixing ingredients and baking times, use appropriate baking dishes or trays.
- **Advantages:** Can create a wide variety of textures and flavors, allows for complex recipes.
- **Disadvantages:** Requires precise measurements and temperature control, can be time-consuming.

✓ **Frying:** Cooking food by immersing it in hot oil or fat.

- **Shallow Frying (Sautéing/Pan-frying):** Cooking small pieces of food in a small amount of hot oil in a pan. Examples: frying eggs, sautéing vegetables, pan-frying fish fillets.

- ✓ **General Rules:** Heat the oil to the correct temperature before adding food, avoid overcrowding the pan, cook until golden brown and cooked through, turning as needed.
- ✓ **Advantages:** Relatively fast, creates a crispy exterior and tender interior.
- ✓ **Disadvantages:** Adds fat to the food, can be messy if not done carefully.

❖ **Deep Frying:** Cooking food completely submerged in hot oil. Examples: French fries, fried chicken, doughnuts.

- ✓ **General Rules:** Heat a sufficient amount of oil to the correct temperature, use a deep fryer or a deep pot with a thermometer, carefully add food in batches, and cook until golden brown and cooked through. Drain excess oil after frying.
- ✓ **Advantages:** Cooks food quickly and evenly, creates a crispy exterior.
- ✓ **Disadvantages:** Adds a significant amount of fat to the food, requires careful temperature control for safety and best results, can be messy.

3. Preparing and Cooking Food Using Different Methods:

This section involves practical application of the knowledge gained. You will learn to prepare ingredients and then cook them using various methods.

- **Food Preparation (Mise en Place):** Before cooking, it's essential to prepare the ingredients. This includes:
  - ✓ **Cleaning:** Washing fruits, vegetables, and sometimes rinsing meats (follow food safety guidelines).

- ✓ **Blending:** Combining ingredients to create a smooth mixture (e.g., for sauces or smoothies).
- ✓ **Kneading:** Working dough with your hands to develop gluten (important for bread making).
- ✓ **Mixing:** Combining different ingredients together (e.g., for batters or salads).
- ✓ **Cutting:** Preparing ingredients into appropriate sizes and shapes:
  - ✓ **Chopping:** Cutting into roughly equal, bite-sized pieces.
  - ✓ **Slicing:** Cutting into thin, flat pieces.
  - ✓ **Peeling:** Removing the outer skin or rind.
  - ✓ **Grating:** Shredding food into small pieces using a grater.
  - ✓ **Dicing:** Cutting into small, even cubes.

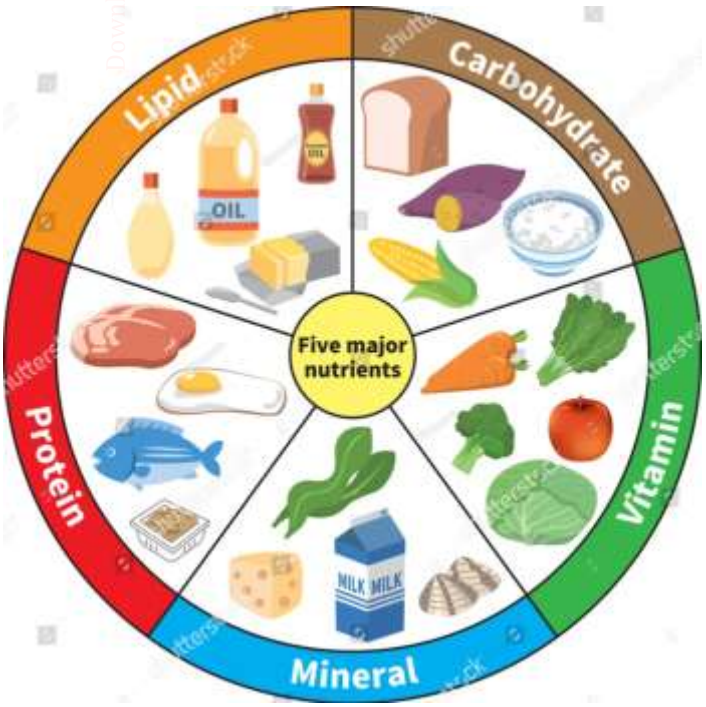
4. Observing Safety While Preparing and Cooking Food:

Safety is paramount in the kitchen. When preparing and cooking food using different methods, always observe the following safety precautions:

- **Preventing Burns and Scalds:**
  - ✓ Use oven mitts or pot holders when handling hot pots, pans, and baking dishes.
  - ✓ Turn pot handles inward on the stove to prevent them from being accidentally knocked over.
  - ✓ Be careful when lifting lids from hot pots, as steam can cause burns.
  - ✓ Use caution when working with hot oil; avoid splattering.
- **Preventing Cuts:**
  - ✓ Use sharp knives carefully and cut away from your body.
  - ✓ Always use a cutting board.
  - ✓ Store knives safely in a knife block or rack.
  - ✓ Sweep up any broken glass immediately and carefully.

- **Preventing Electrical Shocks:**
  - ✓ Keep electrical appliances away from water.
  - ✓ Ensure your hands are dry when using electrical appliances.
  - ✓ Check that electrical cords are in good condition.
  - ✓ Do not overload electrical outlets.
- **Preventing Fires:**
  - ✓ Never leave cooking unattended, especially when using oil or high heat.
  - ✓ Keep flammable materials (e.g., towels, paper) away from the stove and oven.
  - ✓ Know how to use a fire extinguisher and have one readily accessible in the kitchen.
- **Maintaining a Clean and Organized Workspace:**
  - ✓ Keep countertops and floors clean and free of clutter to prevent trips and falls.
  - ✓ Wipe up spills immediately.

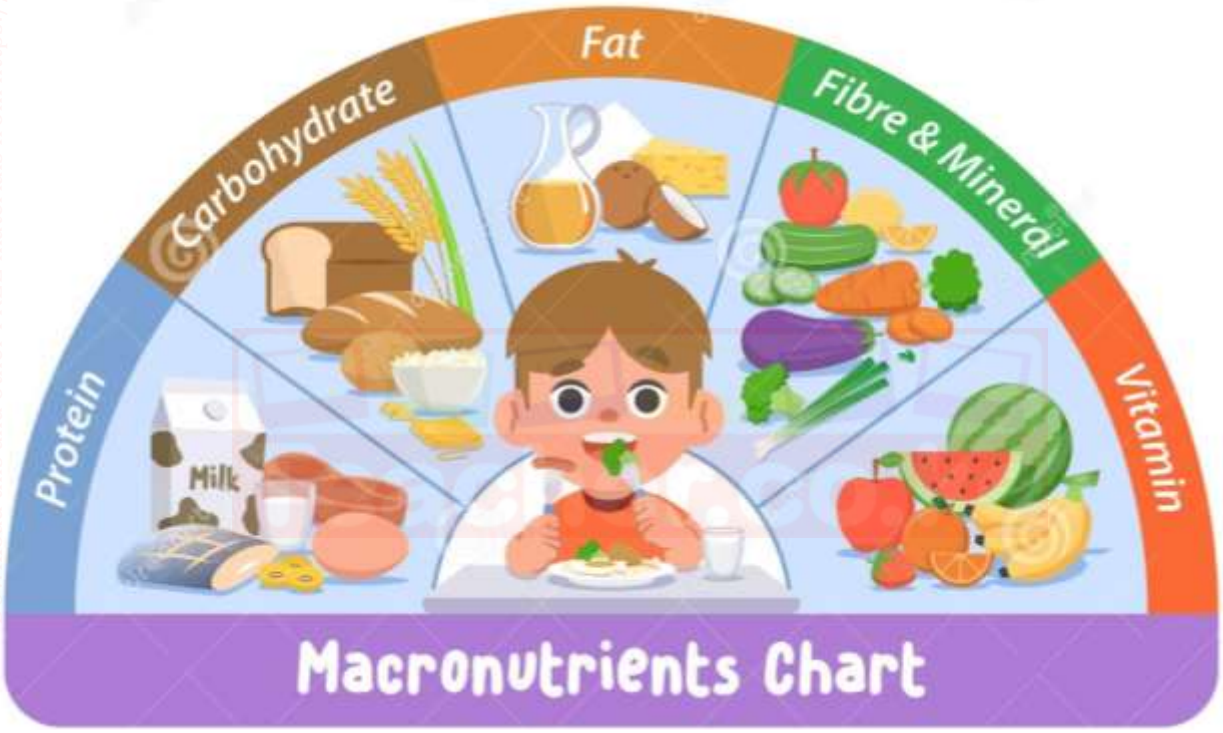
SUB-STRAND 1.5: NUTRITIVE VALUE OF FOODS



1. Classification of Food Nutrients:

Food contains various nutrients that are essential for the body to function properly. These nutrients can be classified into the following categories:

- **Macronutrients:** These are needed in larger amounts and provide the body with energy.



- ✓ **Carbohydrates:** The body's primary source of energy. They are found in foods like grains (rice, maize, wheat), starchy vegetables (potatoes, cassava), fruits, and sugars.
  - ✓ **Functions:** Provide energy for daily activities, brain function, and body processes. Dietary fiber, a type of carbohydrate, aids in digestion.
- ✓ **Proteins:** Essential for building and repairing body tissues (muscles, organs, skin, hair, nails). They are found in foods like meat, poultry, fish, eggs, dairy products, beans, lentils, and nuts.

- ✓ **Functions:** Growth and repair of tissues, production of enzymes and hormones, component of the immune system, can provide energy when carbohydrates and fats are insufficient.

- ✓ **Fats (Lipids):** Another source of energy and important for various bodily functions. They are found in oils, butter, avocados, nuts, seeds, and fatty meats.
  - ✓ **Functions:** Provide energy, insulate the body, protect organs, help absorb fat-soluble vitamins (A, D, E, K), essential for cell structure and hormone production.

- **Micronutrients:** These are needed in smaller amounts but are vital for health.
  - ✓ **Vitamins:** Organic compounds that regulate various body processes. They are found in a wide variety of fruits, vegetables, and animal products. Examples include Vitamin A, Vitamin C, Vitamin D, Vitamin E, Vitamin K, and B vitamins.
    - ✓ **Functions:** Involved in energy production, immune function, vision, bone health, blood clotting, and many other processes.
  - ✓ **Mineral Salts (Minerals):** Inorganic elements that the body needs for structural support and to regulate various functions. They are found in a wide range of foods. Examples include calcium, iron, potassium, sodium, iodine, and zinc.
    - ✓ **Functions:** Bone and teeth formation, nerve and muscle function, fluid balance, oxygen transport, enzyme activity, and many other processes.
- **Other Important Components:**
  - ✓ **Dietary Fiber:** A type of carbohydrate that the body cannot digest. Found in fruits, vegetables, whole grains, and legumes.
    - ✓ **Functions:** Aids digestion, promotes bowel regularity, helps control blood sugar levels, may lower cholesterol levels, and contributes to a feeling of fullness.

- ✓ **Water:** Essential for all bodily functions. It makes up a large percentage of our body weight and is involved in transportation of nutrients, waste removal, temperature regulation, and many chemical reactions. Found in beverages and many foods, especially fruits and vegetables.
  - ✓ **Functions:** Transports nutrients and waste, regulates body temperature, lubricates joints and tissues, involved in metabolic reactions.

Grouping Nutrients by Function:

- ❖ **Energy-Giving Foods:** Primarily carbohydrates and fats. These provide the fuel our bodies need to function.
- ❖ **Body-Building Foods:** Primarily proteins. These are essential for growth, repair, and maintenance of body tissues.
- ❖ **Protective Foods:** Primarily vitamins and minerals. These help regulate body processes and protect against diseases. Dietary fiber and water also play protective roles.

2. Fortification and Enrichment of Foods:

- **Fortification:** The process of adding nutrients to foods that were not originally present in significant amounts.
- **Enrichment:** The process of adding nutrients back to foods that were lost during processing.

Reasons for Fortification and Enrichment:

- ✓ **Improving Nutritional Value:** To increase the intake of essential nutrients in the population.

- ✓ **Preventing Nutrient Deficiencies:** To address common nutritional deficiencies and related health problems.
- ✓ **Public Health Initiatives:** Often implemented as part of public health programs to improve the overall health of a population.
- ✓ **Restoring Nutrients Lost During Processing:** Enrichment aims to bring the nutrient content of processed foods closer to their original state.

Relevant Examples:

- ✓ **Iodized Salt:** Iodine is added to table salt to prevent iodine deficiency disorders like goiter and cretinism.
- ✓ **Fortified Milk and Margarine:** Often fortified with Vitamin D to improve calcium absorption and bone health.
- ✓ **Enriched Wheat Flour:** B vitamins (thiamin, riboflavin, niacin) and iron are often added back to wheat flour after processing.
- ✓ **Fortified Cereals:** Breakfast cereals are often fortified with various vitamins and minerals.
- ✓ **Vitamin A fortified sugar and cooking oil:** In some regions where Vitamin A deficiency is prevalent, these staples are fortified.

3. Nutritional Deficiencies and Disorders:

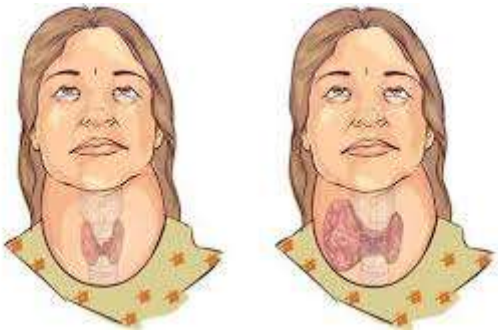
A balanced diet provides all the necessary nutrients in the right amounts. When the intake of one or more essential nutrients is consistently inadequate, it can lead to nutritional deficiencies and various health disorders.

- **Causes of Nutritional Deficiencies:**
  - ✓ **Inadequate Dietary Intake:** Not consuming enough of nutrient-rich foods.
  - ✓ **Poor Absorption:** Certain medical conditions can interfere with the body's ability to absorb nutrients from food.

- ✓ **Increased Nutrient Requirements:** During periods of rapid growth (e.g., childhood, adolescence, pregnancy), or due to certain illnesses, the body may require more of specific nutrients.
- ✓ **Food Insecurity:** Lack of access to sufficient, safe, and nutritious food.
- ✓ **Unbalanced Diets:** Diets that are high in processed foods and low in fruits, vegetables, and whole grains.

