Home Economics

for Secondary Schools



Book One

Home Economics

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Book 1

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FOREWORD

Curricula must be flexible enough to respond to the existential needs of the children in a changing society. Textbooks which are aids in the delivery of those curricula must be revised and edited as often as the need arises to make them contemporary in information and presentation.

Because of these things one welcomes the revised editions of the secondary school textbooks with pictures in appropriate colours.

We wish to commend all those persons responsible for this painstaking effort for having done a worthwhile job. The nation's children and their teachers will benefit significantly because of this effort.

May the industry of the editors be suitably rewarded by the wise use of the revised secondary school texts.

Priya Manickchand
Minister of Education

PREFACE

This series of secondary textbooks has evolved from the first and second sets of secondary textbooks which were planned for students in Secondary Schools. An important modification is that the new secondary books have been designed for students exposed to all types of secondary education (Senior Secondary Schools, Junior Secondary Schools and the secondary divisions of Primary Schools).

The books have been prepared with the common curriculum in focus and will be found to be consistent with most of the concepts dealt with in the curriculum guides for these schools. It is hoped that the introduction of these books to the different levels of secondary education now evidenced in Guyana, will help to remove some of the disparities which exist in accessing suitable learning materials.

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Home Economics Management

1. Introduction to Home Economics

In this chapter you will learn about:

- inter-relationships
- communication
- decision-making
- managing self and resource
- managing time
- managing energy
- managing skill
- managing money
- managing household equipment.



Figure 1-1-1: Home Making Skills

Have you ever made a rash decision because you were unsure? Did you ever go along with a suggestion made by a friend because you could not make up your mind? Most likely, the answer to these questions is 'yes' and you feel badly about it. But there is no need since you can change this situation. You can equip yourself with knowledge and skills for everyday life, and you can learn how to make good choices for yourself. This is what Home Economics is all

about.

We all know that the home is a dwelling place for the members of a family. The economist is someone who manages goods and services, so that the Home Economist is someone who manages the home; ensuring that all members of the family are happy, comfortable, clean, well-nourished and appropriately dressed. Besides providing for yourself and family, Home Economics can also lead to exciting careers. Some of which, would require further training at technical institutions, colleges and universities, while for others, training on the job would be sufficient.



Figure 1-2 : A classroom situation

Miss: Good morning, class! It is nice to see you out for the first day of school. Please tell the class about yourself.

Rajesh: My name is Rajesh and I live at Mahaicony (Region 5). I live with my father and mother. I have five brothers and one sister.

Miss: Thank you very much, Rajesh. Now let us hear from two other persons from two other regions.

Regina: My name is Regina. I am from Bartica (Region 7).1live with my mother and I am the only child.

Miss: Thank you, Regina. Someone else please.

Shauna: Well, my name is Shauna, I am from Grove (Region 4). I live with my grandparents, my Aunt Sarah and my Uncle John.

Miss: Thank you, Shauna. Now, we have heard from students from three regions who have different types of situations.

Therefore it can be said that in any classroom situation, the following may be revealed:

- attitudes
- beliefs
- gestures
- patterns of speech
- behaviour



Figure 1-3: A balanced family situation

Within a balanced family situation, the following features exist:

- comfort
- love
- security

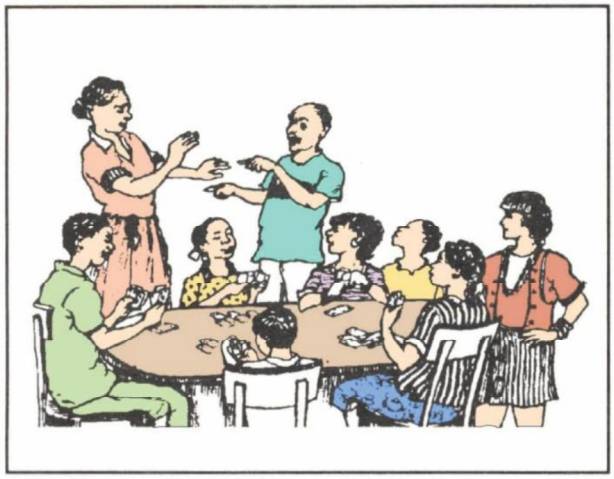


Figure1-4: A disturbed family

In a disturbed family situation, the following traits may be revealed:

insecurity

lack of love

need for companionship

Regardless of the family situation in which one may find himself / herself, the quality of the experiences gained would shape the way you think of and react to others, the things you treasure and the friends you make.

This indicates that "**you** are **you**".

Therefore you are, unique in every way, others may look like you, but they are not you. you need to know and like yourself. How you feel about yourself is your concept. Experiences within your family are the main influence in the building of your personality as well as your self-concept.



Figure 1-5: A confident, well groomed person.

Inter - relationships

There are different types of relationships, here are a few examples:

- family
- peer
- teacher/pupil
- boy/girl.

In order to feel comfortable, bonded, supportive and self-confident in our relation- ships with others, we need to be:

- **ourselves.** Do not pretend to be what we are not, or to have what we do not have.
- **kind.** Thoughtfulness is very important. A kind word or act would go a long way towards making someone feel good about themselves.
- **interesting.** Show an interest in what others are saying or doing. Share an interesting experience or activity with others.
- **a good sport.** Win when you can, but lose gracefully, since we all cannot win all the time.
- **courteous and gracious.** Take time to be polite, and make others feel comfortable in your presence.

Communication

What is meant by communication? Communication is the transmission or passing on of:



Decision - making

As your awareness of yourself and your relationships heightened, you would have realised that you were making, and would continue to make decisions. Some of these decisions are what to wear, where you will go and the type of relationships you will encourage. Some of these decisions you make as a group, while others are your decisions. It is important that when you need to make a decision, you make the best decision possible, because you have to live with the decision you make. The decision you make will mould your present and future life.

The decisions made are based upon your values and goals.

What are values? These are ideas that are important to you. If it is important to you that you look your best at all times. You will make every effort to ensure that your personal appearance is at all times, at its' best. You may value time, so that you are always on time and you make every effort to be purposefully occupied for most of the time.

What is a goal?

A goal is something you strive to attain. These are things you want out of life, and things you work to achieve. Short term goals may change as you grow older and meet new situations and challenges. Short term goals include things you · may want to achieve over a short period of time, while long term goals are those which will shape your future, whether you want to go to university and have a career, or if you want to have a family.

Points To Consider When Making a Decision

- Identify the problem
- List the possible alternatives
- Identify important aspects
- Identify the consequence of each alternative
- Make your decision.

Your resources

As individuals we all have resources. What are resources? These are things that can be used or a supply of something that will take care of a need.

There are two groups of resources:

- Human
- non-human or material

Human resources include:

- time
- talents
- energy
- health
- knowledge
- work capacity
- attitudes

Non-human resources include:

- money
- community resources, e.g. club
- space
- material possessions
- time

Managing self and resources

Management is the use of resources we have, e.g., time, money, and energy, to achieve goals. While we were talking about decision making, we referred to goals and values. In this section, we are again referring to goals and values. As we work towards achieving our goals, we interact with our environment and develop a set of values. Things that are important to us and which are reflected in our goals and plans are expressed in our behaviour and influence our decisions.

These values have been derived from family, friends, society, heredity factors, and as individuals we determine the importance of our values.

To be a competent manager in the home in today's world we need to practice a range of skills. In the following chapters of this book, you will be exposed to the knowledge and skills which will help you to use some of your material resources effectively, while in the remainder of this chapter we will introduce the discussion on the importance of some resources and how to use them.

As a student you have certain responsibilities. These are:

- being an active learner, taking part in discussions.
- listening carefully to explanations and asking questions.
- writing down assignments.
- doing homework on time.
- practicing social skills of getting along with others.

Managing time

Time is the duration of the interval when activities occur. It is a resource that cannot be increased or decreased. How it is managed makes the difference. It can be spent wisely or wasted through poor management. If we plan how to use time wisely, efficiency will increase in many ways.

We can manage our time. The ability to successfully accomplish tasks in the amount of time we have is a skill that can be developed. A

good way to help us manage our time is to prepare a time plan. As we manage time, we should also plan for leisure time, in which we carry out activities we enjoy.

"To do" list

1. List all the tasks that you would like to accomplish.
2. Strike out what you don't really need to do.
3. Arrange the tasks in order of priority:
    - Most important
    - Important
    - Not very important
4. Allocate time for the priority tasks.
5. Check your priorities constantly.
6. Cross each task as it is accomplished.
7. At the end of the day, start the next day's list including any tasks not completed.
8. Include the activities for long term goals.

Managing energy

Energy is the ability to do work and is another valuable resource which must be managed wisely. Our personal energy or the ability to get the job done can be managed as we plan our activities, jobs or tasks to be done. Trying to do too many things at one time may yield poor quality results and frustration. Using time and energy is a good way to plan.

Managing skill

Our ability to do a job is called a skill. Management of skills develops as we perform jobs or tasks. By managing and using our skills wisely we may also save on other resources such as time and energy.

Managing money

All individuals and families need money to buy goods and services. The money the child spends would be his pocket money, money earned from doing errands or doing a part-time job or a gift from someone. Adults, on the other hand, would receive money from wages, salaries, rents, interests or a business.