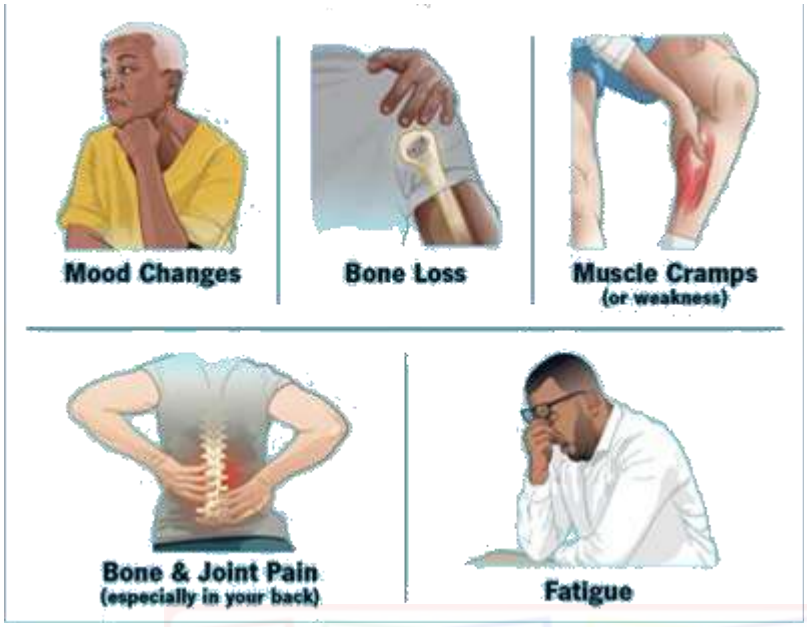
- **Examples of Nutritional Deficiencies and Disorders:**
  - ✓ **Iron Deficiency Anemia:** Caused by a lack of iron, leading to fatigue, weakness, and pale skin.

- ✓ **Iodine Deficiency Disorders (IDD):** Can result in goiter, hypothyroidism, and developmental problems.



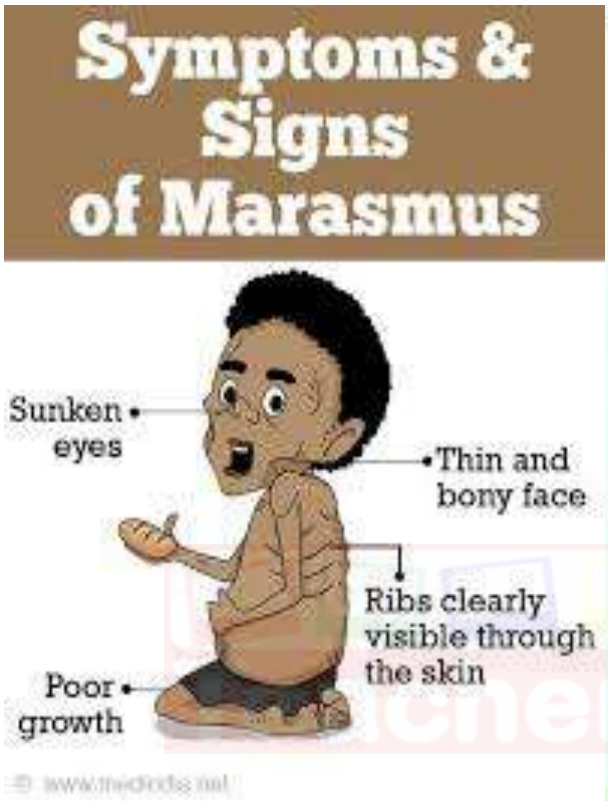
- ✓ **Vitamin A Deficiency:** Can cause night blindness, increased risk of infections, and impaired growth.

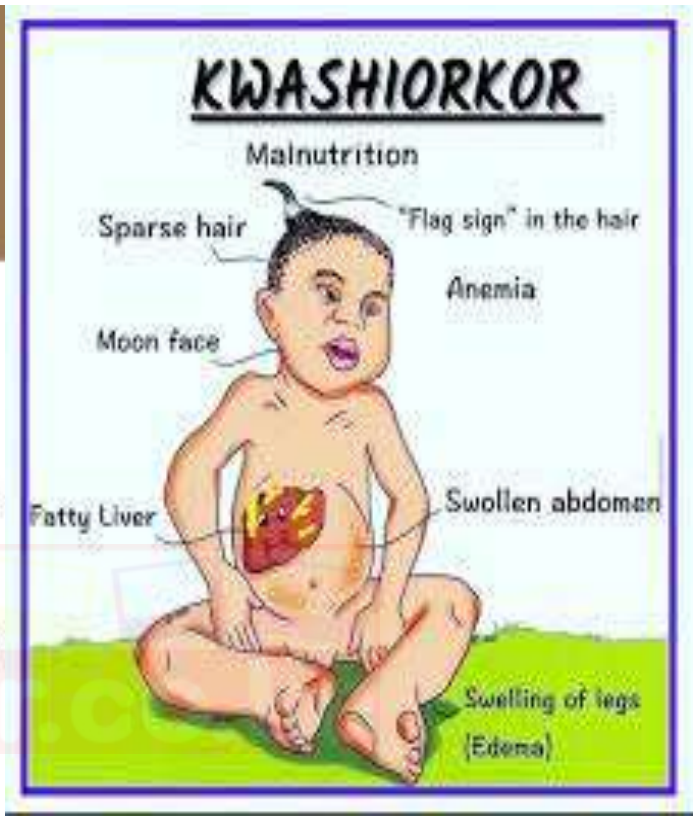
- ✓ **Vitamin D Deficiency:** Can lead to rickets (in children) and osteomalacia (in adults), affecting bone health.



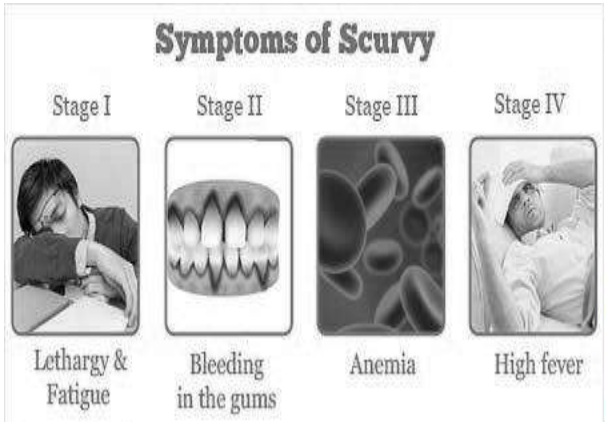
- ✓ **Calcium Deficiency:** Can contribute to weak bones and teeth (osteoporosis).

- ✓ **Protein-Energy Malnutrition (PEM):** A broad term for conditions resulting from inadequate intake of protein and calories, such as kwashiorkor and marasmus.

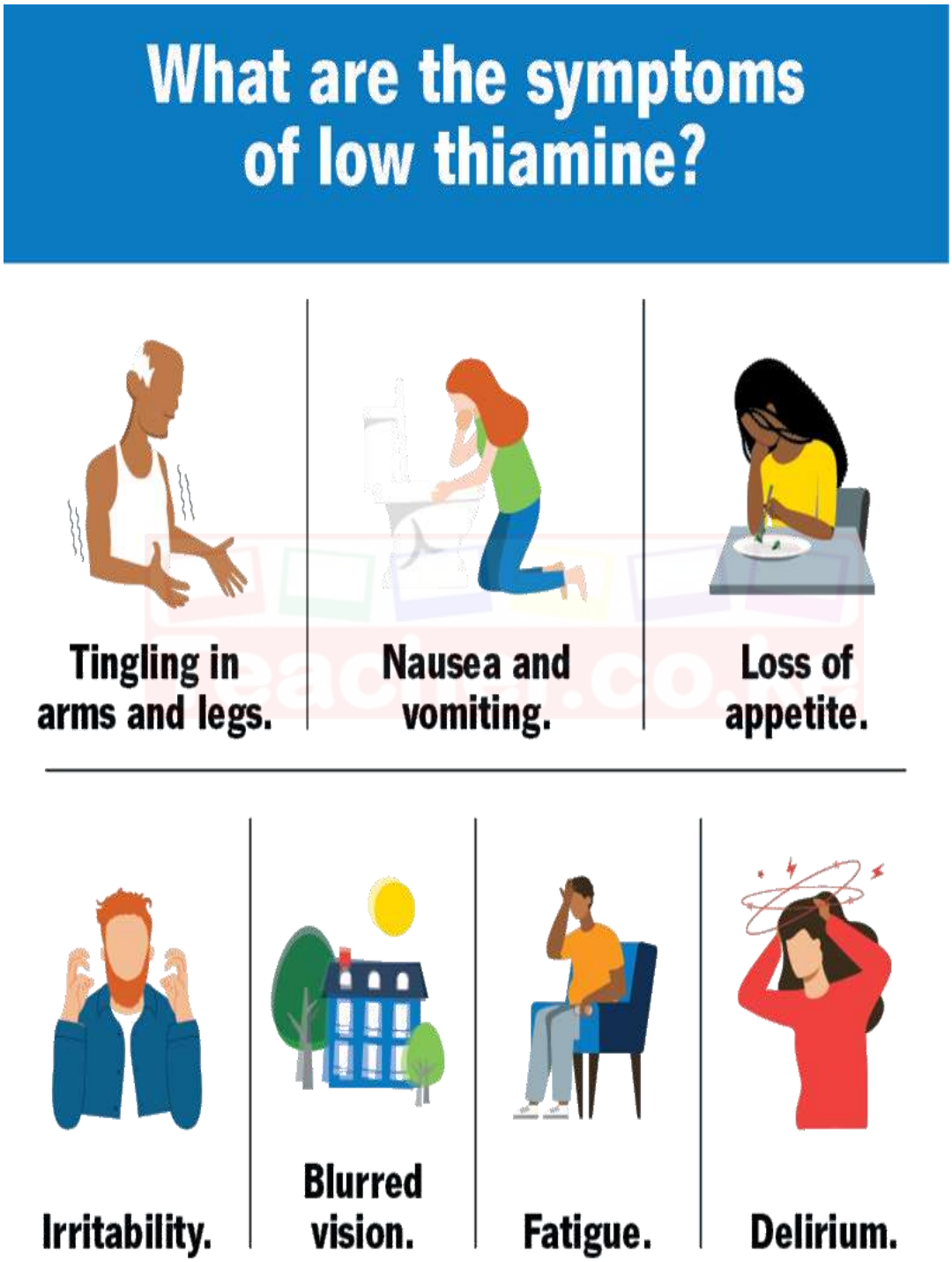




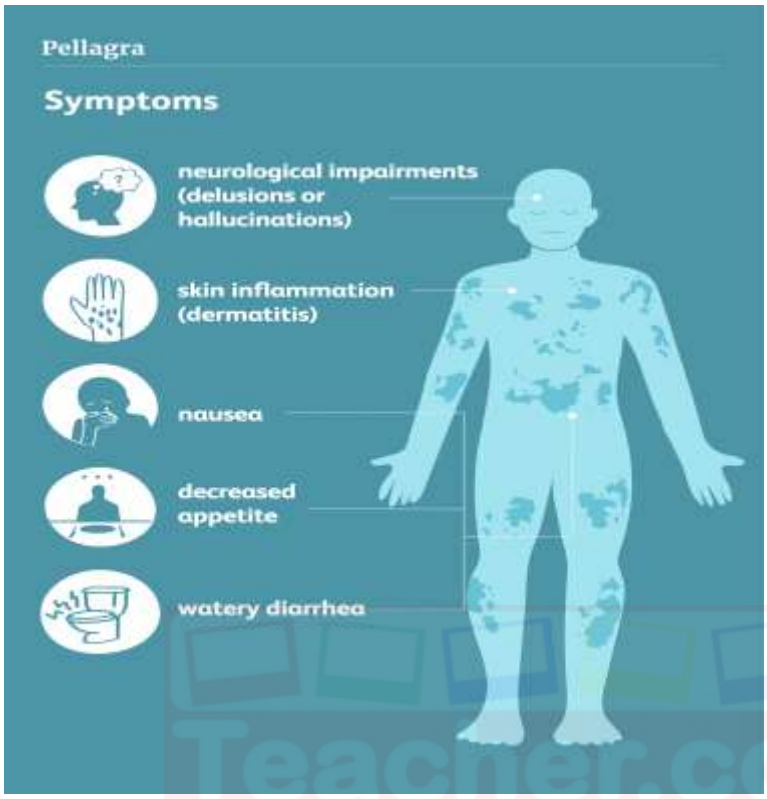
- ✓ **Scurvy:** Caused by Vitamin C deficiency, leading to weakness, bleeding gums, and skin problems.



- ✓ **Beriberi:** Caused by thiamin (Vitamin B1) deficiency, affecting the nervous and cardiovascular systems.



- ✓ **Pellagra:** Caused by niacin (Vitamin B3) deficiency, characterized by dermatitis, diarrhea, and dementia.



- **Prevention and Management of Nutritional Deficiencies:**
  - ✓ Consuming a balanced and varied diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats.
  - ✓ Ensuring adequate intake of micronutrient-rich foods.
  - ✓ Considering fortified foods when dietary intake is insufficient.
  - ✓ In some cases, supplementation with vitamins or minerals under the guidance of a healthcare professional.
  - ✓ Addressing underlying medical conditions that may affect nutrient absorption.
  - ✓ Promoting food security and access to nutritious foods.
  - ✓ Nutrition education to encourage healthy eating habits.

4. Formulating Meal Plans to Address Nutritional Needs:

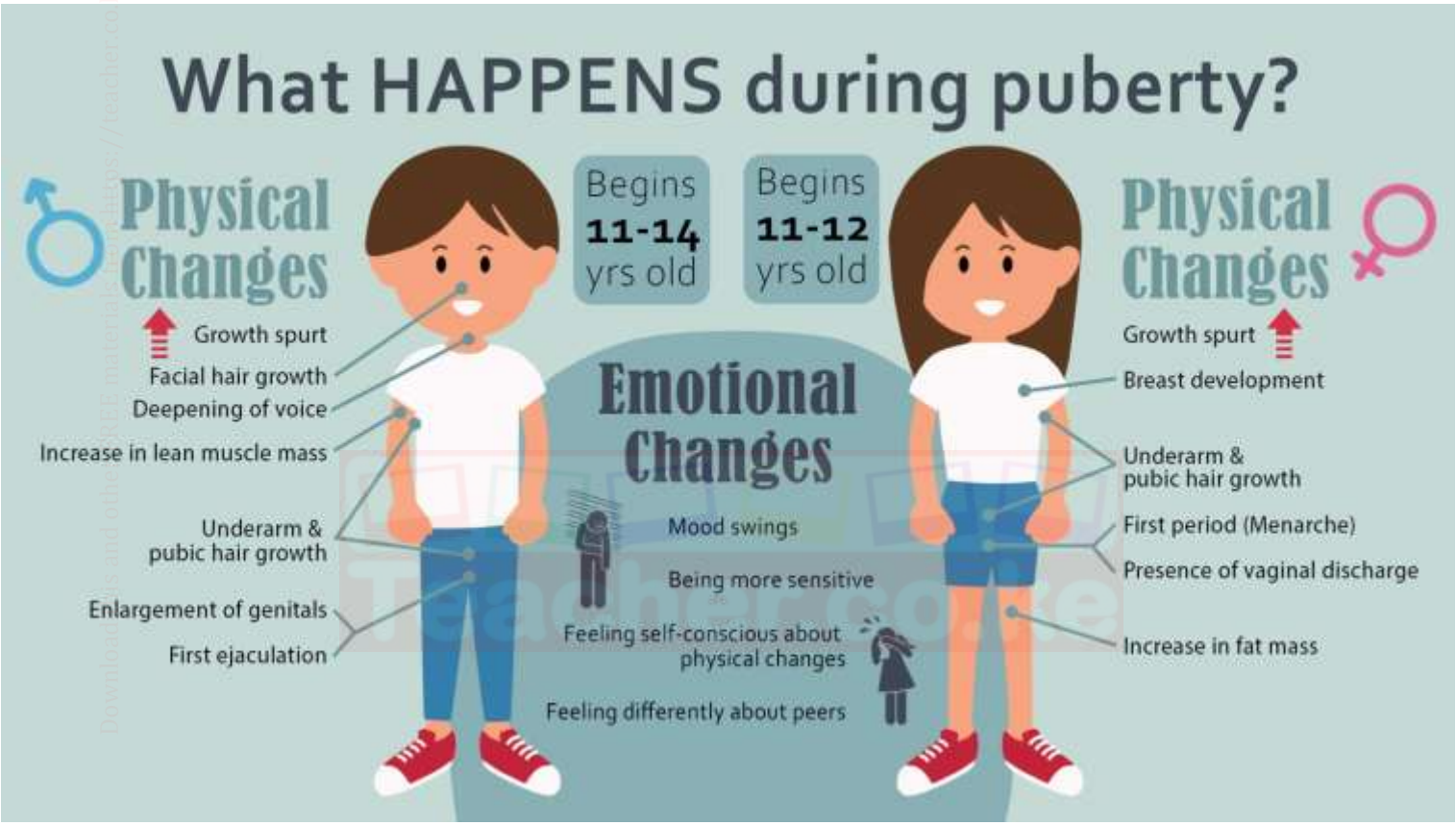
Understanding food groups and nutrient content allows you to plan balanced meals that meet the body's nutritional requirements and can help address or prevent nutritional deficiencies.

- **Key Principles of Meal Planning:**
  - ✓ **Variety:** Include foods from all food groups (carbohydrates, proteins, fats, fruits, vegetables, dairy or alternatives) to ensure a wide range of nutrients.
  - ✓ **Balance:** Consume appropriate proportions of each food group.
  - ✓ **Moderation:** Avoid excessive intake of fats, sugars, and salt.
  - ✓ **Adequacy:** Ensure that the meal plan provides enough calories and essential nutrients to meet individual needs based on age, sex, activity level, and health status.
  - ✓ **Consideration of Local Availability and Affordability:** Plan meals using foods that are accessible and affordable in your community.
  - ✓ **Addressing Specific Nutritional Needs:** If planning meals to address a deficiency or disorder, focus on including foods rich in the deficient nutrient.

STRAND 2.0: HOME MANAGEMENT

SUB-STRAND 2.1: HYGIENE DURING PUBERTY (4 Lessons)

1. Review of Changes during Puberty:



Puberty is a period of significant physical, hormonal, and emotional changes as a child transitions into adolescence. Understanding these changes is essential for appreciating the need for specific hygiene practices.

- **Physical Changes:**
  - ✓ **Growth Spurts:** Rapid increase in height and weight.
  - ✓ **Development of Secondary Sexual Characteristics:**
    - **Boys:** Deepening of voice, growth of facial and body hair, development of muscles, enlargement of testes and penis.

    - **Girls:** Breast development, widening of hips, onset of menstruation (menarche), growth of pubic and underarm hair.
  - ✓ **Increased Activity of Sweat and Oil Glands:** Leading to increased sweating and potentially oily skin and hair.
- **Hormonal Changes:** The release of hormones like estrogen and testosterone triggers these physical changes and can also influence mood and emotions.
- **Emotional Changes:** Adolescents may experience a wider range of emotions, increased self-consciousness, and a greater awareness of their bodies.

2. Personal Hygiene Practices during Puberty (Boys and Girls):

The increased hormonal activity and physical changes during puberty necessitate specific hygiene practices to maintain cleanliness, prevent body odor, and promote overall health.

- **General Hygiene Practices for Both Boys and Girls:**
  - ✓ **Regular Showering or Bathing:** Daily washing with soap and water is crucial to remove sweat, oil, and bacteria from the skin. Pay particular attention to areas with increased sweat production, such as underarms and groin.
  - ✓ **Using Deodorant or Antiperspirant:** Deodorants help to mask body odor, while antiperspirants help to reduce sweating. These should be applied to clean, dry underarms.
  - ✓ **Washing Face Regularly:** Increased oil production can lead to acne. Washing the face gently with a mild cleanser two to three times a day can help.
  - ✓ **Hair Care:** Washing hair regularly (frequency depends on hair type and oiliness) helps to keep it clean and prevent odor.
  - ✓ **Oral Hygiene:** Brushing teeth at least twice a day and flossing daily is important for fresh breath and preventing dental problems.

- ✓ **Wearing Clean Clothes:** Change underwear and socks daily, and other clothing regularly, especially after physical activity.
- ✓ **Hand washing:** Frequent hand washing with soap and water, especially before eating and after using the toilet, is essential to prevent the spread of germs.

- **Specific Hygiene Practices for Boys During Puberty:**
  - ✓ **Genital Hygiene:** Regular cleaning of the penis and scrotum is important. For uncircumcised boys, gently retracting the foreskin and washing underneath is necessary.
  - ✓ **Managing Increased Sweating:** Due to increased physical activity and hormonal changes, boys may sweat more. Regular showering and the use of antiperspirants are important.
  - ✓ **Facial Hair Care:** As facial hair begins to grow, regular washing and grooming (shaving or trimming) are necessary.
- **Specific Hygiene Practices for Girls During Puberty (Menstrual Hygiene):**
  - ✓ **Understanding the Menstrual Cycle:** Learning about menstruation is the first step towards managing it hygienically.
  - ✓ **Using Sanitary Products:** During menstruation, it's essential to use sanitary pads, tampons, or menstrual cups to absorb menstrual flow.
  - ✓ **Changing Sanitary Products Regularly:** Pads and tampons should be changed frequently (every 4-8 hours, or more often if needed) to prevent odor and reduce the risk of infections. Menstrual cups should be emptied and cleaned according to the manufacturer's instructions.
  - ✓ **Proper Disposal of Sanitary Products:** Used pads and tampons should be wrapped properly and disposed of in designated bins. They should never be flushed down the toilet. Menstrual cups should be rinsed and sterilized as recommended.

- ✓ **Maintaining Genital Cleanliness:** Washing the external genital area with mild soap and water at least once a day is important. Avoid harsh soaps or douches, as they can disrupt the natural balance of bacteria.
- ✓ **Managing Discomfort During Menstruation:** Some girls experience cramps or discomfort during menstruation. Gentle exercise, warm baths, or using a hot water bottle can help alleviate these symptoms. Pain relievers may also be used if necessary (following appropriate guidance).
- ✓ **Grooming:** Maintaining overall cleanliness, including regular showering, clean clothing, and paying attention to body odor, is important during menstruation as well.
- ✓ **Handling Dignity Kits:** If dignity kits (containing sanitary pads, soap, underwear, etc.) are provided, it's important to understand how to use and store the items properly.

3. Maintaining a Log on Personal Hygiene Practices:

Keeping a log can help you become more aware of your hygiene habits and identify areas for improvement.

- **How to Maintain a Hygiene Log:**
  - ✓ Create a simple chart or table in your notebook or on a digital device.
  - ✓ Include columns for the date, time, and specific hygiene practices (e.g., showering, brushing teeth, changing pad, using deodorant).
  - ✓ Record each time you perform a hygiene activity.
  - ✓ At the end of each day or week, review your log to see how consistently you are practicing good hygiene.
  - ✓ Reflect on any challenges you faced and think about how you can overcome them.

4. Appreciating the Importance of Personal Hygiene During Puberty:

Understanding the benefits of good hygiene during puberty can motivate you to adopt and maintain these practices.

- **Benefits of Good Hygiene During Puberty:**
  - ✓ **Preventing Body Odor:** Hormonal changes lead to increased sweat production, which can cause body odor when bacteria break it down. Regular washing and the use of deodorants help manage this.
  - ✓ **Preventing Acne and Skin Problems:** Increased oil production can clog pores and lead to acne. Proper face washing and hygiene can help prevent breakouts.
  - ✓ **Preventing Infections:** Good hygiene, especially handwashing and proper menstrual hygiene, helps prevent the spread of bacteria and reduces the risk of infections.
  - ✓ **Promoting Overall Health and Well-being:** Feeling clean and fresh contributes to a sense of well-being and self-confidence.
  - ✓ **Social Acceptance:** Maintaining good hygiene helps in social interactions and prevents feelings of embarrassment.
  - ✓ **Developing Healthy Habits for Life:** Establishing good hygiene practices during puberty sets the foundation for lifelong healthy habits.

SUB-STRAND 2.2: SAFETY IN THE HOME

1. Causes of Accidents and Injuries at Home (and Preventive Measures):

Accidents can happen anywhere, and the home is no exception. Understanding the common causes can help us take steps to prevent them.

- **Falls:**

  - ✓ **Causes:** Slippery floors (wet spills, polished surfaces), loose rugs or carpets, cluttered walkways, poor lighting, unstable furniture, tripping on objects left on stairs or floors.
  - ✓ **Preventive Measures:** Wipe up spills immediately, use non-slip mats and rugs, ensure adequate lighting, keep walkways clear of clutter, repair or remove unstable furniture, use handrails on stairs.
- **Cuts and Piercing Injuries:**

  - ✓ **Causes:** Sharp knives and other kitchen utensils handled carelessly, broken glass, sharp edges on furniture or appliances, nails or screws sticking out.

- ✓ **Preventive Measures:** Use knives properly and store them safely (e.g., in a knife block), handle glass carefully and clean up broken glass immediately, ensure furniture and appliances are in good repair, hammer in protruding nails or screws.

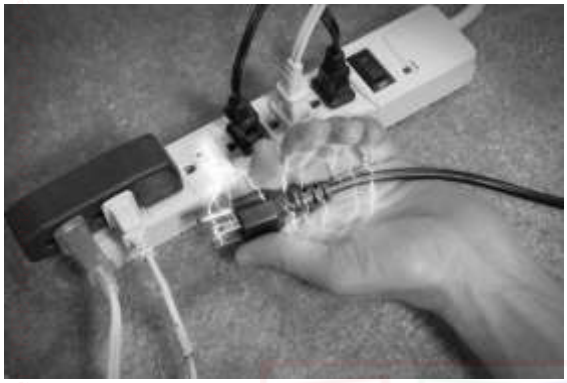
❖ **Burns and Scalds:**

- ✓ **Causes:** Contact with hot surfaces (stoves, irons), hot liquids (boiling water, hot oil), steam, flames, chemicals, and electrical faults.
- ✓ **Preventive Measures:** Use oven mitts or pot holders when handling hot items, keep hot liquids away from edges of counters, supervise children in the kitchen, keep flammable materials away from heat sources, have electrical appliances checked regularly.

❖ **Poisoning:**

- ✓ **Causes:** Ingesting harmful chemicals (cleaning products, pesticides), medications taken incorrectly, poisonous plants.
- ✓ **Preventive Measures:** Store all chemicals and medications in clearly labeled containers out of reach of children, follow dosage instructions carefully, identify and remove poisonous plants from the home and garden.

❖ **Electrical Shocks:**



- ✓ **Causes:** Faulty wiring, damaged appliances, overloading outlets, using electrical appliances near water.
- ✓ **Preventive Measures:** Have electrical wiring checked by a qualified electrician, repair or replace damaged appliances, avoid overloading outlets, keep electrical appliances away from sinks and bathtubs.

❖ **Choking and Suffocation:**

- ✓ **Causes:** Swallowing large pieces of food, small objects being put in the mouth (especially by young children), plastic bags, loose bedding.

- ✓ **Preventive Measures:** Cut food into small pieces, supervise young children while eating, keep small objects out of reach of infants and toddlers, store plastic bags safely, ensure cribs and beds have firm mattresses and no loose bedding.

- ❖ **Drowning:**
  - ✓ **Causes:** Unsupervised access to swimming pools, bathtubs, buckets of water.
  - ✓ **Preventive Measures:** Supervise children closely near water, use pool fences and covers, never leave a child unattended in a bathtub, empty buckets and other water containers immediately after use.
- ❖ **Sprains and Strains:**
  - ✓ **Causes:** Twisting ankles or wrists due to uneven surfaces, lifting heavy objects incorrectly.
  - ✓ **Preventive Measures:** Wear appropriate footwear, ensure even walking surfaces, learn and use proper lifting techniques.

2. Contents of the First Aid Kit and Their Uses:

A well-stocked First Aid kit is essential for providing immediate care for minor injuries at home. The contents should be appropriate for the types of injuries that are likely to occur.

- **Basic Contents of a First Aid Kit:**
  - ✓ **Adhesive bandages (various sizes):** To cover and protect minor cuts and scrapes.

  - ✓ **Sterile gauze pads (various sizes):** To cover larger wounds or burns.

  - ✓ **Adhesive tape:** To secure gauze pads or bandages.

  - ✓ **Antiseptic wipes or solution:** To clean wounds and prevent infection.

- ✓ **Pain relievers (e.g., paracetamol, ibuprofen):** For mild pain and fever (follow dosage instructions and be aware of allergies).

- ✓ **Antiseptic cream or ointment:** To help prevent infection in minor cuts and burns.

- ✓ **Tweezers:** To remove splinters or small objects from wounds.

- ✓ **Scissors:** To cut bandages or tape.

- ✓ **Safety pins:** To secure bandages.

- ✓ **Latex-free gloves:** To protect the caregiver from contact with blood or other body fluids.

- ✓ **CPR breathing barrier with one-way valve:** For safe mouth-to-mouth resuscitation (if trained).

- ✓ **Burn cream or gel:** To soothe minor burns.