All of us should make a budget if we are to derive maximum benefit from our money while we are working toward achieving our goals. You may ask what is a budget This is a plan for spending money. Just as you plan to save time doing activities, in the same way you plan to spend on needs before you satisfy your wants. We can also save when we "budget".

Learning to spend and save money wiselyis our

key to becoming successful financial planners. The most effective method of managing our money is to have a budget. It allows us to see how much we have, what we need and how much we have to spend.

Managing household equipment

As our cooking, washing, and cleaning skills increase, we will begin to use several pieces of equipment. We must make sure that we read the operating instructions which accompany these. These manuals should be kept in one location so that we can find them quickly when we have questions about use, care and storage.

When we plan for effective use of resources we are practicing management.

Our resources- time, energy, money, skills and equipment are what we manage daily. We should remember that each resource is valuable and sometimes limited. A plan may be a useful tool as we learn effective management of each of our resources.

In order to achieve these qualities we need to understand ourselves and others.

Exercises

1. Examine your person and your behaviour.

   Identify one aspect of yourself which you are not keen about.

   a. Write how this can be changed.
   b. Work at changing this aspect. .
   c. Record what you did and how long it took you to change this aspect.
2. You are attracted to Rebecca/Robert in the next class.
   a. Write down the possible action you can take about the attraction.
   b. What are you going to do?
3. Examine one of the activities you carry out during any day.
   a. Record the steps and time you normally spend doing this activity.
   b. Analyse the steps you take and see if you can save some time in doing the activity.
4. Estimate how much time you spend during the day doing nothing.
5. Identify a "fun" activity you enjoy during the day and add this to your list of

activities.

6. Make a list of the items you would like to buy Check this list to see
    a. what you need.
    b. what you can do without.
7. Examine the things you need and see what you need to buy today and what you can buy tomorrow or next week or at the end of the month.
8. Check to see how much money you have and examine what you must buy now and the price for it.
9. See what you can afford.
10. Visit the bank and ask about the services they offer. Make up a scrap book about "How can the bank help me"

Summary

We Have Learnt That

- Each individual is unique.
- In a classroom situation each person has his/her own traits, attitudes and beliefs.
- Within a balanced family, comfort, love and security are some of the qualities that exist; as against insecurity, lack of love, need for companionship that arefound in a disturbed family.
- Persons are shaped by what they inherit, their physical structure and their intelligence which portray their personality.
- Positive experiences are the result of a confident, well-groomed person
- There are different kinds of relationships, for example, family, peer, teacher/pupil, boy/girl.
- To feel comfortable, bonded, supportive and self-confident in our relationshipswith others, we need to be ourselves.
- Communication is transmission or passing on of our ideas through speaking, writing, listening, living, facial expressions, among others.
- Decisions made are geared towards both short term and long-term goals which are also based on values.
- A goal is something one strives to attain because it is what is needed for one's welfare
- Value are ideas that important to individuals
- There are important points to consider when arriving at a decision.
- All individuals have resources available to them which are either human or material.
- Mastery of a range of skills in today's world is needed in order to be a competent home manager.

2. Principles underlying the washing process

In this chapter you will learn about:

- the importance of laundering clothes and household articles
- the different types of equipment and materials used during the laundering process
- classification of equipment used in laundry work
- the correct use cleaning and care of laundering equipment
- the different methods involved in the laundering process
- the appropriate method for the removal of stains.



Figure 2-1: Clothes on hangers drying in a room

Definition of laundry work

This is the washing, dry-cleaning, treating and finishing of household articles and personal garments.



Figure 2-2: Clothes drying outside in the sun



Figure 2-3: Iron Table



Figure 2-4: Iron



Figure 2-6: Iron Board



Figure 2-5: Washing Machine



Figure 2-7: Laundry Basket

Reasons for laundering

We launder to:

- promote good health .
- kill germs.
- improve the appearance of clothing and
- household article's.
- maintain a pleasant smell.
- prolong the life of clothing and household articles.
- to remove dust/dirt/stains

Equipment used in laundry work

Equipment used in laundry work are put into three groups:

- washing
- drying
- finishing

Laundering equipment

WASHING	DRYING	FINISHING
Washing machine tub, sink,boilers, wringers,basin,brush, washboardstongs, bowls, buckets.	Dryers, drying cabinets, clothes line, props, clothes pegs, peg basket.	Ironing board, ironing table, skirt hoard. sleeve board clothes basket, Iron, clothes pressing cloths, sprinkler, airing, cupboard, hangers, brush

Sinks

These should be at least twenty centimeters deep. If possible, a double sink should be used as these make washing and rinsing easier. There are various types of sinks. The most suitable sinks for laundry work are made of porcelain and stainless steel. Wash and dry them well after use. Use a mild abrasive to remove stains.



Figure 2-8: Sink

Wooden Tubs

These are used for collecting water and for soaking and washing. Clean thoroughly after use. When not in use, keep tubs filled with cold water.



Figure 2-9: Wooden tubs

Boilers

Large heavy pots or tins can be used when boilers are not available. They should have a heavy base made of iron or stainless steel.



Figure 2-10: Boiler

Washing Machines



Figure 2-13: Front Loading automatic

These are used when laundering large quantities of soiled articles. They save us time and energy, leaving us free to do other activities during the washing time. There are many types of washing machines. The most common ones in use today are:

- Single tub washer with hand wringer.
- Single tub washer with electricwringer.
- Twin-tub machine with washing tub and spin dryer.
- Semi-automatic machine where washing and spin drying are completed in one tub.
- Fully automatic machine where the controls are set for each type of wash.



Figure 2-15: Single tub



Figure 2-14: Paddle or agitator



Figure 2-12: Twin tub top loader



Figure 2-11: Pulsator



Figure 2-16: Revolving drum or tumble action

Wringers

These are essential if washing is done by hand. They are either hand or electrically driven. They are light, easy to operate and may be fitted to a stand, a table or the edge of a sink. Rubber rollers should be rinsed and wiped dry after use. The rollers should be wrapped and stored separately.

Clothes Baskets

These are used to carry and store dirty clothes andhousehold articles. They are used to take wet laundry to hang for drying. They prevent clothes from collecting added dirt and dust. They are made chief1y of plastic, wire or nibbi. Wash and dry thoroughly, those made of plastic and wire, before storing.



Figure 2-17: Clothes baskets

Basins, Bowls and Bucket

These may be plastic, enamel, stainless-steel, aluminum or galvanised iron. They are used for the collection of water and for steeping clothes and household articles. Avoid using coarse abrasive for cleaning. Wash and dry thoroughly after use.



Figure 2-18: Bucket, bowl and tub

Washing Brushes

These are used in the removal of dirt from heavily soiled articles or materials. They are made from wood and polythene. Clean before and after use. Place on its side to dry to avoid destroying the bristle. Allow to dry thoroughly

before storing.



Figure 2-19: Washing brush

Washing Boards

These are also known as 'juke' boards and are made of wood and plastic. They have louvre-like or matched surfaces which aid the removal of heavy dirt through friction. Wash and dry in a cool place and store away from heat.



Figure 2-20: Washing board

Tongs

These are made of wood, metal or hard plastic. They are most useful for removing clothing and household articles from boiling water, dyes and corrosive substances.



Figure 2-21: Tongs

Drying equipment

Spin Dryers

These are the most efficient devices for extracting water from washing. They can be bought as individual machines or built in with the washing machine. The clothes can be put into the machine soaking wet and spun to damp dry in a few minutes. Some fabrics are even dried enough ready to be ironed.

Tumble Dryers

These can be separated or attached to automatic machines. They remove excess water gently by warm air and can be used with either gas or electricity.

Drying Cabinets

These are used for drying articles, also for airing clothes and household linen. They can be gas or electrically operated.

Drying Racks

These are used for drying or airing and are made of wood, plastic or aluminum. These should be non-staining.



Figure 2-22: Drying rack

Clothes Lines and Props

These can be just length of lines or rotating lines. They are made of rope, metal or plastic. They should be strong enough to take the weight of the heaviest washing. Wipe -before hanging out clothes. Props should be firm in the ground and tall enough to enable the lines to be fitted high up to catch the wind. Props or posts are made of wood or metal with pulley fittings.



Figure 2-23: Clothes line and pops

Clothes Pegs

These are used to hold clothes or household articles on a line. They are made of wood, metal covered with plastic and plastic. They should be free from dust and should be kept in a bag when not in use. Store dry.



Figure 2-24: Clothes pegs

Despite the advantages in using equipment and easy care fabrics, the housewife has to spend a considerable amount of time ironing. It can be tiring with the wrong weight of iron or if table is too high.

Finishing equipment

Irons

They vary in weight, design, colour and price. They can be electric or flat/sad. The electric iron may be dry, steam or spray.



Figure 2-25: Some irons used long ago

Ironing Table /Board

This should be well-padded with a clean smooth cover or on a table protected by a blanket covered with a clean sheet used for ironing.



Figure 2-26: Iron Table



Figure 2-27: Ironing board

Iron Stand and Holder

These are used to rest the flat or said irons if a table is used. The holder is to hold the sad/flat iron to prevent the heat from coming in contact with the hand.

Hangers/AIRERS

For this purpose a chair, clothes dryer or clothes horse can be used to put just ironed or pressed articles and clothing before storing.