- ✓ **Eye wash solution:** To rinse out irritants from the eyes.

- ✓ **Triangular bandage:** To support slings for arm injuries or to secure dressings.

- ✓ **Roller bandages (various widths):** To secure dressings or provide support.

- ✓ **First Aid manual or instructions:** For guidance on how to treat different injuries.

- ✓ **Emergency contact information:** List of important phone numbers (ambulance, doctor, poison control).

3. Carrying Out First Aid for Various Injuries at Home:

Knowing how to administer basic First Aid can make a significant difference in managing injuries until professional help arrives.

- **General First Aid Principles (DRABC):**
  - ✓ **Danger:** Ensure the scene is safe for yourself and the injured person. Remove any hazards if possible.
  - ✓ **Response:** Check if the person is conscious. Gently shake their shoulder and ask loudly, "Are you alright?"
  - ✓ **Airway:** If the person is unresponsive, check if their airway is open. Tilt their head back and lift their chin.
  - ✓ **Breathing:** Check if the person is breathing normally. Look, listen, and feel for breathing for about 10 seconds.
  - ✓ **Circulation:** If the person is not breathing, or not breathing normally, check for signs of circulation (e.g., coughing, movement). If there are no signs, begin CPR if you are trained.
- **First Aid for Specific Injuries:**
  - ✓ **Burns and Scalds:**

Minor Burns (Red skin, pain):

a) Cool the burn immediately under cool (not ice-cold) running water for 10-20 minutes.
b) Cover with a sterile, non-adhesive dressing.
c) Do not apply ointments or butter.

- ✓ **More Severe Burns (Blisters, deep skin damage):**

a) Do not break blisters.
b) Cover with a sterile, non-adhesive dressing.
c) Seek medical attention.

- ✓ **Chemical Burns:**

a) Flush the affected area with large amounts of water for at least 20 minutes.
b) Remove contaminated clothing carefully.
c) Seek medical attention.

✓ **Cuts and Bruises:**

✓ **Minor Cuts:**

a) Wash the cut thoroughly with mild soap and water.
b) Apply an antiseptic solution.
c) Cover with a clean bandage.

✓ **Bleeding Cuts:**

a) Apply direct pressure to the wound with a clean cloth until bleeding stops.
b) If bleeding is severe or doesn't stop, seek medical attention.
c) Once bleeding stops, clean the wound and apply a bandage.

✓ **Bruises:**

a) Apply a cold compress to reduce swelling and pain.
b) Elevate the injured limb if possible.

✓ **Fractures (Broken Bones):**

a) Do not try to straighten the limb.
b) Immobilize the injured area using a splint (e.g., a piece of cardboard or wood) and bandages.
c) Support the injured limb.
d) Seek immediate medical attention.

✓ **Fainting:**

a) If someone feels faint, help them lie down with their legs raised.
b) Loosen any tight clothing. Ensure fresh air.
c) If they have fainted, check for responsiveness and breathing.
d) If they recover quickly, keep them lying down for a few minutes.
e) If they don't regain consciousness, seek medical help.

✓ **Sprains:**

✓ Follow the RICE principle:

a) **Rest:** Avoid using the injured limb.
b) **Ice:** Apply ice packs wrapped in a cloth for 15-20 minutes at a time, several times a day.
c) **Compression:** Wrap the injured area with a supportive bandage (not too tight).
d) **Elevation:** Keep the injured limb raised above the heart if possible.
e) Seek medical attention if the pain is severe or there is significant swelling or inability to bear weight.

✓ **Drowning:**

a) Ensure your own safety first.
b) Remove the person from the water.
c) Check for responsiveness and breathing.
d) If they are not breathing, start CPR if you are trained.
e) Seek immediate medical help.
f) Keep the person warm.

✓ **Choking:**

Conscious Adult/Child:

a) Ask "Are you choking? Can you speak or cough?"

b) If they can cough forcefully, encourage them to continue coughing.

c) If they cannot speak, cough, or breathe:

Heimlich Maneuver (Abdominal Thrusts):

a) Stand behind the person, wrap your arms around their waist.

b) Make a fist with one hand and place it slightly above their navel, thumb side in.

c) Grasp your fist with your other hand and give quick, upward thrusts.

d) Repeat until the object is dislodged or the person becomes unconscious.

✓ **Unconscious Adult/Child:**

a) Call for emergency medical help.

b) Lay the person on their back.

c) Open their airway. Check for breathing.

d) If not breathing, begin CPR.

e) Look for the object in the mouth before giving breaths.

✓ **Infant Choking:**

a) Give 5 back slaps followed by 5 chest thrusts (using two fingers in the center of the chest).

b) Repeat until the object is dislodged or the infant becomes unconscious.

✓ **Suffocation:**

a) Remove the source of suffocation (e.g., plastic bag).

b) Check for responsiveness and breathing.

c) If not breathing, begin CPR if trained.

d) Seek immediate medical help.

4. Safe Disposal of Used First Aid Materials:

Proper disposal of used First Aid materials is important for hygiene and preventing the spread of infection.

- **Guidelines for Safe Disposal:**
  - ✓ **Sharps (needles, lancets, broken glass):** Should be placed in a puncture-proof container (e.g., a hard plastic container with a tight-fitting lid) and disposed of according to local regulations (often through healthcare facilities or designated collection points).
  - ✓ **Items contaminated with blood or other body fluids (soiled dressings, gloves):** Should be placed in a sealed plastic bag before being disposed of in a waste bin with a lid.
  - ✓ **Unused or expired medications:** Should be disposed of safely according to local guidelines (e.g., take-back programs at pharmacies or specific disposal instructions). Do not flush them down the toilet unless specifically advised.
  - ✓ **Other non-contaminated items (empty packaging, clean bandages):** Can generally be disposed of in regular household waste bins.

SUB-STRAND 2.3: HOUSING THE FAMILY

1. Reasons for Housing the Family:

Housing provides more than just shelter. It fulfills several fundamental needs and plays a crucial role in the well-being of a family:

- ✓ **Protection from the Elements:** A house provides shelter from weather conditions such as rain, sun, wind, cold, and heat, ensuring comfort and preventing illness.
- ✓ **Safety and Security:** A home offers a secure environment, protecting family members from intruders, animals, and other potential dangers.

- ✓ **Privacy:** Housing provides a private space for individuals and the family as a whole, allowing for personal activities, relaxation, and intimacy.
- ✓ **Health and Sanitation:** Proper housing facilitates hygiene and sanitation, with access to clean water, waste disposal, and facilities for personal cleanliness, which are essential for preventing diseases.
- ✓ **Storage:** A house provides space for storing belongings, food, and other necessities, keeping the living environment organized and functional.
- ✓ **Social Interaction and Family Bonding:** The home serves as a central place for family members to interact, share meals, spend time together, and build relationships.
- ✓ **Sense of Belonging and Identity:** A house can become a home, a place where individuals feel a sense of belonging, security, and personal identity. It often reflects the family's values and lifestyle.
- ✓ **Economic Stability and Asset Building:** For many families, owning a home is a significant financial investment and a way to build long-term wealth and stability.
- ✓ **Social Status and Recognition:** In some communities, the type and quality of housing can influence social standing and recognition.

2. Categorisation of Houses Found in the Community:

Houses in any community can vary greatly depending on factors like culture, climate, economic status, available materials, and technology. They can be broadly categorised as:

- **Traditional Houses:** Often built using locally available materials such as mud, wood, grass, stones, and may reflect indigenous building techniques and cultural practices. Examples in Kenya might include:
  - ✓ **Manyattas:** Traditional Maasai dwellings made of mud and cow dung.

- ✓ **Grass-thatched houses:** Found in various rural communities, adapted to local climate and resources.
- ✓ **Stone houses:** In areas with abundant stone, these provide sturdy and durable shelter.

- **Modern Houses:** Typically constructed using more processed materials like cement blocks, bricks, concrete, steel, and glass. They often incorporate modern architectural designs and amenities. Examples include:
  - ✓ **Bungalows:** Single-story houses.

  - ✓ **Apartments/Flats:** Individual units within a multi-story building.

  - ✓ **Maisonettes:** Two-story houses connected by an internal staircase.

- ✓ **Villas:** Often larger, more luxurious detached houses.

- ✓ **Townhouses:** Individual houses that share one or two walls with adjacent houses in a row.

- **Other Categories (based on construction or purpose):**
  - ✓ **Temporary Shelters:** Used for short-term housing needs, such as during emergencies or for nomadic communities.

  - ✓ **Mobile Homes/Caravans:** Transportable dwellings.

  - ✓ **Sustainable/Eco-friendly Houses:** Designed to minimize environmental impact through the use of renewable energy, recycled materials, and energy-efficient designs.

3. Methods of Housing the Family:

Families can secure housing through various methods, each with its own considerations, advantages, and disadvantages:

- **Building:** Constructing a house from the ground up.
  - ✓ **Factors to Consider:** Cost of land, construction materials, labor, building permits, time frame, design, and project management.
  - ✓ **Advantages:** Allows for customization to meet specific family needs and preferences, potential for long-term investment, can be built in phases.
  - ✓ **Disadvantages:** Can be time-consuming, requires significant capital, potential for cost overruns, involves managing the construction process.
- **Buying:** Purchasing an existing house.
  - ✓ **Factors to Consider:** Purchase price, mortgage options, location, size, condition of the house, property taxes, legal fees, and closing costs.
  - ✓ **Advantages:** Immediate occupancy, established neighborhood and infrastructure, may appreciate in value.
  - ✓ **Disadvantages:** High initial cost, less flexibility in design, may require renovations or repairs.
- **Renting:** Leasing a house or apartment from a landlord for a specified period.
  - ✓ **Factors to Consider:** Monthly rent, lease terms, location, size, amenities, landlord responsibilities, and rules.
  - ✓ **Advantages:** Lower initial cost, greater flexibility to move, landlord is responsible for most maintenance.
  - ✓ **Disadvantages:** No ownership, rent payments do not build equity, limited control over modifications, potential for rent increases.

4. Relating Rooms to Their Functions in the House:

A well-designed house has different rooms that serve specific functions to meet the needs of the family:

- ✓ **Living Room/Sitting Room:** A space for relaxation, socializing, and entertaining guests. It often contains seating furniture, tables, and entertainment units.
- ✓ **Dining Room:** A dedicated area for eating meals, often located near the kitchen. It typically includes a dining table and chairs.
- ✓ **Kitchen:** The area for preparing and cooking food. It is usually equipped with a stove, oven, sink, countertops, and storage for food and utensils.
- ✓ **Bedrooms:** Private spaces for sleeping and resting. They typically contain beds, wardrobes, and may include study areas.
- ✓ **Bathroom:** A room for personal hygiene, equipped with a toilet, sink, and bathing facilities (shower or bathtub).
- ✓ **Toilet/Washroom:** May be separate from the bathroom, containing just a toilet and sink.
- ✓ **Study/Office:** A dedicated space for work, studying, or using computers.
- ✓ **Store/Pantry:** A room or closet for storing food, supplies, and household items.
- ✓ **Laundry Room:** A space equipped for washing and drying clothes.
- ✓ **Garage/Parking Area:** For storing vehicles.
- ✓ **Outdoor Spaces (e.g., balcony, veranda, garden):** Areas for relaxation, recreation, or outdoor activities.

5. Appreciating Room Interrelationship When Housing the Family:

The way rooms are arranged and connected within a house (room interrelationship) is crucial for functionality, convenience, and the overall flow of daily life. Good room interrelationships can:

- ✓ **Enhance Efficiency:** Placing related rooms close to each other (e.g., kitchen and dining room) makes daily tasks easier.

- ✓ **Improve Circulation:** Well-planned layouts ensure smooth movement between different areas of the house, avoiding congestion.
- ✓ **Provide Privacy:** Separating private areas (bedrooms, bathrooms) from public areas (living room, dining room) ensures privacy for family members and guests.
- ✓ **Promote Comfort and Convenience:** The arrangement of rooms should support the family's lifestyle and activities. For example, having a bathroom near the bedrooms is convenient.
- ✓ **Consider Noise Levels:** Separating noisy areas (e.g., living room with entertainment) from quiet areas (bedrooms, study) can improve comfort.
- ✓ **Facilitate Supervision (especially of children):** An open plan or strategically placed windows can allow parents to supervise children in different areas.

SUB-STRAND 2.4: CLEANING THE HOUSE

1. Reasons for Cleaning the House:

Cleaning the house regularly is crucial for several reasons:

- ✓ **Removal of Dirt and Dust:** Dirt, dust, and debris accumulate on surfaces and in the air, making the environment look untidy and potentially carrying harmful microorganisms.
- ✓ **Maintaining Hygiene and Health:** Cleaning removes germs, bacteria, viruses, and allergens that can cause illnesses and respiratory problems.
- ✓ **Preventing Pests:** A clean house is less attractive to pests like insects and rodents, which can spread diseases and damage property.
- ✓ **Improving Air Quality:** Removing dust and allergens can significantly improve the air quality inside the house, making it healthier to breathe.
- ✓ **Enhancing Appearance and Comfort:** A clean and tidy house is more aesthetically pleasing, creating a comfortable and welcoming living environment.

- ✓ **Prolonging the Lifespan of Furnishings and Surfaces:** Regular cleaning prevents the buildup of dirt and grime that can damage furniture, floors, and other household items over time.
- ✓ **Creating a Sense of Well-being:** Living in a clean and organized space can contribute to a sense of calm and well-being for the occupants.

2. Materials and Equipment Used for Cleaning the House:

Various materials and equipment are used for cleaning, each suited for specific tasks and surfaces.

- **Types of Cleaning Equipment:**
  - ✓ **Brooms:** For sweeping floors and outdoor areas. Different types exist for different surfaces (e.g., soft bristles for smooth floors, stiff bristles for rough surfaces).
  - ✓ **Dusters:** For removing dust from furniture, shelves, and other surfaces. Types include feather dusters, microfiber dusters, and electrostatic dusters.
  - ✓ **Dustpan:** Used with a broom to collect swept-up dirt and debris.
  - ✓ **Brushes:** Come in various sizes and stiffness for scrubbing different surfaces (e.g., floor brushes, toilet brushes, dish brushes).
  - ✓ **Mops:** For cleaning floors with water and cleaning solutions. Types include string mops, flat mops (microfiber or disposable), and sponge mops.
  - ✓ **Basins and Buckets:** For holding water and cleaning solutions.
  - ✓ **Vacuum Cleaner:** For removing dust, dirt, and pet hair from carpets, rugs, upholstery, and floors. Different attachments are used for various surfaces.
  - ✓ **Squeegee:** For cleaning windows, mirrors, and smooth, flat surfaces by wiping away water or cleaning solutions.
  - ✓ **Cleaning Cloths and Sponges:** Made from various materials (cotton, microfiber, cellulose) for wiping, scrubbing, and absorbing liquids.