Figure 2-28: Hanger

Fig. 2.17 Hanger

Materials used in laundry work

There are a variety of washing products for laundry work. With the introduction of new laundry work materials, washing is less demanding. Materials are produced to suit every type of fabric on the market, while some are produced to remove particular stains. When used carefully, they give good results but, if used incorrectly, they can damage our clothing and household articles.



Figure 2-29: Liquid detergents



Figure 2-30: Powdered detergents

Water

This is necessary for laundry work, but not all water is suitable. Water can either be soft or hard but soft water is best for laundry work. If water is hard a scum will form when detergent is used and will discolour clothes making them grey.



Figure 2-31: Bar detergents

Detergent

This is a substance which when added to water improves the cleansing action. The detergents used in laundry work are:



Figure 2-32: Bleaches

Whiteners

These are generally used for whitening cottons, linens, silks and woollens. They can also be used to counteract yellowness. Some detergents are added with optical whiteness, thus reducing the use of laundry blue. Blue is used in the last rinsing water. Some whiteners are blue, bleach rain and sun.

Fabric Conditioners

These are special products designed to be used in the last rinsing water to soften fabrics and to prevent clothes from clinging to the skin.

Stiffeners

These are available in different forms, e.g. powdered, instant and spray forms. Starch is one example of a stiffener. The use of a stiffener is becoming less important as modern fabrics require little or no stiffening.

Methods of Laundering

There are two basic methods of laundering

Friction

Suitable for cotton and linen articles. The types of friction are:

- hand friction suitable for lightly
- soiled articles.

Friction by hand



Figure 2-33: Types of friction

Kneading and Squeezing

Suitable for wool, silk and the synthetics.



Figure 2-34: Kneading and squeezing

Friction by Scrubbing Board

- Friction by using a laundry brush- suitable for brushingcollars, cuffs and necklines
- Friction by use of a scrubbing board suitable for heavily soiled articles

The washing process

The steps in the washing process are:

- sorting
- .mending
- removal of stains
- steeping
- washing
- drying
- finishing

Sorting:

Clothes must be separated into groups according to the way they will be treated during washing:

- Types of fabric -white cottons and linens (without special finishes)
- Colour fast cottons and linens, e.g. sheets.
- Cottons and linens that have loose dyes.
- Heavily soiled articles/clothes
- White and pastel shades of nylon and terylene,e.g. shirts
- Articles requiring gentle handling, e.g. pleated garments.
- New clothes - always check garments for labels then follow instructions precisely.
- Ensure that all pockets are emptied, zippers closed, non-washable trimmings needles or pins are removed.



Figure 2-35: Sorting of clothes by type and colour

Mending:

Tears must be mended properly to avoid further damage during the washing process.



Figure 2-36: Mending Clothes

Removal of stains:

Check for stains. Treat them separately if they are not likely to be removed during

The treatment of stains depends on the chemical nature of the stain; the age of the stain; the texture and colour fastness of the fabric.

Use the correct stain remover with care, as some can weaken the fabric or affect the colour.

Always rinse fabrics thoroughly after using stain removers.

Stains should be removed before washing, as washing sometimes tend to fix stains.



Figure 2-37: Removing stains from clothes

Steeping:

Heavily soiled articles must be steeped before washing to loosen dirt, but coloured articles must not be steeped unless the dye is fast. Kitchen towels and handkerchiefs should be steeped separately from other articles.



Figure 2-38: Steeping clothes

Washing:

There are two types of washing; hand and machine. For hand washing proceed as follows:

- Fill a large basin with water.
- Steep clothes for approximately half an hour to soften excess and stubborn dirt.
- Remove clothes and discard first water.
- Refill basin with clean water, add detergent and replace clothes.
- Rub to remove heavy dirt.
- Rub using the ball of the hands.
- During washing, special attention must be paid to the middle of the neckline and collar, the pockets, the cuffs, the front, bottom, bands and underarms.

Since the areas mentioned above come into contact with parts of the body that perspire, they would need special attention.

- After dirt has been removed, rinse thoroughly. Pay special attention to the folds in the garments where scum may gather.
- Rinse twice again, to get rid of all the detergent.
- Squeeze, wring, shake and put to dry.
- Some clothes may not require wringing therefore, hang up to drip-dry.

Stiffening:

Stiffening agents. These are used in laundry work to:

- add stiffness to materials.
- prevent penetration of dirt into fabrics.Examples of stiffening agents are starch andarabic.

Whitening agents:

Whitening agents are of three kinds, namely:

OPTICAL WHITENESS

These are added to make fabrics look whiter .This is because they increase the amount of light reflected from the fabric. They are not bleaches. They add blueness to the fabric and so may cause change in pastel colours.

BLUES

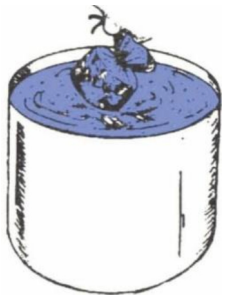


Figure 2-39: Blue

Blue as a separate substance is not much used. Now it is added to the detergent during

manufacturing. The use of the blue bag in the final stage of rinsing is to remove the yellowness of white cottons and linens to make them look whiter.

BLEACHES

These are natural or chemical substances used chiefly on white or discoloured articles to restore the white colour, e.g, sunlight, marvex, chlorox, rain .



Figure 2-40: Bleaches

Drying

Drying is very important in the washing process. The main aim of drying is to remove moisture. Sunlight acts as a natural drying agent.

The points to be considered when drying and hanging out are as follows:

- The lines and pegs must always be clean.
- Dry articles on the wrong side.
- Hang washing in the breeze, sunlight bleaches white articles.
- Hang coloured articles in the shade, becausethe sunlight may fade them.
- Shake garments before hanging out, this helpsto remove wrinkles.
- Hang garments the way they are worn to keep their shape. Some garments are best dried flat.
- Hang sheets and table cloths evenly over theline.
- Peg dresses and blouses from the shoulders and hang all garments and articles on the grain line.
- Peg three or four handkerchiefs together.

Types of drying are as follows:

Outdoor drying

The most suitable condition for household drying is breeze and sunlight. This type of open-air drying gives the freshness which no other method does.



Figure 2-41: Drying outdoors

Indoor drying

This method is needed when it is not possible to dry in the sun. It is done by hanging clothes on a line, rack or hanger and placing a basin or a pan to collect the drip or by wrapping in a dry towel until they stop dripping.

Articles labelled **'drip-dry'** should be hung out without wringing.

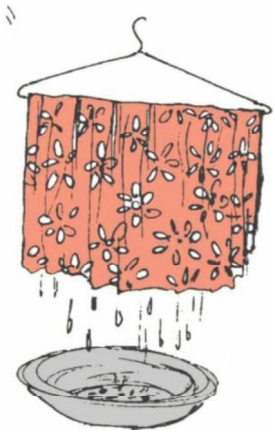


Figure 2-43: Drying indoors

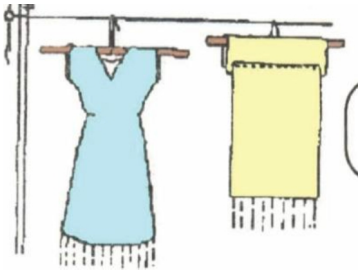


Figure 2-43: After washing, carry in a howl of water to the line.

Finishing

The aim in finishing clothes is to have them look as new and neat as possible.

In order to obtain good results, some information on labour saving devices or equipment, improved detergents and laundry work skills are now introduced. After the clothes have been dried, they should now be ready for ironing or pressing.

The secret of successful ironing is to use the correct temperature for the material.

- Ironing is the application of pressure and a continuous movement of the iron along the fabric to restore the article to its original shape. This is also necessary during dress making.
- Pressing is the application of heat and pressure, by holding the iron on the article for a short time, lifting it up and pressing it on to the surface until required results are achieved. The weight of the material determines the amount of pressure needed.

The general rules for ironing are as follows:

- Group articles for ironing according to the temperature to be used.
- Iron all double and thick parts on the wrong side.
- Iron seams on the wrong side.
- Iron trimmings, lace and embroidery on the wrong side, by pressing on to a pad to give a raised effect.
- Iron small parts, e.g., collars and cuffs.
- Iron until all moisture is removed to prevent mildew and wrinkling.

- Fold according to type, or hang on hangers.
- Air thoroughly before sorting.

Exercises

1. Name five small and five large pieces of laundry equipment.
2. List four reasons for washing clothes.
3. Launder a cotton article and list the materials used.

Summary

We Have Learnt That:

- Laundry work is the washing, dry -cleaning, treating and finishing of household articles and personal garments.
- There are reasons for washing clothes and household articles,e.g. to promote good health.
- Laundry work equipment is classified under these headings: washing - clothes basket drying- clothes line; finishing – iron
- There are different types of materials used in laundry work, e.g. water detergents, whiteners, fabric conditioners.
- There are two basic methods of laundering clothes friction, kneading and squeezing.
- The laundering process follows an order and involves sorting, mending, removal of stains, steeping, washing, stiffening, whitening, drying and finishing.

3. Aids to good laundering

In this chapter you will learn about:

- materials which will assist you
- during laundry work, to manage clothing and household articles well
- the part water plays in the laundering process areas where water is obtained
- the ways of grouping water
- purifying water to make it usable
- the effects of impure water on clothing and household articles
- the importance of detergents in laundry work
- ways of grouping detergents
- ways of making soap
- what makes up a good soap
- the classification and uses of soap.

Definition

Laundry aids are materials which help to save time and energy in the management of our clothing and household articles. Some of these are water, detergents, blue and starch.

In this chapter we will be dealing with these aids, their sources, importance and functions in laundry work. A good knowledge of these will help you to experience less damage to clothing and hands, and also produce better and satisfying results.

Let us look at water as a necessity in laundering.

Water

This plays an important part in laundry work. It is composed of two gases - Hydrogen and Oxygen. Water is obtained from various sources streams, rivers and lakes (surface water) wells and springs (ground water) and the collected



Figure 3-1: Sources of Water - Well

rain water.



Figure 3-3: Sources of Water - Stream



Figure 3-2: Sources of Water - Rain



Figure 3-5: Sources of Water - Pond



Figure 3-4: Sources of Water - Lake

Rainfall begins a cycle which is continuous as shown in Fig 3-6

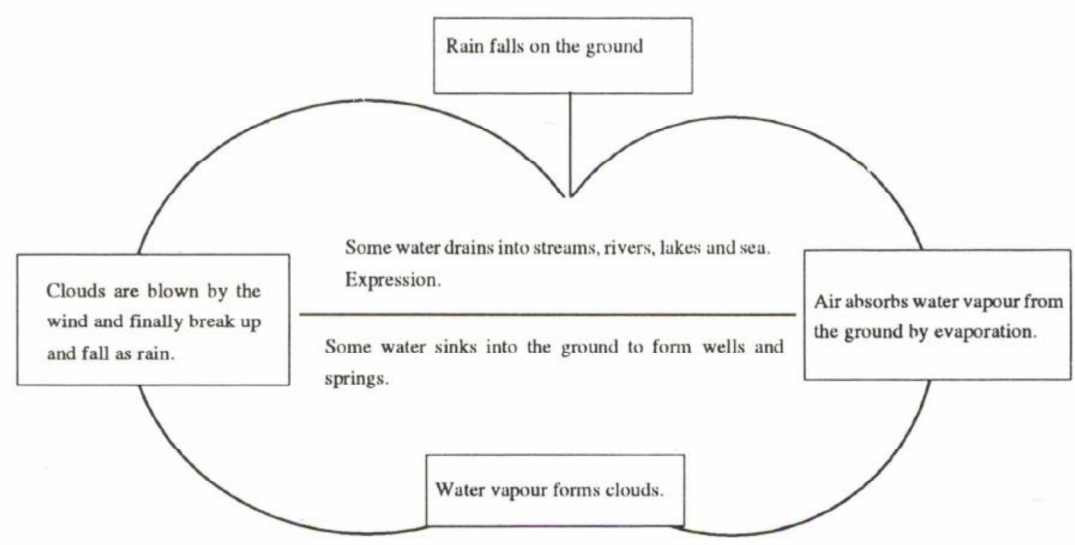


Figure 3-6: The water cycle

Looking at the water cycle we can safely say that water contains different kinds of substances thus making it hard or soft.

Hard water is water which contains certain elements, e.g, calcium bicarbonate, magnesium bicarbonate, calcium sulphate, and magnesium sulphate.

Characteristics of hard water

- Hard water is difficult to lather with soap.
- It is not suitable for washing.
- It leads to waste of soap.

Characteristics of soft water

Soft water is water that does not contain calcium and magnesium salts.

- Soft water lathers easily.
- It does not form a scum.
- It is suitable for washing.

The hard water is divided into two groups.

- **Temporary hardness**
  This may be removed by boiling. As the water boils the chemicals sink to the bottom of the container leaving the water much softer.

- **Permanent hardness**

  Water is said to have permanent hardness if it contains calcium and magnesium

sulphate Permanent hardness can only he removed by water softeners, e.g, washingsoda or sodium bicarbonate, or both salts. Borax, household ammonia and calgon are also efficient in removing hardness.

Treatment for permanent hard water

Water softening plants

These contain a natural mineral called "Zeolite" which removes calcium salt; from water. This small water softener can he fixed to the tap.

Other chemicals

These chemicals are generally added to the water before it passes into the filter beds so that any deposits formed can be removed by these beds, e.gCalgon. Calgon combines quickly with salt in the water and "locks" them up, making them harmless and leaving the water soft.

Water softeners

These are chemicals used to make hard water soft.

One type of water softener is washing soda. It is used for the following purposes:

- To soften hard water by joining with the hardeners to form a white powder which settles in the container.
- To emulsify grease. This means that soda in solution holds the grease suspended in small globules in the water and keeps it away from fabrics.

Cleansing properties of water

Water:

- holds dirt in suspension.
- penetrates fabrics making them wet.
- softens stiffeners e.g. starch.
- dissolves dirt.
- melts grease and softens non-greasy dirt.

Disadvantages of hardness in water

Hardness in water causes:

- deposits in kettles and boilers, so that more fuel is used.
- deposits in a hot water system which can result in an explosion.
- mains to become blocked
- wastage of soap - more soap must be used and, as a consequence homemakers may have to purchase a water softener ,the cost for laundering is higher and extra cleaning is necessary to remove scum from baths and sinks.

Detergents

Detergents are substances which act with water to make things clean. They are produced in the form of tablets, powders, liquids and lakes for a variety of fabrics.

Detergents are divided into two main groups.

Soap and soapy detergents,e.g, household soaps, toilet soap, soap powders, soap flakes and special hard soaps and powders. Basically all soaps and soapy detergents are madeby heating animal and/or vegetable fats and oils with an alkali.

Soapless detergents, e.g. Soflan Dish washing liquids - Squeezy, Dove.Soapless detergents are also called synthetic soaps or soapless cleaners. They include liquid and powdered cleaners and washing products with a soap base. Early scientists discovered that soap substitutes could be produced from certain vegetables and fish oils. It should be noted that sodium carbonate is not included in the preparation of soapless detergents.



Figure 3-7: Examples of soaps and soapless detergents

Advantages of soapless detergents

- They dissolve more readily than soap in cold water and are therefore suitable for washing at low temperatures.
- They form no scum when used in hard water.
- Some have greater (cleansing) powers and are especially good for cleaning very dirty and greasy articles.
- They are cheaper in the long run; there is no need to use extra agents like borax, ammonia, vinegar, salt or other water softening products when doing laundry work.

Disadvantages of soapless detergents

- Initially, they are expensive.
- There is need for accurate measurement.
- Some can be irritating to the nostrils.
- Clothes that have been washed with soapless detergents easily pick up oil from the hair and body.

Sources of soap

Animal fat: beef, tallow and marine oils.

Vegetable oils: palm kernel, cotton, soya bean,

ground nut, cotton and olive.

The texture of the finished product varies according to the fats or oils from which it is made.

The hardness in soaps depends on:

- the method used for making it.
- the amount of moisture removed during preparation.
- the length of time for drying.

The cleansing properties of soap vary according to:

- the fats and oils used in its preparation.
- the amount of alkalis used.

Characteristics of a good soap

Good soap:

- has good cleansing power .
- contains no harmful substance which will adversely affect the colour or fibre of the materials.
- produces a good lather in any amount of water.
- is soluble in any temperature of water.
- leaves no marks on the skin after use.

Types and uses of soap for laundry work

Neutral soap

This is usually hard and white and sourced from oils such as olive. It is made by drying liquid soaps after refining. The soap is cut to the required size, dried, then stamped and wrapped in paper. It is suitable for washing fine articles, babies' and children's wear.

Household soap

This is made from coconut oil, red palm oil, lard or tallow. It is readily soluble in water. It is used for everyday laundering purposes.

Soap powder

This is made from liquid soap in which red palm oil, coconut oil and palm kernel oil have also been used.

It is sprayed from a nozzle, and as it comes in contact with air it forms a powder. Good soap powders contain forty to fifty percent of soap plus other cleaning agents which help to give excel- lent results.

One substance which is sometimes added to soap powders to remove stains and act as a bleaching agent is **sodium perbonate.**

Note: Washing powder is 1wt soap powder as it does not have the properties, of soap. It contains a large percentage of sodium carbonate or sodium perbonate. Such powders are suitable for use in washing machines. They can be used when laundering large white articles. Careful rinsing is necessary to get rid of scum formed.

Soap Flakes

These are produced by pouring melted pure soaps over hot rollers, to get rid of the water gradually, leaving about 5% moisture. This is concentrated soap, so little is required to form a lather. It is useful where a hard soap is not desirable and where easily dissolved soap is required.

Soap jelly

This is made from scraps of soaps. It is used for washing delicate fabrics.

Recipe: Soap Jelly

Materials: Scraps of soap (bath and laundry) water.

Method:

1. Shred soap finely.
2. Put into pan and barely cover with cold water.
3. Place on very low heat or by the side of a warm cooking surface until soap is dissolved. Do not boil.
4. Store in jars

Bleaches

Bleaches are natural or chemical substances used on white or discoloured articles to improve their colour. With improved washing powders, soap powders and other laundry reagents, however, bleach is less used.

Bleaching removes the yellow tint from fabrics. With time and use, natural colour fades and the article yellows.

There are two methods of bleaching.

Natural bleaching

This is also called lawn, grass, outdoor or open air bleaching. It is very simple and does not need any special equipment. It is a mild and slow method but safe to use on almost all fabrics.