- **Choice, Use, and Care of Cleaning Equipment and Materials:**
  - ✓ **Choice:** Select equipment and materials that are appropriate for the surface being cleaned and the type of dirt. Consider durability, ease of use, and cost.
  - ✓ **Use:** Follow the manufacturer's instructions for using cleaning equipment and materials. Use appropriate cleaning solutions and dilutions.
  - ✓ **Care:**
    - ❖ **Brooms and Dusters:** Shake out dirt after use. Wash if necessary and allow to dry completely. Store with bristles/fibers hanging down or lying flat to prevent damage.
    - ❖ **Dustpans:** Wash with soap and water and dry.
    - ❖ **Brushes:** Rinse thoroughly after use. Store with bristles facing up to dry.
    - ❖ **Mops:** Rinse thoroughly after use. Wring out excess water and hang to dry to prevent mildew. Mop heads may need to be washed periodically.
    - ❖ **Basins and Buckets:** Wash with soap and water and dry.
    - ❖ **Vacuum Cleaner:** Empty dust bag or canister regularly. Clean or replace filters as recommended. Check for and remove blockages.
    - ❖ **Squeegee:** Wipe the blade clean after each use. Store in a way that protects the blade.
    - ❖ **Cleaning Cloths and Sponges:** Wash after each use with hot, soapy water. Rinse thoroughly and allow to air dry. Replace regularly, especially sponges, to prevent bacterial growth.
- **Improvising Cleaning Equipment and Materials:**
  - ✓ **Broom:** A bundle of sturdy twigs tied together can serve as a broom for sweeping.
  - ✓ **Duster:** Old soft cloths or rags can be used for dusting.
  - ✓ **Dustpan:** A piece of stiff cardboard or a cut-open plastic container can function as a dustpan.

- ✓ **Scrub Brush:** Stiff plant fibers tied to a handle or a rough sponge can be used for scrubbing.
- ✓ **Mop:** Old rags or towels tied to a stick can be used as a makeshift mop.
- ✓ **Cleaning Solutions:** Vinegar and baking soda can be used as natural cleaning agents for some tasks. Soapy water made from mild soap can also be effective.

3. Management of Household Waste:

Proper waste management is an integral part of keeping a house clean and healthy.

- **Methods of Managing Waste Water:**
  - ✓ **Soakaway Pits:** For greywater (water from sinks, showers, and laundry) to filter into the ground.
  - ✓ **Connection to Sewer Systems:** In urban areas, wastewater is often directed to a central sewage treatment system.
  - ✓ **Septic Tanks:** In areas without sewer systems, wastewater is treated in underground septic tanks.
  - ✓ **Grease Traps:** To prevent fats, oils, and grease from entering drainage systems and causing blockages.
  - ✓ **Watering Plants:** In some cases, diluted greywater (if safe and appropriate) can be used to water non-edible plants.
- **Management of Solid Waste:**
  - ✓ **Separation at Source:** Sorting waste into different categories (e.g., recyclable, non-recyclable, organic).
  - ✓ **Composting:** Decomposing organic waste (food scraps, yard waste) to create compost for gardening.
  - ✓ **Recycling:** Processing recyclable materials (paper, plastic, glass, metal) to create new products.

- ✓ **Proper Disposal of Non-Recyclable Waste:** Using designated waste bins and ensuring they are emptied regularly by the local authorities or waste collection services.
- ✓ **Safe Disposal of Hazardous Waste:** Handling and disposing of hazardous household waste (e.g., batteries, paints, chemicals) according to local regulations to prevent environmental and health risks.

4. Cleaning Different Areas in the House Using Appropriate Methods:

Different areas of the house require different cleaning methods and frequencies.

- **Daily Cleaning:** Tasks done regularly to maintain basic cleanliness.
  - ✓ **Living Room and Dining Room:** Tidying up, wiping spills, sweeping or vacuuming floors, dusting frequently used surfaces.
  - ✓ **Bedroom:** Making the bed, tidying up personal belongings.
  - ✓ **Kitchen:** Washing dishes, wiping down countertops and stovetop, sweeping the floor.
  - ✓ **Toilets/Latrines and Bathrooms/Bath Shelters:** Flushing toilets, wiping down sinks and surfaces.
- **Weekly Cleaning:** More thorough cleaning tasks done once or twice a week.
  - ✓ **Living Room and Dining Room:** Thorough dusting, vacuuming or mopping floors, cleaning upholstery.
  - ✓ **Bedroom:** Changing bed linens, dusting furniture, vacuuming or mopping floors.
  - ✓ **Kitchen:** Cleaning the microwave, wiping down appliances, mopping the floor, cleaning the sink.
  - ✓ **Toilets/Latrines and Bathrooms/Bath Shelters:** Scrubbing toilets, sinks, showers/bathtubs, mopping floors.
  - ✓ **Store/Granary:** Sweeping and organizing.

- **Special Cleaning:** Less frequent but more intensive cleaning tasks done periodically (e.g., monthly, seasonally).
  - ✓ **Washing windows and mirrors.**
  - ✓ **Cleaning curtains and blinds.**
  - ✓ **Washing walls and ceilings.**
  - ✓ **Cleaning out cupboards and drawers.**
  - ✓ **Deep cleaning carpets and upholstery.**
  - ✓ **Cleaning appliances (oven, refrigerator).**
- **Cleaning Methods:**
  - ✓ **Sweeping:** Using a broom to remove loose dirt and debris from floors and surfaces.
  - ✓ **Wiping:** Using a damp cloth to remove dust, spills, and light dirt from surfaces.
  - ✓ **Dusting:** Using a dry or slightly damp cloth or duster to remove dust from surfaces.
  - ✓ **Scrubbing:** Using a brush or abrasive sponge with water and cleaning solution to remove stubborn dirt and stains.
  - ✓ **Mopping:** Using a mop and cleaning solution to clean hard floors.

5. Safety Precautions When Cleaning:

Cleaning can involve potential hazards if safety precautions are not followed.

- ✓ **Read and follow instructions on cleaning product labels.**
- ✓ **Wear appropriate protective gear:** gloves, eye protection, and masks if necessary.
- ✓ **Ensure good ventilation when using strong cleaning products.**
- ✓ **Never mix different cleaning products, as this can create dangerous fumes.**
- ✓ **Store cleaning products safely out of reach of children and pets.**
- ✓ **Use caution when using electrical cleaning equipment near water.**

- ✓ **Wipe up spills immediately to prevent falls.**
- ✓ **Use stable ladders or step stools to reach high areas.**
- ✓ **Dispose of cleaning materials and empty containers properly.**

SUB-STRAND 2.5: LAUNDRY WORK

1. Classification of Detergents and Agents Used in Laundry Work:

Various substances are used in laundry to help remove dirt and stains from clothes. They can be classified as detergents and laundry agents.

- **Laundry Detergents:** These are cleaning substances that help to lift and remove dirt from fabrics.
  - ✓ **Soaps:** Traditional cleaning agents made from natural fats or oils reacted with an alkali. They are effective in soft water but can form scum in hard water.
  - ✓ **Soap-less Detergents (Synthetic Detergents):** Chemically synthesized cleaning agents that are more effective than soap, especially in hard water. They come in various forms like powders, liquids, and pods, and are often formulated for specific purposes (e.g., for colors, whites, delicates).
- **Laundry Agents:** These are substances used in addition to detergents to enhance the cleaning process or provide specific benefits.
  - ✓ **Water:** The primary agent for laundry. The quality of water (soft or hard) significantly affects detergent effectiveness.
    - ❖ **Soft Water:** Contains low levels of minerals like calcium and magnesium, allowing detergents to lather and clean effectively.
    - ❖ **Hard Water:** Contains high levels of minerals that can react with soap to form scum and reduce the effectiveness of some detergents. Water softeners can be used to treat hard water.

- ✓ **Fabric Conditioners (Softeners):** Added during the rinse cycle to make fabrics feel softer, reduce static cling, and impart a pleasant scent.
- ✓ **Bleaches:** Used to whiten fabrics and remove stubborn stains.
  - ❖ **Chlorine Bleach:** A strong bleach effective for whitening and disinfecting white fabrics. Can damage colored fabrics.
  - ❖ **Oxygen Bleach:** A milder bleach that is safer for colored fabrics and helps to remove stains.
- ✓ **Stain Removers:** Specialized products designed to pretreat or remove specific types of stains (e.g., grease, ink, blood).
- ✓ **Stiffeners:** Used to add crispness to fabrics like collars and cuffs. Examples include starch and fabric stiffening sprays.
- ✓ **Laundry Blue (Bluing Agent):** A weak blue dye used to counteract the natural yellowing of white fabrics, making them appear brighter.
- ✓ **Organic Solvents:** Used for dry cleaning and for removing greasy stains that water-based detergents may not effectively remove. These are typically used in professional dry cleaning settings.

2. Use of Tools and Equipment in Laundry Work:

Various tools and equipment can make laundry work easier and more efficient.

- **Classification of Laundry Tools and Equipment:**
  - ✓ **Sorting Tools:** Laundry baskets or hampers to separate clothes by color, fabric type, and degree of soiling.
  - ✓ **Washing Equipment:**
    - ❖ **Basins and Buckets:** For hand-washing small loads or delicate items.
    - ❖ **Washing Machines:** Automated machines that wash clothes using water, detergent, and agitation. Different types include top-loading and front-loading machines.

- ✓ **Drying Equipment:**
  - ❖ **Clotheslines and Pegs:** For air-drying clothes outdoors or indoors.
  - ❖ **Drying Racks:** Portable frames for air-drying clothes.
  - ❖ **Clothes Dryers:** Electric or gas appliances that tumble clothes with heated air to remove moisture.
- ✓ **Ironing Equipment:**
  - ❖ **Iron:** A heated appliance used to remove wrinkles from clothes. Different types exist with varying features (e.g., steam iron).
  - ❖ **Ironing Board:** A padded surface with a pointed end for ironing clothes.
- ✓ **Measuring Tools:** Scoops or measuring cups for dispensing the correct amount of detergent.
- ✓ **Pre-treatment Tools:** Brushes (soft and stiff) for scrubbing stains, soaking tubs for heavily soiled items.
- ✓ **Safety Gear:** Gloves to protect hands from harsh detergents or when hand-washing.

- **Choice, Use, Care, and Safety Precautions:**
  - ✓ **Choice:** Select tools and equipment based on the volume of laundry, types of fabrics, available space, and budget. Consider energy efficiency for appliances.
  - ✓ **Use:** Follow the manufacturer's instructions for operating washing machines, dryers, and irons. Use appropriate settings for different fabric types. Use the correct amount of detergent.
  - ✓ **Care:**
    - ❖ **Washing Machines:** Clean the detergent dispenser regularly. Run a cleaning cycle periodically. Leave the door slightly ajar after use to prevent mildew.
    - ❖ **Clothes Dryers:** Clean the lint filter after every use to ensure efficiency and prevent fire hazards.

- **Irons:** Empty water from steam irons after use to prevent mineral buildup. Clean the soleplate as needed according to the manufacturer's instructions.
- **Clotheslines and Racks:** Wipe clean as needed. Ensure they are sturdy and in good repair.

✓ **Safety Precautions:**

- Keep electrical laundry appliances away from water when in use.
- Ensure appliances are properly grounded.
- Do not overload washing machines or dryers.
- Supervise children around laundry equipment, especially irons.
- Allow irons to cool down completely before storing.
- Use caution when handling hot items from the dryer.
- Store detergents and laundry agents out of reach of children and pets.

3. Laundry Processes:

Laundry work involves a series of steps to clean clothes effectively. The specific processes may vary depending on the type of fabric, the degree of soiling, and the available resources. A typical laundry process includes:

✓ **Sorting:** Separating clothes based on color (whites, lights, darks), fabric type (cottons, synthetics, delicates), and the amount of dirt. This helps prevent color bleeding and damage to delicate items.

✓ **Pre-treatment:** Addressing heavily soiled areas or stains before washing. This may involve applying a stain remover, soaking the item, or gently scrubbing the affected area.

✓ **Washing:** Cleaning the clothes using water and detergent. This can be done by hand or in a washing machine. Select the appropriate water temperature and wash cycle based on the fabric type and the detergent being used.

- ✓ **Rinsing:** Removing the detergent and loosened dirt from the clothes by rinsing them with clean water. This step may be repeated until the water runs clear.
- ✓ **Drying:** Removing moisture from the washed clothes. This can be done by air-drying on a clothesline or rack, or by using a clothes dryer. The drying method should be suitable for the fabric type to prevent shrinkage or damage.
- ✓ **Ironing (Optional):** Removing wrinkles from dried clothes using an iron. The iron should be set to the appropriate temperature for the fabric type. Some clothes may not require ironing.
- ✓ **Folding and Storing:** Folding or hanging the clean, dry clothes neatly for storage.

4. Laundering of Personal Items Following Correct Procedures:

This section focuses on the practical application of laundry knowledge to cleaning personal clothing items.

- **Steps for Laundering Personal Items (Example: Cotton T-shirt):**
  1. **Sorting:** Sort the t-shirt with other white or light-colored cotton items.
  2. **Pre-treatment (if needed):** If there are stains, pretreat them with a stain remover according to the product instructions.
  3. **Washing:** Place the t-shirt in the washing machine. Add the appropriate amount of detergent for the load size and water hardness. Select a suitable wash cycle (e.g., normal or cotton) and water temperature (e.g., warm for general washing).
  4. **Rinsing:** The washing machine will automatically rinse the t-shirt. Ensure all detergent is removed.
  5. **Drying:** Hang the t-shirt on a clothesline or place it in a clothes dryer on a suitable setting (e.g., medium heat for cotton). Avoid over-drying to prevent shrinkage.

6. **Ironing (if desired):** If the t-shirt is wrinkled after drying, iron it using the appropriate heat setting for cotton.
7. **Folding and Storing:** Fold the clean t-shirt neatly and store it in a drawer or on a shelf.

- **Considerations for Different Personal Items:**

  - ✓ **Delicates (e.g., lingerie, silk):** May require handwashing in cool water with a mild detergent or using a delicate cycle in the washing machine and air-drying.
  - ✓ **Woolens:** Often need to be handwashed or washed on a special wool cycle with a gentle detergent to prevent shrinking and felting. Should be laid flat to dry.
  - ✓ **Colored Items:** Wash with similar colors in cool or warm water to prevent fading and bleeding.
  - ✓ **Heavily Soiled Items:** May require pre-soaking or a longer wash cycle.