Method:

1. Wash and spread soaped articles on grass.

2. Expose them to natural light or strong sunlight.
3. Sprinkle them with soapy water as often as possible. Observe how they change colour. When they have regained the desired colour, continue laundering.

Chemical bleaching

Several preparations are available in liquid and powdered form.

Classes of Bleaching Agents

Oxidizing bleaches

These can be obtained naturally and chemically. For natural bleaching, check notes on lawn or grass bleaching.

Chemical bleaches

Most household bleaches are oxidizing bleaches. Some examples are sodium hypochlorite, hydrogen peroxide , sodium perbonate. These give off oxygen which gets in contact with the yellow tint and bleaches it out.

Whitening agents

Whitening agents are necessary to make whites whiter and coloureds brighter. They are used in the last rinsing water or when stiffening articles or garments.

Modern washing powders and soap powders are fortified with perbonate and the optical brightening agent which will give added brightness to the wash. It is now unnecessary to use the traditional blue bag or liquid blue. Natural whitening agents are still useful today in some parts of the country.

Methods of whitening

1. Natural: White articles should be washed, soaped and spread on the grass or bush and exposed to sunlight. They should be sprinkled often with soapy water until the desired results are achieved, and then continue laundering.
2. Boiling: is also an excellent method for whitening cotton and linen garments with the addition of detergents.
3. Blueing:
    - Articles should he thoroughly rinsed to remove all traces of soap before blueing.
    - Squeeze the blue bag or add liquid blue to cold water until water is pale blue or "sky blue".

- Stir the water, otherwise the blue will settle in or on the sides of the howl.
- Dip the articles one at a time in the blue water, moving it around.
- Always dip whites before colored.

Note: If over-blueing occurs, give the article a vinegar rinse. Always squeeze out the water from the blue bag after use.

Fabric rinses or fabric conditioners

These are specially produced to he used in the last rinsing water of the laundering process, to give softer finish and a better feel. They have an antistatic effect on fabrics, thereby preventing them from clinging to the body and picking up dirt easily.

These particular products are also of considerable use on articles made from man-made fibres, where a static electricity "build-up" occurs during wear. You have no doubt experienced the clinging of nylon slips and heard the crackle of static, especially when garments made from man-made fibres are worn together. Some contain optical brighteners which improve the colour of white articles, and restore the original soft feel to fabrics, such as towels and vests.

Use of fabric conditioners

Fabric conditioners have a coating ability on fibres, therefore it is important to distribute the conditioner evenly over the articles to be treated.

Note:

- *Great care must be taken to rinse all detergents out before applying the fabric conditioner.*
- *Static held dirt is extremely difficult to remove.*

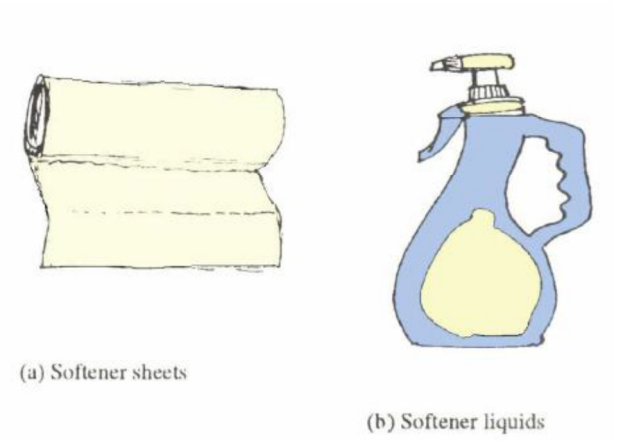


Figure 3-8: Fabric conditioners

Stiffening agents

Stiffening agents are used in laundry work to restore natural stiffness to materials which have lost their stiffness during several washings, and to give a glossy surface that will not soil easily.

Modem synthetics, crease resistant and glazed finished fabrics do not require starching. However, some man-made fabrics may require stiffening . It makes finishing easier and prevents the fabric from becoming soiled easily.

Materials used as stiffening agents

Some materials used to make stiffening agents are rice, maize, arrowroot, cassava, sugar, gum arabic, waxes, borax and potato.



Figure 3-9: Examples of stiffening agents

Types of stiffening agents

There are many types of stiffening agents. The use of hot water starch, which has begun to decline, has been altered by the production of instant starch. In this chapter we will discuss the various types of stiffeners.

Starches

These are available in powder, grain, ball or spray form. Starch is obtained from plants in varying quantities. Cassava and rice give a high percentage of starch.

HOT WATER STARCHES

Cassava starch - This is cheap and easily made. Thorough drying is required. This type of starch gelatinizes at a very low temperature. If used correctly it gives excellent results.

Rice starch -This is fine and penetrates the fibres. It gives the same result as cassava starch.

Sugar stiffener - This gives a light stiffness to nylons.

COLD WATER STARCHES

Starch powder is mixed to a thick liquid with cold water and the dried article starched with this mixture. A hot iron must then be used to gelatinize the starch grain and dry the fabric so that it becomes stiff.

Instant starch - This ·is obtained from laundry starch. It is pre-cooked and made into fine powder or grain which dissolves readily in cold water. It is very easy to use.

Plastic starch - These are obtained in liquid form

and are simple to use but should he diluted. These synthetic substances are suitable for very light weight fabrics. These products give fabrics a .certain amount of stiffness. The finish lasts after washing, about three or four washes.

Borax - This is a mild stiffening agent obtained in powdered form. It is used on fine fabrics for slight stiffening. This product can he dissolved in cold water and used on its own or in hot water and added to starch to give extra stiffness.

Gum Arabic - This substance is obtained in crystal form from plum or arabic trees. It is an excellent stiffener for very fine fabrics, e.g., silk and rayon, hut must be diluted into a weak solution before use.

Note: *When using manufactured starch, always carefully follow the instructions given by the manufacturer.*

SPRAY STARCH (AEROSOL)

This is obtained in aerosol spray cans and is used during finishing. It is a mixture of natural and synthetic substances. It is best used on collars and cuffs and on areas which require maximum stiffness. It is very expensive and should be carefully used to prevent sticking to the sole of the iron.

Recipe: Hot water starch

Materials:

1 tblsp of starch	Basin
1 tblsp of water to mix	Wooden spoon
Boiled water	Pot

Method:

1. Mix starch and water to form a smooth paste (in the basin using the wooden spoon).
2. Pour boiling water over the starch paste, stirring quickly and continuously until a colour change occurs.
3. Stop pouring as soon as this change is noticed.

Exercises

1. Complete the following table

Fats and oils	Results	Suitable for
(a) Real palm oil (slightly clarified)	Soft soap	laundry and general household use laundry and ------ soap
(b). Red palm oil clarified	---------	----------
(c) Coconut oil	---------	----------
(d) Palm kernel oil	Hard soap	-------- and --------
(e). Olive oil	--------	--------
(f). Lard	--------	laundry and bath soap
(g). Tallow	Very hard soap	----------

2. What other substances are added to soap powder to remove stains and act as a thickening agent?
3. List five soapy and five soapless detergents.

Summary

WE HAVE LEARNT THAT

- Laundry aids are materials which help to save time and energy in the management of our clothes and household articles.
- Water plays a very important part in laundry work.
- Water is obtained from different sources.
- There are two groups of water.
- There are ways of treating permanent hard water
- Water has cleansing properties.
- There are disadvantages of hardness in water.
- Detergents are substances which act with water to make surfaces clean.
- There are two main groups of detergents.
- There are different sources of soap.
- A good soap has characteristics.
- Soap can be made into jelly.
- Bleaches are used on white or discoloured articles to improve their colour.
- Whitening agents are necessary to make whites whiter and coloureds brighter.
- There are certain important rules to follow when blueing materials.
- fabric conditioners are specially produced to be used in the last rinsing water of the laundering process, to give a softer finish and a better feel.
- stiffening agents are used in laundry work to restore natural stiffness to materials

4. Care labels

In this chapter you will learn about:

- the definition of care-labels
- care labels symbols and their meaning
- parts of garments on which these labels are located
- general care labelling codes.

Look at the care labels before beginning to launder. This is necessary because of the number of synthetic fabrics now on the market. To get the best out of fabrics, it is essential that the right treatment is given to the garment or article, whether it is washed by hand or machine.

Definition

Care label attached on the fabric or garment describes the fibre content and methods of laundering or dry cleaning and finishing. It also show the correct washing temperatures, washing machine setting and ironing setting.

Information found on a care label

- The fabric and fibre of which the garment or article is made.
- The trade name of the fabric, if any.
- The Finishes which have been applied to the fabric.
- special care instructions for washing, drying, ironing, dry cleaning and storing.

Place where found

Care labels are attached to ready-made garments. They were mainly attached to the neck of garments, but today, to save time and for convenience, they are attached to various parts of the garments, e.g. cuffs, side seams, waist, and the selvedge of some fabrics.