5. Embracing the Importance of Laundry Work in Day-to-Day Life:

Laundry work is an essential part of maintaining personal hygiene, health, and social well-being.

- **Importance of Laundry Work:**
  - ✓ **Hygiene:** Cleaning clothes removes dirt, sweat, and microorganisms that can cause skin irritation, odors, and infections.
  - ✓ **Health:** Wearing clean clothes helps prevent the spread of germs and contributes to overall health.
  - ✓ **Presentation:** Clean and well-maintained clothes help us look presentable and feel confident in social and professional settings.
  - ✓ **Comfort:** Freshly laundered clothes feel more comfortable to wear.

- ✓ **Prolonging the Lifespan of Clothes:** Regular and proper laundering helps to maintain the quality of fabrics and extends the life of clothing items.
- ✓ **Resource Management:** Understanding proper laundry techniques can help conserve water and energy.

SUB-STRAND 2.6: CONSUMER EDUCATION

1. Importance of Consumer Education in Relation to Home Science:

Consumer education equips individuals with the knowledge and skills needed to make informed decisions when purchasing goods and services. This is particularly important in Home Science because:

- ✓ **Effective Home Management:** Managing a home involves making numerous purchasing decisions related to food, cleaning supplies, household items, appliances, and utilities. Consumer education helps in making cost-effective and wise choices.
- ✓ **Family Resource Management:** Families have limited resources (money, time, energy). Consumer education helps in allocating these resources efficiently to meet the needs and wants of family members.
- ✓ **Ensuring Quality and Value:** Knowledge about consumer rights, product information, and wise buying practices enables individuals to obtain goods and services that offer good quality and value for money.
- ✓ **Promoting Health and Safety:** Consumer education includes understanding food labels, safety standards for products, and potential risks associated with certain goods, contributing to the health and safety of the family.
- ✓ **Protecting Against Deception and Fraud:** Awareness of unfair trade practices and consumer rights helps individuals avoid scams and make secure transactions.

- ✓ **Making Sustainable Choices:** Consumer education can promote awareness of environmental and ethical considerations in consumption, encouraging more sustainable purchasing habits.
- ✓ **Empowering Individuals:** Being a knowledgeable consumer fosters independence and the ability to make informed choices that align with personal and family needs.
- ✓ **Contributing to Economic Well-being:** Wise consumer spending can contribute to a stable personal and national economy by supporting ethical businesses and avoiding unnecessary debt.

2. Aspects of Consumer Awareness in Consumer Education:

Consumer awareness encompasses understanding various factors that affect purchasing decisions and consumer rights. Key aspects include:

- **Consumer Rights and Responsibilities:**
  - ❖ **Consumer Rights:** Fundamental rights that protect consumers when they purchase goods and services. These often include:
    - ✓ **The Right to Safety:** To be protected against products, production processes, and services that are hazardous to health or life.
    - ✓ **The Right to Be Informed:** To be given the facts needed to make an informed choice, and to be protected against misleading or fraudulent advertising and labeling.
    - ✓ **The Right to Choose:** To have access to a variety of products and services at competitive prices.
    - ✓ **The Right to Be Heard:** To have consumer interests represented in the making and execution of government policy, and in the development of products and services.

- ✓ **The Right to Redress:** To receive fair settlement of just claims, including compensation for misrepresentation, shoddy goods, or unsatisfactory services.
- ✓ **The Right to Consumer Education:** To acquire the knowledge and skills necessary to make informed and confident consumer choices.
- ✓ **The Right to a Healthy Environment:** To live and work in an environment that is neither threatening nor dangerous, and that permits a life of dignity and well-being.

❖ **Consumer Responsibilities:** Obligations that consumers should uphold when purchasing and using goods and services. These often include:

- ✓ **The Responsibility to Be Aware:** To be alert and informed about the quality and safety of products and services.
- ✓ **The Responsibility to Think Independently:** To make their own choices based on available information and not be unduly influenced by advertising or peer pressure.
- ✓ **The Responsibility to Speak Out:** To inform manufacturers, retailers, and government authorities about dissatisfaction with products and services.
- ✓ **The Responsibility to Learn:** To educate themselves about consumer rights and responsibilities.
- ✓ **The Responsibility to Behave Ethically:** To be fair and honest in their dealings with sellers.
- ✓ **The Responsibility to Respect the Environment:** To make consumption choices that minimize environmental impact.

- **Sources of Consumer Information:** Various resources can help consumers make informed decisions:

❖ **Product Labels and Packaging:** Provide information about ingredients, nutritional content, safety warnings, usage instructions, and expiry dates.

- **Advertising and Marketing Materials:** Can provide information but should be evaluated critically for accuracy and potential bias.
- **Consumer Reviews and Ratings:** Online reviews and ratings from other consumers can offer insights into product quality and performance.
- **Consumer Organizations and Advocacy Groups:** Provide unbiased information, conduct product testing, and advocate for consumer rights.
- **Government Agencies:** Offer information and protection related to consumer safety and fair trade practices.
- **Educational Materials:** Books, websites, and workshops on consumer education.
- **Personal Experiences and Recommendations:** Advice from trusted friends and family.

- **Wise Buying of Goods and Services:** Strategies for making smart purchasing decisions:
  - **Identifying Needs vs. Wants:** Differentiating between essential items and non-essential desires.
  - **Planning and Budgeting:** Deciding what to buy and how much to spend before shopping.
  - **Gathering Information:** Researching products, comparing prices, and reading reviews.
  - **Comparing Quality and Value:** Not just focusing on the lowest price but considering the durability, features, and overall value.
  - **Checking for Warranties and Guarantees:** Understanding the terms of product warranties and return policies.
  - **Reading Terms and Conditions:** Carefully reviewing contracts for services before committing.
  - **Avoiding Impulse Buying:** Resisting the urge to buy things that were not planned.

- **Keeping Records:** Retaining receipts and warranty information.
- **Being Aware of Sales Tactics:** Recognizing and resisting manipulative sales techniques.

3. Applying Knowledge on Consumer Awareness in Day-to-Day Life:

The principles of consumer education can be applied in various everyday situations:

- ✓ **Grocery Shopping:** Reading food labels for nutritional information, comparing prices of different brands, checking expiry dates, and making choices based on needs and budget.
- ✓ **Purchasing Household Appliances:** Researching energy efficiency, features, warranties, and reading reviews before buying.
- ✓ **Using Mobile Phone Services:** Understanding contract terms, data plans, and being aware of potential hidden charges.
- ✓ **Online Shopping:** Checking the reputation of sellers, reading product descriptions carefully, understanding return policies, and ensuring secure payment methods.
- ✓ **Using Public Transportation:** Being aware of fare structures, schedules, and passenger rights.
- ✓ **Dealing with Faulty Products:** Knowing how to make a complaint and seek redress from the seller or manufacturer.
- ✓ **Choosing Financial Services:** Understanding the terms and conditions of bank accounts, loans, and other financial products.

4. Appreciating the Importance of Consumer Education in Day-to-Day Life:

Consumer education is not just theoretical knowledge; it has practical benefits that impact our daily lives significantly:

- ✓ **Saving Money:** Making informed choices helps avoid unnecessary purchases and find better deals.
- ✓ **Getting Better Value:** Understanding quality and comparing products leads to purchasing goods and services that meet needs effectively.
- ✓ **Protecting Yourself from Scams:** Awareness of deceptive practices helps avoid financial losses and frustration.
- ✓ **Ensuring Safety and Health:** Reading labels and understanding product safety features protects individuals and families.
- ✓ **Promoting Ethical Consumption:** Making informed choices can support businesses with fair labor practices and environmental sustainability.
- ✓ **Building Confidence:** Being a knowledgeable consumer empowers individuals to make independent decisions.
- ✓ **Contributing to a Fair Marketplace:** By exercising their rights and responsibilities, consumers can encourage businesses to operate ethically and provide quality goods and services.

STRAND 3.0: CLOTHING AND TEXTILES

SUB-STRAND 3.1: SEWING TOOLS, EQUIPMENT, AND MATERIALS

1. Classification of Sewing Tools, Equipment, and Materials:

Sewing involves various tools, pieces of equipment, and materials that aid in the process of constructing or repairing garments and other textile items. They can be classified based on their function:

- **Cutting Tools:** Used for cutting fabric and thread.
  - ✓ **Scissors (Dressmaker's Shears):** Have long blades and bent handles for cutting fabric on a flat surface.

  - ✓ **Embroidery Scissors:** Small, sharp-pointed scissors for trimming threads and delicate work.

- ✓ **Pinking Shears:** Have zigzag or scalloped blades to give fabric edges a decorative finish and prevent fraying.

- ✓ **Rotary Cutter:** A circular blade on a handle, used with a cutting mat for precise straight or curved cuts.

- ✓ **Seam Ripper:** A small tool with a hook-like blade for removing stitches.

- ✓ **Thread Clippers (Snips):** Small, spring-action cutters for snipping threads quickly.

- **Marking Tools:** Used for transferring pattern markings onto fabric.
  - ✓ **Tailor's Chalk:** A square or triangular piece of chalk for marking fabric. Available in different colors.

  - ✓ **Tracing Wheel:** A tool with a spiked or smooth wheel used with tracing paper to transfer pattern lines onto fabric.

  - ✓ **Tracing Paper:** Special paper coated with colored pigment, used with a tracing wheel.

- ✓ **Fabric Markers:** Pens with washable or permanent ink for marking fabric. Ensure the ink is appropriate for the fabric type.

- ✓ **Pins:** Used to hold fabric pieces together before sewing. Types include straight pins with ball or flat heads.

- ✓ **Pin Cushion:** A padded cushion for storing pins safely.

- **Sewing Tools:** Used for the actual process of joining fabric pieces.
  - ✓ **Hand Sewing Needles:** Come in various sizes and types for different fabrics and sewing tasks.

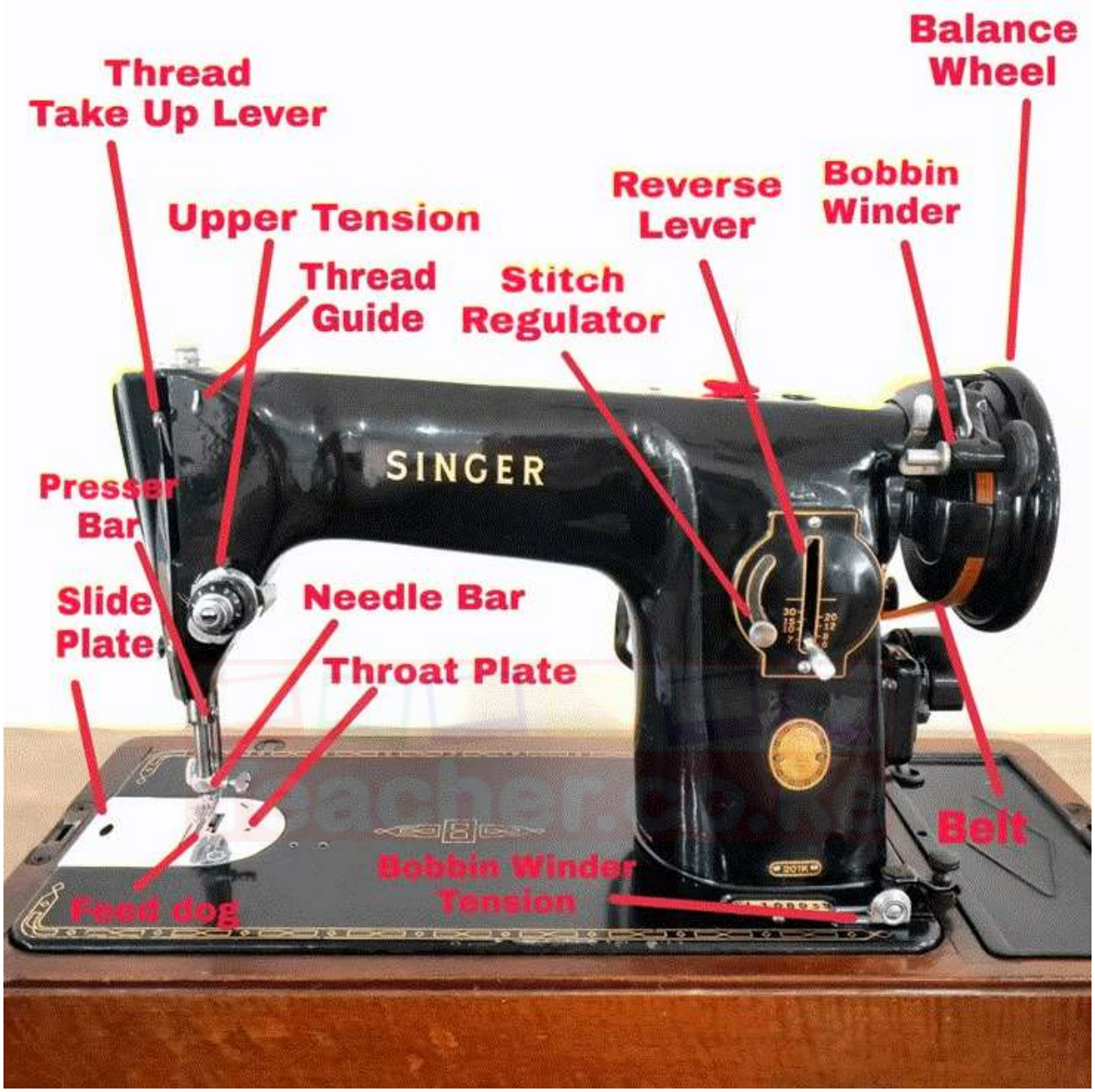
    Examples

    a) include sharps,
    b) crewel, and
    c) Tapestry needles.

  - ✓ **Sewing Machine:** An electric or mechanical device that stitches fabric together quickly and efficiently.

Parts of a Sewing Machine:

a) Head,
b) arm,
c) bed,
d) hand-wheel,
e) power switch,
f) presser foot,
g) needle bar,
h) thread take-up lever,
i) stitch length dial,
j) stitch selector,
k) bobbin winder,
l) bobbin case,
m) foot pedal.



- **Use of a Sewing Machine:**

a) Threading the machine (upper and lower thread),
b) winding the bobbin,
c) selecting stitch type and length,
d) guiding fabric under the presser foot,
e) Operating the foot pedal.

- **Common Faults and Remedies:**

  a) Thread breaking (incorrect threading, wrong needle),
  b) skipped stitches (wrong needle, bent needle),
  c) tension problems (incorrect tension settings),
  d) Fabric puckering (incorrect stitch length or tension).