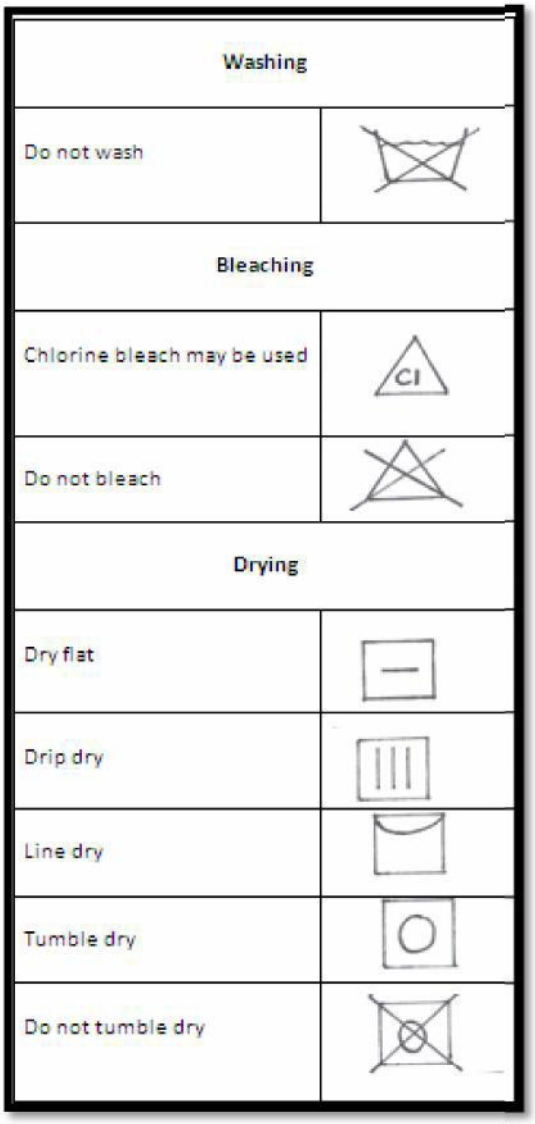
Symbols

Care labels are international codes which can be understood everywhere. There are five basic symbols used with variations to give the washing temperature, washing machine and

iron settings, drying and bleaching instructions.

Basic international care labelling symbols

Washing	
Bleaching	
Drying	
Ironing	
Dry cleaning	



Ironing

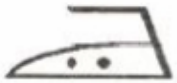
Hot iron - Cotton, Linen, Viscose.



Warm iron - Polyester mixtures, wool.



Cool iron



- Acrylic, Nylon, Polyester

Dry cleaning



May be dry cleaned. Other letters and/or bar beneath the circle will indicate the required process to dry cleaner.

An X through any symbol means" DO NOT"

Caring for your clothes

Always use the recommended care label advice to achieve the best results and help to make your clothes attractive and long lasting

Wash tub number



Articles which will withstand normal (maximum) washing conditions at quoted tub temperature.

Cotton

Wash

(No bar)



Synthetic articles, easy care cottons and blends which will withstand reduced (medium) washing conditions at quoted tub temperature.

Synthetics



Wash

Machine washable wool and wool blends which require much reduced (minimum) washing conditions.



Wool wash (Broken bar)



Hand wash only

Do not machine wash

Exercises

1. Explain what is meant by the following: soft water, hard water.
2. You are living in a community where the supply of water is hard. Suggest three methods you would use to soften the water.
3. Compare the use of two different types of stiffeners in the laundering of cotton articles.
4. List the four iron settings and the fabrics to be used at each setting.
5. Define and list the terms used to describe washing temperatures.
6. Write a brief account of the manufacture of soap.
7. **Test on detergent products**

   To find out whether the detergent present is soap or a synthetic detergent.

   Instructions :

   - Dissolve a little of the powder or liquid in a small quantity of distilled water in a test tube or a cup. Observe what happens.
   - Add an equal amount of water to which you have added a pinch of salt.
   - List your findings and conclusion.
8. Collect labels/samples of detergents and compile a scrapbook, placing your findings in groups.
9. Collect labels from three different articles/garments and explain the meaning of each.

Summary

WE HAVE LEARNT THAT

- A care label is the information attached on the fabric or garment.
- A care label describes the fibre content
- A care label describes the methods of laundering or dry cleaning and finishing.
- Care labels show the correct washing machine settings and iron settings.

5. Importance of hygiene

In this chapter you will learn about:

- what is hygiene/ its importance
- care of the skin
- reasons for bathing
- good grooming aids
- care of the hair
- care of the teeth
- types of teeth
- hands and nails
- the feet
- cleanliness of clothing.

Definition

Hygiene is the study of the ways in which we help ourselves and others to be healthy and clean. By "healthy and clean" we mean keeping the body processes working properly. Being healthy does not mean only "being well", but it means feeling well and bright, eating and sleeping well, working an playing hard and also being alert and interested in what is going on around you.

Everyone should learn to keep the body clean and why it should be kept clean. The body can be kept clean by frequent washing with soap and water but there are certain parts of the body such as the skin, the hair, the nose, ears, eyes, teeth, feet, hands and nails that need special care.

The skin

Personal cleanliness and good grooming begins with the skin.

The outside of the body is completely covered by a thin layer of materials which we call the skin. The skin is in constant contact with the air, wind and dust and should be kept clean. It is made up of two layers:

- epidermis and
- dermis

The **epidermis** is the surface or outer layer of the skin which is made up of layers of cells. The dermis or true skin is made up of connective tissue and contains blood vessels, nerves, glands and hair bulbs.

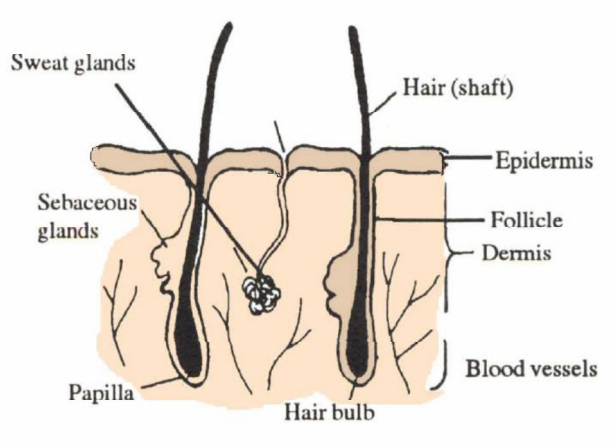


Figure 5-1: Cross section of the skin

The skin must be kept very clean because it is the outer protective covering of the body. If it is allowed to remain dirty, bacteria will breed on it and gradually find their way into the body through the sweat and oil glands and the mouth.

Small amounts of sweat and oil ooze out on to the surface of the skin and if these are allowed to remain they will make the person smell unpleasant. The epidermis is made up of dead, dry, flattened cells that are always being rubbed off and replaced by new ones. These dry flakes will block the tiny sweat and oil tubes in the skin and produce an unpleasant smell.

Cleanliness of the skin

- Bathe regularly, dry the skin thoroughly and change garments, since germs can be transferred from clothes to food.
- Wash the skin frequently, especially the parts that get most dirty- hands, pubic area.
- Wash the face and neck, working down to the feet.

Note: *A warm bath is the easiest and most pleasant way of making sure we are clean and fresh all over.*

Reasons for bathing

We bathe to:

- remove surface grease and dirt.
- remove bacteria .
- rub away unwanted skin cells.
- remove stale sweat and make us "nice to be near"
- keep our self-respect.
- gain a feeling of freshness and well-being.



Figure 5-2: Materials for washing

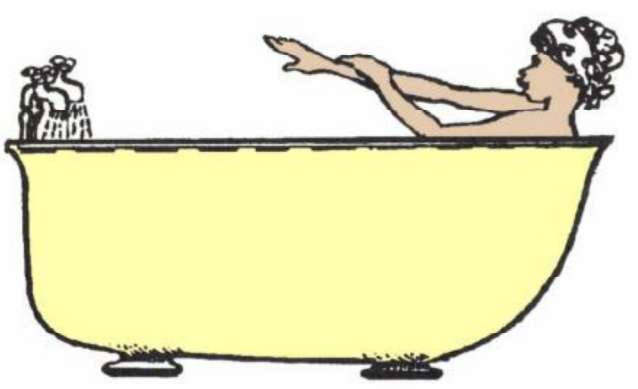


Figure 5-3: Care of skin

Personal freshness is very important. We know that perspiration is a natural and necessary process but when it reaches the surface of the skin, it is acted upon by bacteria and begin to decompose, thus causing an unpleasant smell to develop.

Armpits are the worst offenders, and here is where we need to consider two remedies, **antiperspirant** and **deodorants**. Here are some examples.



Figure 5-4: Anti-perspirants and deodorants

You may at this period of life experience problems with blackheads and pimples on your face. Do not worry; we have all had them, since this is part of growing up. What do you do about them? Use a medicated soap, and gently massage as you lather your face; rinse thoroughly with clean, cool soft water, twice daily. Avoid fatty foods as much as possible.

The hair

The hair is a thread-like outgrowth from a long narrow opening in the skin called a 'follicle'. It is an excellent trap for all kinds of dust and dirt. It should not be washed too often as this removes the natural oil. However it must be kept clean.

Cleanliness of the hair

The hair must be kept clean because it is not often covered and so quickly gets dirty. It can provide a warm comfortable home for fleas and lice; consequently the hair should be:

- washed at least once weekly or fortnightly depending on the texture of the hair.
- brushed and combed daily to remove dirt, dust and dandruff.

Note: *Always keep combs and brushes clean.*

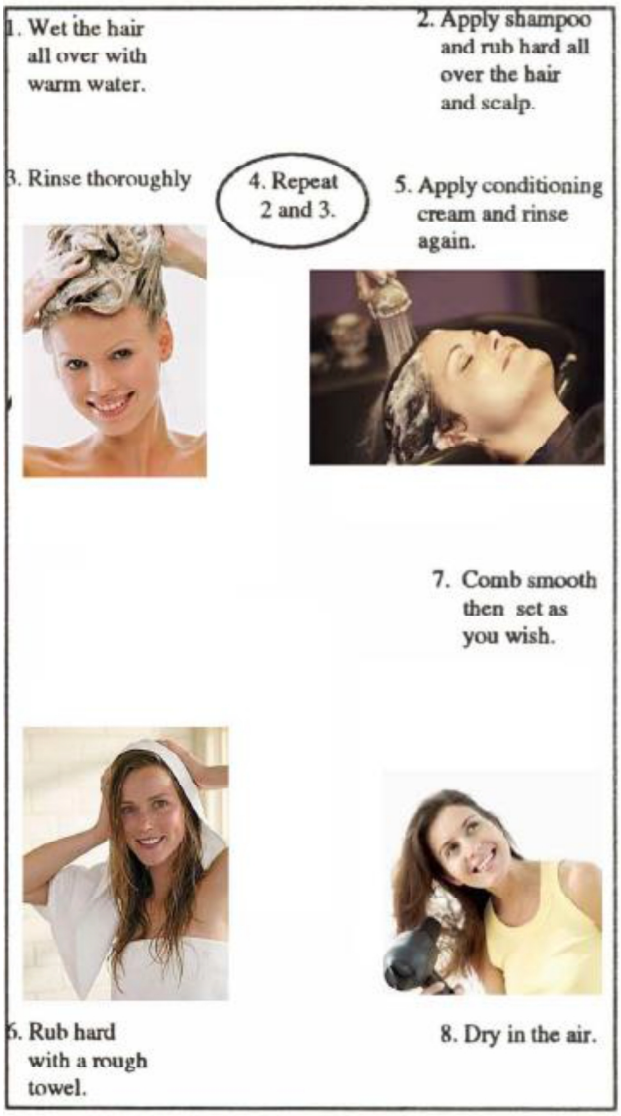


Figure 5-5: Shampooing



Figure 5-6: Bath salts

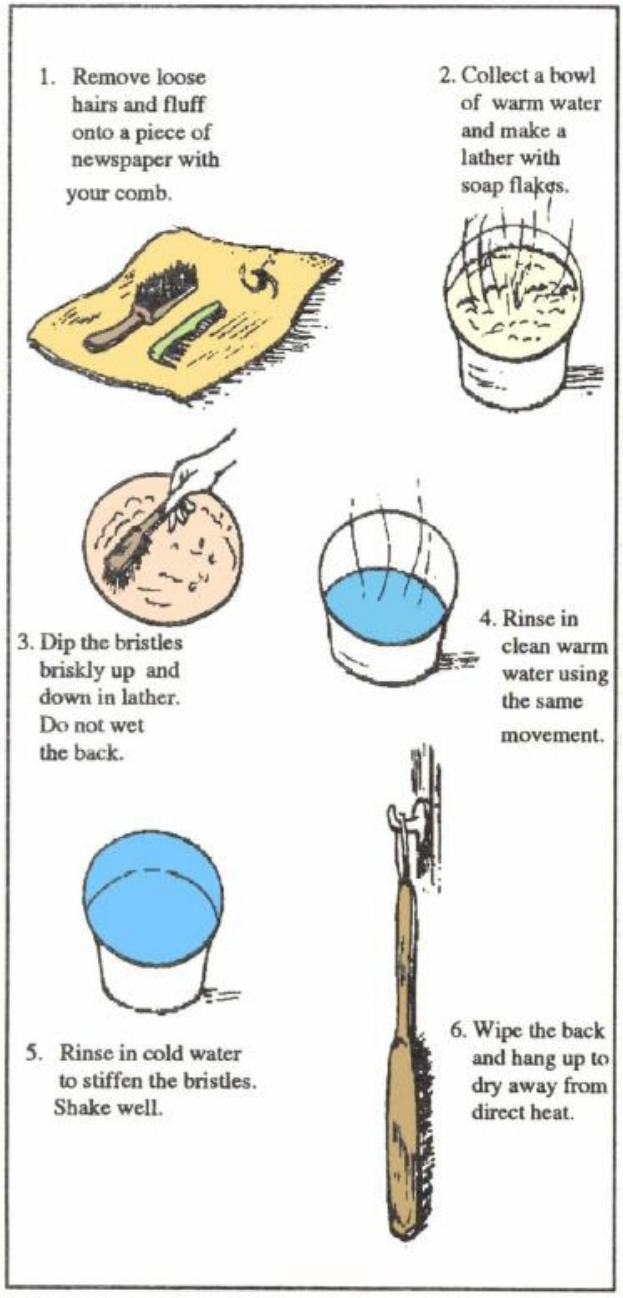


Figure 5-7: How to wash a brush

The teeth

Nature provided us with teeth to .chew our food for proper digestion and therefore good teeth are essential to health. They should be kept

clean. Visits to the dentist should be regular, so that teeth can be in good repair.

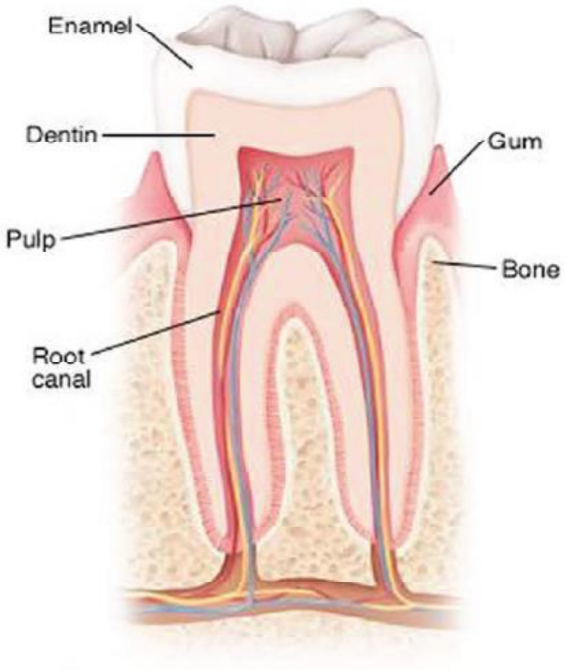


Figure 5-8: Parts of a tooth

Although teeth were meant for chewing food, there is no doubt that they can also make or mar your beauty image. Dentists have found ways of helping you if your teeth grow awkwardly, but they can go so far and the rest is up to you.

Note: - *"Your third set of teeth will not be supplied by nature".*

Names	Shapes	Description	Uses
Incisors		Flat and sharp	For biting or cutting food.
Canines		Narrow and pointed like fangs.	For tearing food
Bicuspids		Flatter and has a double fang in the jaw.	For grinding food between them.
Molars		Broad biting surface for grinding food.	

Cleanliness of the teeth

The teeth should be kept clean because food scraps remain in the spaces between them and bacteria breeding in the food produce decay. Therefore for good clean teeth follow these instructions:-

- clean teeth after each meal or at least twice daily.
- brush teeth away from the gum to avoid bruising the gums.
- use a good non-gritty toothpaste so that the protective layer of enamel covering the teeth is not scratched
- keep toothbrush clean.
- eat a balanced diet.
- include foods to be well chewed.
- avoid foods with a high sugar content.
- do not use sharp objects, e.g., needles or pins to remove food from teeth.
- use teeth for eating only, avoid breaking thread, cracking nuts, and opening bottles.
- use an antiseptic mouth wash to destroy oral bacteria.

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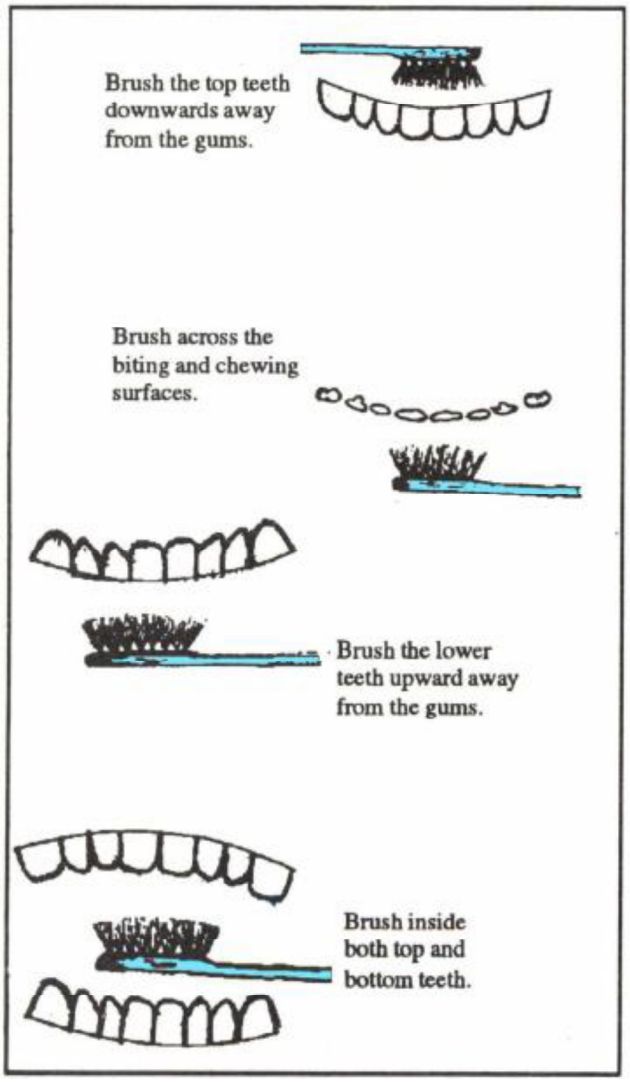