- **Care of a Sewing Machine:**

  a) Regular cleaning (removing lint and dust),
  b) oiling (as per manufacturer's instructions),
  c) using the correct needles and threads,
  d) Covering the machine when not in use.

- **Storage of a Sewing Machine:** Store in a clean, dry place, preferably covered to protect from dust and damage.
  - ✓ **Thimble:** A small protective cap worn on the finger to push the needle through fabric during hand sewing.

- ❖ **Measuring Tools:** Used for taking body measurements and measuring fabric and patterns.
  - ✓ **Tape Measure:** A flexible, retractable tape with markings in centimeters and/or inches. Used for taking body measurements and measuring fabric.

- ✓ **Ruler/Yardstick/Meter Stick:** Straight measuring tools used for measuring and marking straight lines on fabric and patterns.

- ✓ **Seam Gauge:** A small ruler with a sliding marker, used for measuring seam allowances and hems accurately.

- ✓ **Hem Gauge:** A specialized ruler for measuring and marking hems.

- ✓ **Pattern Weights:** Used to hold pattern pieces in place on fabric while cutting, instead of using pins.

- ❖ **Finishing Tools:** Used for neatening seams and garment edges.
  - ✓ **Over-locker/Serger:** A specialized sewing machine that stitches, trims, and neatens seams in one step, preventing fraying.

- ✓ **Hand Sewing Needles (for finishing stitches like hemming stitch, slip stitch).**

- ✓ **Iron and Ironing Board:** Used for pressing seams and hems for a neat finish.

- ✓ **Press Cloth:** A piece of fabric placed between the iron and the garment to protect the fabric from direct heat.

- ❖ **Storage:** Items used for organizing and storing sewing tools, equipment, and materials.
  - ✓ **Sewing Box/Kit:** A container for keeping small sewing tools and supplies organized.

  - ✓ **Thread Rack/Holder:** For storing spools of thread neatly.

- ✓ **Fabric Storage Bins/Shelves:** For organizing and protecting fabric.

- ✓ **Pattern Envelopes/Boxes:** For storing sewing patterns.

2. Selecting Sewing Tools, Equipment, and Materials:

Choosing the right tools, equipment, and materials is crucial for successful sewing projects. Factors to consider include:

- ✓ **Type of Project:** The complexity and nature of the project will determine the necessary tools and equipment. For example, garment construction requires more tools than simple hemming.
- ✓ **Fabric Type:** Different fabrics require specific types of needles, threads, and sometimes specialized equipment like walking feet for sewing machines.
- ✓ **Skill Level:** Beginners may start with basic, essential tools, while more experienced sewers may invest in advanced equipment.
- ✓ **Budget:** The cost of tools and equipment can vary significantly. Start with good quality essentials and add more specialized items as needed.
- ✓ **Durability and Quality:** Investing in good quality tools and equipment will ensure they last longer and perform better.
- ✓ **Ease of Use:** Choose tools and equipment that are comfortable to handle and easy to use.
- ✓ **Safety Features:** Ensure that equipment like sewing machines and rotary cutters have appropriate safety features.
- ✓ **Personal Preferences:** Consider your own comfort and preferences when selecting tools like scissors and seam rippers.
- ✓ **Availability:** Choose materials that are readily available in your local area.

3. Using, Caring for, and Storing Different Sewing Tools, Equipment, and Materials:

Proper use, care, and storage will prolong the life of your sewing supplies and ensure they are in good working condition when you need them.

- **Use:** Use each tool and piece of equipment for its intended purpose. For example, use dressmaker's shears for cutting fabric, not paper.
- **Care:**

- ✓ **Scissors and Rotary Cutters:** Keep blades sharp. Avoid dropping them. Store them separately to prevent dulling. Rotary cutter blades need to be replaced when they become dull.
- ✓ **Marking Tools:** Keep tailor's chalk in a container to prevent breakage. Ensure fabric markers are used according to instructions (washable or permanent). Store tracing wheels with the wheel protected.
- ✓ **Needles and Pins:** Store needles in a needle case or pin cushion to prevent loss and rust. Discard bent or rusty needles. Keep pins in a pin cushion when not in use.
- ✓ **Sewing Machine:** (Covered in detail in classification). Regular cleaning and oiling are crucial. Use the correct size and type of needle for the fabric.
- ✓ **Measuring Tools:** Store tape measures rolled up. Keep rulers and gauges flat to prevent bending.
- ✓ **Finishing Tools:** Clean the soleplate of the iron regularly. Store the overlocker/serger covered and follow the manufacturer's maintenance instructions.

- **Storage:**
  - ✓ **Organize tools and materials:** Use sewing boxes, trays, and containers to keep everything organized and easily accessible.
  - ✓ **Store in a clean, dry place:** Protect tools and materials from dust, moisture, and extreme temperatures.
  - ✓ **Keep sharp items separate:** Store scissors, rotary cutters, and needles safely to prevent accidents.
  - ✓ **Store fabric neatly:** Fold or roll fabric to prevent wrinkles and protect it from dust and light.
  - ✓ **Store patterns carefully:** Keep pattern pieces in their envelopes or in folders to prevent damage and loss.

SUB-STRAND 3.2: TEXTILE FIBRES

1. Meaning of Terms:

Before we delve into textile fibres, let's clarify some related terms:

- **Textiles:** A general term for any material made by weaving, knitting, felting, or otherwise bonding fibres. Examples include fabrics, yarns, and threads.
- **Fibres:** The basic building blocks of textiles. They are thin, hair-like strands that can be spun into yarns.
- **Strand:** A single fibre or a group of fibres lying parallel to each other.
- **Yarn:** A continuous strand made by twisting or spinning fibres together. Yarns are used to create fabrics.

2. Classification of Textile Fibres and Their Sources:

Textile fibres can be broadly classified into natural and manufactured fibres.

- **Natural Fibres:** These come from natural sources such as plants and animals.
  - **Animal Fibres:**
    - **Wool:** Obtained from the fleece of sheep and other animals like goats (cashmere, mohair), llamas, and alpacas.
    - **Silk:** Obtained from the cocoons of silkworms.
  - **Plant Fibres:**
    - **Cotton:** Obtained from the seed pods of the cotton plant.
    - **Linen (Flax):** Obtained from the stem of the flax plant.
- **Manufactured Fibres:** These are made by humans using chemical processes. They can be further divided into regenerated and synthetic fibres.
  - **Regenerated Fibres:** Made from natural cellulose materials that are chemically processed.

- ✓ **Viscose Rayon:** Made from cellulose obtained from wood pulp or cotton linters.
- ✓ **Synthetic Fibres:** Made from chemical compounds through polymerization.
  - ✓ **Acrylic:** Made from synthetic polymers (polyacrylonitrile).
  - ✓ **Polyester:** Made from synthetic polymers (polyethylene terephthalate).

3. Methods of Identifying Textile Fibres:

Identifying different textile fibres is important for determining their properties and appropriate uses and care. Several methods can be used:

- ✓ **Microscopic Test:** Examining the fibre under a microscope can reveal its unique structural characteristics (e.g., the scaly surface of wool, the smooth filament of silk, the twisted appearance of cotton).
- ✓ **Physical Test:** Observing the physical properties of the fibre, such as its appearance (luster, length, fineness), feel (softness, roughness), and strength when pulled.
- ✓ **Burning Test:** Observing how the fibre burns, the smell it produces, and the type of residue left behind. Different fibres have distinct burning characteristics.
  - **Cotton:** Burns with a yellow flame, smells like burning paper, leaves a soft, grey ash.
  - **Linen:** Burns like cotton but may be slightly harder to ignite and extinguish.
  - **Wool:** Burns slowly with a sputtering flame, smells like burning hair, leaves a brittle, black ash that can be crushed easily.
  - **Silk:** Burns slowly with a sputtering flame, smells like burning hair, leaves a brittle, black ash. May self-extinguish.
  - **Viscose Rayon:** Burns quickly with a yellow flame, smells like burning paper, leaves a soft, grey ash.

- **Acrylic:** Burns quickly with a yellow, smoky flame, may melt and drip, smells acrid or chemical, leaves a hard, black bead.
- **Polyester:** Burns with a black, smoky flame, melts and drips, smells slightly sweet or chemical, leaves a hard, black bead.

✓ **Chemical Test:** Using specific chemical reagents to observe how the fibre reacts. Different fibres have different chemical compositions and will react differently.

4. Characteristics of Different Textile Fibres Used for Household Articles:

The characteristics of textile fibres determine their suitability for various household applications.

- **Cotton:**
  - ✓ **Characteristics:** Soft, absorbent, breathable, relatively strong, dyes well, wrinkles easily, can shrink.
  - ✓ **Household Uses:** Bed linens, towels, curtains, upholstery, rugs, cleaning cloths.
- **Linen (Flax):**
  - ✓ **Characteristics:** Stronger than cotton, absorbent, cool to the touch, wrinkles easily, lustrous, more resistant to mildew than cotton.
  - ✓ **Household Uses:** Tablecloths, napkins, towels, curtains, upholstery.
- **Wool:**
  - ✓ **Characteristics:** Warm, resilient (good elasticity), absorbent, naturally flame-resistant, can shrink and felt when washed improperly, can be itchy for some.
  - ✓ **Household Uses:** Blankets, rugs, upholstery, insulation.
- **Silk:**
  - ✓ **Characteristics:** Luxurious luster, smooth, strong, absorbent, drapes well, can be damaged by sunlight and perspiration, requires gentle care.

- ✓ **Household Uses:** Draperies, upholstery, decorative pillows, delicate bedding.

- **Viscose Rayon:**
  - ✓ **Characteristics:** Soft, absorbent, drapes well, relatively weak (especially when wet), wrinkles easily, can lose shape.
  - ✓ **Household Uses:** Linings, curtains, upholstery blends.
- **Acrylic:**
  - ✓ **Characteristics:** Soft, warm, lightweight, resilient, good drape, resistant to sunlight and fading, can pill.
  - ✓ **Household Uses:** Blankets, rugs, upholstery, outdoor fabrics.
- **Polyester:**
  - ✓ **Characteristics:** Strong, durable, wrinkle-resistant, abrasion-resistant, hydrophobic (low absorbency), can build static electricity.
  - ✓ **Household Uses:** Bed linens, curtains, upholstery, carpets, outdoor fabrics, fiberfill.

5. Use of Different Textile Fibres in the Home:

Different rooms and purposes within the home require fabrics with specific properties.

- ✓ **Living Room:** Upholstery (durability, stain resistance - polyester, blends), curtains (drape, light control - polyester, silk blends), rugs (durability, comfort - wool, acrylic, blends).
- ✓ **Bedroom:** Bed linens (softness, absorbency, breathability - cotton, linen, blends), blankets (warmth - wool, acrylic, polyester), curtains (light control, drape - various fibres).
- ✓ **Bathroom:** Towels (absorbency, durability - cotton, linen), shower curtains (water resistance - polyester).
- ✓ **Kitchen:** Tablecloths and napkins (absorbency, stain resistance - cotton, linen, blends), cleaning cloths (absorbency - cotton).

- ✓ **Outdoor Areas:** Furniture cushions (durability, weather resistance - acrylic, polyester), awnings (durability, UV resistance - acrylic, polyester).

6. Appreciating Different Textile Fibres Used at Home:

Understanding the properties and uses of various textile fibres allows us to appreciate the specific roles they play in our homes and to make informed choices when purchasing household textiles.

Learning Activity: Collect small samples of different textile fibres (you can cut small, inconspicuous pieces from old fabric scraps or ask for samples from fabric stores). Mount these samples in a folder. For each fibre, include:

- Name of the fibre.
- Source (natural - plant/animal, manufactured - regenerated/synthetic).
- Identification process used (briefly describe how you identified it).
- Uses in the home (list common household items made from this fibre).
- Characteristics of the fibre (list key properties).

SUB-STRAND 3.3: CLOTHING CONSTRUCTION PROCESSES - STITCHES (14

1. Meaning of a Stitch:

A stitch is a single loop or interlock of thread made by hand or machine that holds two or more pieces of fabric together. Stitches are the foundation of garment construction, providing strength, shape, and finish to clothing.

Learning Activity: Brainstorm with your classmates on what you understand by the term "stitch" in the context of sewing. Discuss the purpose of stitches in holding fabric together.

2. General Rules for Working Stitches:

Whether working by hand or machine, there are some general rules to follow for neat and strong stitches:

- **Thread Appropriateness:** Use thread that is suitable for the fabric type and weight.
- **Needle Appropriateness:** Select the correct size and type of needle for the fabric and thread.
- **Consistent Stitch Length:** Maintain a uniform stitch length for a professional look and even strength.
- **Proper Tension:** Ensure the thread tension is correctly balanced to prevent puckering or loose stitches (especially important for machine sewing).
- **Secure Starting and Ending:** Secure the beginning and end of each row of stitching to prevent unraveling (backstitching on a machine, several small stitches or knots by hand).
- **Straight and Even Lines:** Stitch along the marked lines accurately for proper garment construction.
- **Cleanliness:** Keep your work area clean to avoid soiling the fabric.
- **Pressing:** Press seams as you sew to create a flat and professional finish.

3. Types of Stitches:

Stitches can be broadly classified based on their purpose in clothing construction: temporary, permanent (including joining, neatening, and decorative).

- **Temporary Stitches:** These are used to hold fabric pieces together temporarily before permanent stitching or for marking. They are meant to be removed later.
    - ✓ **Marking Stitches (Tailor's Tacks):** Loose, long stitches used to transfer pattern markings from the pattern to the fabric. They are often made with contrasting thread and then carefully snipped and pulled apart, leaving thread tails in the fabric to indicate the markings.

- ✓ **Tacking Stitches (Basting Stitches):** Long, loose stitches used to temporarily hold layers of fabric together for fitting or before machine sewing. They are easy to remove.

- **Permanent Stitches:** These are intended to hold the fabric together permanently.
  - ✓ **Joining Stitches:** Used to join two or more pieces of fabric together to form seams.
    - **Running Stitch (Hand Sewing):** A simple, straight stitch made by passing the needle in and out of the fabric at regular intervals. Used for gathering, hemming, and light seams.
    - **Backstitch (Hand Sewing):** A strong, hand-sewn stitch that resembles machine stitching. Each stitch goes backward to meet the previous one, creating a solid line. Used for strong seams and areas that will experience stress.
    - **Machine Straight Stitch:** The most basic stitch made by a sewing machine, used for joining fabric layers. The stitch length can be adjusted for different fabrics and purposes.
    - **Zigzag Stitch (Machine Sewing):** A stitch that goes back and forth in a zigzag pattern. Used for finishing raw edges, sewing stretchy fabrics, and decorative purposes.
  - ✓ **Neatening Stitches (Seam Finishes):** Used to prevent raw edges of fabric from fraying and to give a neat finish to the inside of a garment.
    - **Overcast Stitch (Hand Sewing):** Diagonal stitches worked over the raw edge of the fabric.
    - **Hemming Stitch (Hand Sewing):** Used to secure hems neatly. Small, slanted stitches that are almost invisible on the right side of the fabric.
    - **Slip Stitch (Hand Sewing):** Used for invisible hemming or joining folded edges. The stitch is worked inside the fold and only catches a few threads of the outer fabric.

- **Machine Zigzag Stitch (as a seam finish):** A common machine method for neatening raw edges.
- **Overlock Stitch (Serger):** A specialized stitch that encases the raw edge of the fabric with multiple threads, providing a very neat and durable finish.

✓ **Decorative Stitches:** Used to add embellishment and visual interest to garments. Sewing machines often have a variety of decorative stitch options. Examples include satin stitch (close zigzag), blind hem stitch (can also be functional), and various patterned stitches. Hand embroidery stitches (like satin stitch, stem stitch, chain stitch) also fall into this category when used decoratively on garments.

4. Making Samples of Stitches:

Hands-on practice is essential for learning how to create different types of stitches.

- **Practice Temporary Stitches:**
  - ✓ **Tailor's Tacks:** Practice transferring markings using tailor's tacks on a piece of fabric.
  - ✓ **Tacking Stitches:** Practice holding two layers of fabric together with even basting stitches.
- **Practice Permanent Stitches (by Hand):**
  - ✓ **Running Stitch:** Create a straight line of running stitches with even stitch length.
  - ✓ **Backstitch:** Sew a line of strong backstitches.
  - ✓ **Overcast Stitch:** Finish a raw edge of fabric with overcast stitches.
  - ✓ **Hemming Stitch:** Practice creating an invisible hem using the hemming stitch.
  - ✓ **Slip Stitch:** Join two folded edges together with a slip stitch.

- **Practice Permanent Stitches (by Machine, if available):**
  - ✓ **Machine Straight Stitch:** Sew straight lines with different stitch lengths.
  - ✓ **Machine Zigzag Stitch:** Practice using the zigzag stitch for joining and finishing raw edges.
  - ✓ **Explore Decorative Stitches:** Experiment with any decorative stitches your machine offers.

5. Appreciating the Use of Stitches in Clothing Construction:

Understanding the purpose and characteristics of different stitches helps in appreciating their role in creating well-made and durable garments.

- ✓ **Strength and Durability:** Different stitches provide varying levels of strength. Backstitch and machine straight stitch are strong for seams that bear stress, while temporary stitches are weak for easy removal.
- ✓ **Neatness and Finish:** Neatening stitches prevent fraying and give a professional finish to the inside of garments. Hemming stitches create clean and often invisible hems.
- ✓ **Flexibility and Stretch:** Zigzag stitches are useful for sewing stretchy fabrics because they allow for some give and prevent the seam from breaking.
- ✓ **Aesthetics and Decoration:** Decorative stitches add visual appeal and can be a key design element of a garment.
- ✓ **Functionality:** Specific stitches like buttonholes and bar tacks serve essential functional purposes.

6. Safety and Waste Disposal:

When working with sewing tools and materials, it's important to practice safety and dispose of waste properly.

- **Safety:**
  - ❖ Handle sharp tools like scissors, seam rippers, and needles with care.
  - ❖ Keep pins in a pin cushion when not in use.
  - ❖ Be cautious when using a sewing machine (keep fingers away from the needle).
  - ❖ Use the correct tools for the job to avoid accidents.
- **Waste Disposal:**
  - ❖ Dispose of fabric clippings and thread chippings in a designated bin.
  - ❖ Keep your work area tidy to prevent tripping hazards.

SUB-STRAND 3.4: CLOTHING CONSTRUCTION PROCESSES - SEAMS (12 Lessons)

1. Meaning of a Seam:

A seam is the line where two or more layers of fabric are joined together by stitching. Seams are essential for constructing garments, shaping them to fit the body, and providing strength and durability.

2. Types of Seams Used in Clothing Construction:

There are various types of seams, each suited for different fabrics, garment areas, and design effects. The main types you'll explore are:

- **Open Seam (Plain Seam):** This is the most basic and commonly used seam.
  - ✓ **Construction:** Place two pieces of fabric right sides together, aligning the edges. Stitch them together using a straight stitch at the desired seam allowance (usually 1.5 cm or 5/8 inch). Press the seam open so that the raw edges lie flat on either side.
  - ✓ **Uses:** Suitable for most fabrics and garment areas. Often used as a foundation for other seam finishes.

- ✓ **Variations:** Can be pressed to one side (especially in thicker fabrics or for certain design effects).

- **French Seam:** A self-enclosed seam that is neat and prevents fraying, often used for delicate or sheer fabrics.
  - ✓ **Construction:**
    1. Place two pieces of fabric wrong sides together, aligning the edges. Stitch them together with a narrow seam allowance (e.g., 0.5 cm or 1/4 inch).
    2. Trim the seam allowance close to the stitching.
    3. Turn the fabric right sides together and press the seam flat.
    4. Stitch again along the folded edge, encasing the raw edges within the new seam. The width of the second stitching will be the final seam allowance.
  - ✓ **Uses:** Ideal for lightweight, sheer, or delicate fabrics where a neat inside finish is desired. Not suitable for bulky fabrics.
- **Overlaid Seam (Lapped Seam):** One layer of fabric overlaps the other, and they are joined with a line of stitching.
  - ✓ **Construction:** Place one layer of fabric over the other, overlapping by the desired amount. Stitch through both layers along the overlap. Multiple rows of stitching can be used for strength or decorative effect.
  - ✓ **Uses:** Often used for non-fraying fabrics like leather or felt, for attaching yokes or patch pockets, and for creating flat, less bulky seams. Can also be decorative.
- **Double Stitched Seam (Welt Seam):** A strong and durable seam where the seam allowance is pressed to one side and then topstitched.
  - ✓ **Construction:**
    1. Sew a plain seam with right sides together.
    2. Press the seam allowance to one side.

3. Topstitch on the right side of the fabric close to the seam line, through all layers. This secures the seam allowance and adds strength.

- ✓ **Uses:** Used in areas that require extra strength and durability, such as jeans, work-wear, and some sportswear. Can also be decorative.

3. Making Samples of Seams:

Practical experience in creating different seams is essential for understanding their construction and appearance.

- ✓ **Create an Open Seam Sample:** Stitch two pieces of fabric right sides together with a standard seam allowance. Press the seam open.
- ✓ **Create a French Seam Sample:** Follow the step-by-step construction for a French seam on two pieces of lightweight fabric.
- ✓ **Create an Overlaid Seam Sample:** Overlap two pieces of non-fraying fabric and stitch them together. Experiment with single and multiple rows of stitching.
- ✓ **Create a Double Stitched Seam Sample (Welt Seam):** Sew a plain seam, press the seam allowance to one side, and then topstitch on the right side.

4. Evaluating the Qualities of a Seam in Clothing Construction:

A well-constructed seam should possess certain qualities that contribute to the overall quality and durability of a garment. Consider the following when evaluating a seam:

- ✓ **Strength:** The seam should be strong enough to withstand the stress and strain of wearing and washing the garment without breaking.
- ✓ **Durability:** The seam should be able to last for the expected lifespan of the garment without weakening or coming apart.
- ✓ **Neatness:** The seam should be straight, even, and free from puckering or distortion. Raw edges should be finished appropriately to prevent fraying.

- ✓ **Comfort:** The seam should lie flat and not cause irritation or bulkiness against the body.
- ✓ **Appropriateness for Fabric:** The type of seam should be suitable for the weight and weave of the fabric. Delicate fabrics require different seams than heavy-duty materials.
- ✓ **Appropriateness for Garment Area:** Different areas of a garment may require different types of seams based on the stress they will endure and the desired aesthetic.
- ✓ **Appearance:** The seam should contribute to the overall look of the garment, whether it's meant to be inconspicuous or a decorative feature.

5. Embracing the Use of Seams in Clothing Construction:

Seams are fundamental to creating three-dimensional shapes from flat pieces of fabric, allowing garments to fit and move with the body. Appreciating their role involves understanding:

- ✓ **Structural Integrity:** Seams hold the different parts of a garment together, creating a cohesive and wearable item.
- ✓ **Shaping and Fit:** Seams can be strategically placed and shaped (e.g., curved seams, darts) to follow the contours of the body and provide a good fit.
- ✓ **Design Element:** Seams can be used creatively as design features, through topstitching, decorative stitching along the seam line, or by choosing seam types that are visible and contribute to the aesthetic.
- ✓ **Functionality:** Different seam types offer varying levels of strength and durability required for different types of garments and their intended use.

6. Safety and Waste Disposal (Reinforcement):

Continue to practice safety when using sewing tools and equipment and ensure proper disposal of fabric and thread waste.

SUB-STRAND 3.5: CLOTHING CONSTRUCTION PROCESSES - MANAGEMENT OF FULLNESS

1. Meaning of Management of Fullness:

Management of fullness refers to techniques used in garment construction to shape flat pieces of fabric to fit the curves of the body or to create stylistic design features. It involves distributing excess fabric in a controlled manner.

2. Types of Management of Fullness:

There are several common methods used to manage fullness in clothing:

- **Pleats:** Folds of fabric that are pressed or stitched in place. They can be single or in groups and come in various styles.
  - ✓ **Knife Pleats:** Folds that are pressed to one side, all facing the same direction.
  - ✓ **Box Pleats:** Two knife pleats folded away from each other, creating a raised section in the middle.
  - ✓ **Inverted Pleats:** Similar to box pleats but folded towards each other, with the fold meeting on the right side.
  - ✓ **Accordion Pleats:** Narrow, even pleats that create a vertical, pleated effect.
- **Gathers:** Soft, uncontrolled folds of fabric created by drawing up a line of stitching. They are used to ease a wider piece of fabric into a smaller one.
- **Darts:** Wedge-shaped folds of fabric stitched to a point, used to create shape and contour in garments, particularly around the bust, waist, and hips.

- **Elastic:** A stretchy material used to gather fabric and create a snug fit, often at waistbands, cuffs, and necklines. It can be applied directly to the fabric or inserted into a casing.
- **Easing:** A subtle way of joining two edges of fabric together when one is slightly longer than the other, without creating noticeable gathers or pleats. It involves gently distributing the extra fullness.

3. Making Samples of Management of Fullness:

Practical experience in creating these techniques is essential for understanding their construction and effects.

- ✓ **Create Pleat Samples:** Practice making knife pleats, box pleats, and inverted pleats on pieces of fabric. Press them neatly and stitch them in place along the top edge.
- ✓ **Create a Gathered Sample:** Sew two parallel lines of long, loose stitches along the edge of a piece of fabric. Gently pull the top threads to create gathers and distribute them evenly. Secure the gathers with a line of stitching.
- ✓ **Create Dart Samples:** On a piece of fabric marked with dart lines, stitch the darts from the wide end to the pointed end, ensuring a smooth, tapered shape. Press the darts towards the center or downwards.
- ✓ **Create an Elasticized Sample:** Create a casing by folding over and stitching the edge of a piece of fabric. Thread elastic through the casing using a safety pin or bodkin. Secure the ends of the elastic to create a gathered effect. Alternatively, stitch elastic directly onto the fabric, stretching it as you sew to create fullness.
- ✓ **Create an Eased Sample:** Join two pieces of fabric where one edge is slightly longer than the other, gently easing the longer edge to fit the shorter one as you stitch, without forming noticeable gathers or pleats.

4. Examining the Qualities of Different Methods of Managing Fullness:

Each method of managing fullness has its own characteristics and is suitable for different purposes and fabrics. Consider the following qualities:

- ✓ **Shape and Silhouette:** Darts create fitted shapes, while gathers and pleats add volume and different types of silhouettes. Elastic creates a snug, often casual fit. Easing provides subtle shaping.
- ✓ **Fabric Suitability:** Lightweight fabrics work well for gathers and some types of pleats. Crisp fabrics hold pleats sharply. Darts can be used in most fabrics. Elastic is best suited for areas needing stretch. Easing is used for subtle differences in fabric length.
- ✓ **Durability and Wear:** Well-stitched pleats and darts are durable. Elastic can lose its elasticity over time. Gathers need to be securely stitched.
- ✓ **Ease of Construction:** Some techniques (like gathers and easing) are relatively simple, while others (like precise pleats and well-shaped darts) require more accuracy.
- ✓ **Aesthetic Effect:** Pleats can be formal or decorative. Gathers are often soft and feminine. Darts are usually meant to be inconspicuous. Elastic can create sporty or casual looks.
- ✓ **Comfort:** Properly placed darts and well-distributed gathers contribute to a comfortable fit. Elastic can provide a comfortable, adjustable fit.

5. Constructing a Simple Garment Using Methods of Managing Fullness:

Applying the knowledge of managing fullness in an actual garment construction project will solidify your understanding and skills.

- ✓ **Choose a Simple Garment:** Select a pattern for a simple garment like a basic skirt, shorts, or a simple nightdress that incorporates at least one method of managing fullness (e.g., a skirt with pleats or gathers at the waistband, shorts with darts for shaping, a nightdress with elastic at the neckline or sleeves).

- ✓ **Follow the Pattern Instructions:** Carefully follow the pattern instructions for cutting the fabric and constructing the garment, paying close attention to the steps involved in creating the chosen method of managing fullness.
- ✓ **Apply Learned Techniques:** Utilize the techniques you practiced in your samples to create neat and effective pleats, gathers, darts, or elasticized areas in your garment.
- ✓ **Press Carefully:** Press each stage of construction, especially after creating fullness, for a professional finish.

6. Embracing the Use of Management of Fullness in Clothing Construction:

Understanding and skillfully applying techniques for managing fullness is essential for creating well-fitting and aesthetically pleasing garments. Appreciating its use involves recognizing:

- ✓ **Achieving Fit:** These techniques allow flat fabric to conform to the curves of the human body, resulting in comfortable and well-fitting clothes.
- ✓ **Creating Style:** Different methods of managing fullness contribute to various design styles and silhouettes.
- ✓ **Adding Detail:** Pleats, gathers, and other forms of fullness can serve as decorative elements, adding visual interest to a garment.
- ✓ **Adapting to Different Fabrics:** The choice of fullness management technique often depends on the properties of the fabric being used.

7. Safety and Waste Disposal (Reinforcement):

Continue to practice safety when using sewing tools and equipment and ensure proper disposal of fabric and thread waste throughout your garment construction project.

Teachers are advised to also consult the curriculum designs