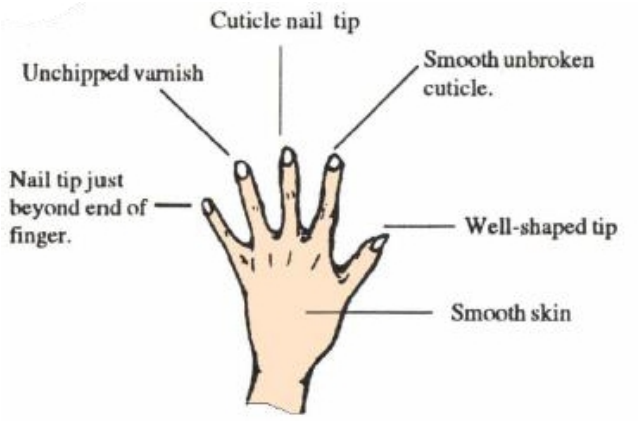
Figure 5-9: Brushing the teeth

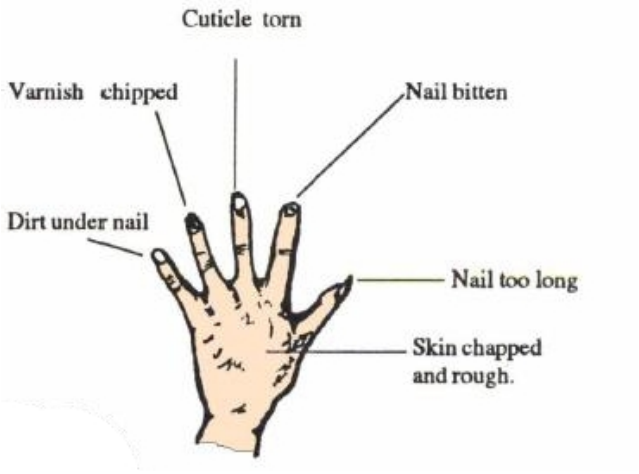
Hands and nails

Hands can be well-cared for or neglected. People notice hands, they are always on view and it is nicer to be proud of them than to feel like hiding them. The hands are more overworked than any other part of the body and

unless care is taken, the hard work will leave a trade mark. Rough hands are difficult to keep clean are unhygienic for food preparation and are unattractive.

Wash, rinse and dry hands thoroughly after work, or using the lavatory, as well as before and after handling food. Wear gloves for dirty work, cleaning or gardening. Use a hand cream or lotion after washing to keep them smooth and soft.





A nail begins to grow just under the fold of skin at the base of the nail. It is very important to keep nails short, smooth-edged and clean.

The feet

The feet carry the weight of the whole body and special care and ·attention should be paid to them. They should be washed 'and dried thoroughly and correct footwear should be worn to prevent the development of problems, e.g., corns, bunions and athlete's foot.



Clothes

It is very important that your clothing is kept clean. This is necessary because dirty clothing allow lice to breed and are untidy and unpleasant. Dirty clothes enable germs to multiply and can contaminate food and spread infection. Special care should be taken with underclothing.

- All clothes should be washed or cleaned frequently.
- Underclothing, socks and stockings should be changed and laundered daily.
- Clothes should be finished properly and worn to suit the occasion.

Summary

WE HAVE LEARNT THAT

- Hygiene contributes to good health.
- The body can be kept clean by washing with soap and water, especially parts such as the skin, hair, nose, ears, eyes, teeth, face, hands and nails.
- Personal cleanliness and good grooming begin with the skin.

6. Introduction to housewifery

In this chapter you will learn about

- the meaning of housewifery
- what housewifery entails
- housewifery equipment
- care and use of housewifery equipment
- cleaning equipment used to carry out house hold chores
- materials used in the manufacture of cleaning equipment
- use of each type of cleaning equipment
- how to choose appropriate cleaning equipment
- care, cleaning and storage of household cleaning equipment.

Housewifery concerns everyone today since we have to combine its practices with other jobs. The work in the home is still complex although greatly aided by modern inventions. Housewifery entails a very wide knowledge of many areas, e.g., cleaning of the house, sanitation, purchasing, cooking and serving of food, and an appreciation of colour also.

Housewifery aids

In the daily cleaning and maintenance of the various surfaces within the home, the housewife two different types of aids. The aids used are:

- cleaning agents, e.g., detergents, acids, scouring powders, paste.
- polishes, e.g., wax polish.

A cleaning agent is a substance used to remove dirt and grease. It removes the dirt by dissolving grease and holding the dirt in suspension in the water. Household detergents are soap or synthetic detergents used for cleaning surfaces within the home. It works better if warm water is used because heat helps to melt the grease.

Detergents can either be mild or strong. Therefore, in order to prevent damage when cleaning, it is very important to know the composition of the article or surface, so that the correct type of detergent can be used.

Household bleaches

These are used to whiten linens and cottons but with the manufacture of many hard plastic they are now used to whiten sinks, disinfect waste pipes, arborite surfaces and lavatory pans. When using bleach in a lavatory pan, do not use any other cleanser at the same time because it will produce chlorine gas which is very poisonous. Store bleaches out of reach of children.

Household ammonia

This is a strong grease solvent with a distinctive smell. It is very useful for cleaning really greasy surfaces.

Add a few drops of ammonia to a bowl of warm water and detergent. It is useful for cleaning greasy hair brushes. Keep bottles covered in a cold place, out of the reach of children.

Vinegar

This is a mild household acid. A few drops added to rinsing water will remove all traces of soap from painted surfaces, leaving them clean and free from smears.

Bicarbonate of soda

It is very useful to have this cleaning agent in the house. A little soda added to the rinsing water when cleaning refrigerators or other plastic surfaces, leaves a mild alkaline film which discourages the growth of moulds and bacteria.

Caustic soda

This is a very strong substance which causes bums when it touches the skin. It can be used in the home for cleaning ovens that are thickly coated with food, dirt or grease.

Scouring powders

These are used to remove obstinate dirt from surfaces, especially, equipment. They are composed of very fine sand or other fine grit or rice husk, e.g., vim, wax. They include an alkali to help remove grease, e.g., soap powder and bleach.

They are used to remove dirt from glass, enamel and will not scratch these surfaces if used lightly. They should not be used on smooth plastics or gloss paint because they will scratch and dull the surface.

Scouring pastes

These are also used to remove dirt but are milder in use. They contain glycerine, which helps to protect the hands. They are suitable for spas, baths, lavatories, tiles and enamel surfaces.

Wire wool

Wire wool or steel wool is a very strong abrasive cleaner which is used for cleaning dirt from pots, floors and household metals. It is also used to clean surfaces before repainting. Some wire wool are made in pads filled with soap and abrasive powder especially for cleaning pots and pans, ovens and table ware.

Note: *Wire wool can be bought in varying grades; for example*

Grade "000" – very fine

Grade 5 - very coarse

Polishes

Many surfaces in the home require regular polishing to protect them, to increase their life and keep them smooth and attractive. The polish chosen should be suitable for the surface.

There are many types of polish on the market.



Figure 6-1: Polishes

Wax polish

This is used on wooden floors as well as on tile or ceramic and also on furniture. It can be bought as a wax paste or emulsion.

Coloured wax paste

This is used for coloured tiles and cement floors. Use sparingly, since too much will make the floor slippery and will not produce a sheen.

Emulsion polish

It is used on tile or ceramic floors which can be worked and polished in one operation.

Silicone polish

This is used on any surface where a high gloss

and durability are desirable.

Care and use of cleaning materials

- Read labels and directions carefully before use.
- Do not waste; measure amount needed or use as little as possible.
- Some cleaning aids are poisonous. Store well away from food and the reach of children.
- Do not put packets on wet surfaces.
- Cover properly before storage and when not in use.
- When cleaning a lavatory, always open windows and doors for ventilation.
- Use the mildest cleaning aid for the job to be done, e.g.,
- for baths and wash basins use cleaning paste rather than scouring powder.
- forwoollens and silks, use a special mild cleanser.
- for silver, use a silver cleaner,
- for brass, use a brass cleaner .

Cleaning equipment used

Cleaning equipment or tools are essential to enable us to do the job well. There are basic equipment which are needed for cleaning, whatever the size of the home. Some basic cleaning equipment are brooms, brushes, dustpan, mop, dusters, buckets, bowls and bins.

When cleaning the home, a few pieces of simple equipment can do the job as efficiently as some modem and expensive ones. Some of the modern cleaning appliances are not really essential for cleaning the home, but when properly chosen and used, they do make the job easier, saving the homemaker time and energy.

We now deal with some simple cleaning tools and equipment which are of great help to the home maker.



Figure 6-2: Household brooms and brushes

Household brooms and brushes

These are used to remove dust and dirt from surfaces and also to gather dust in a pan for disposal.

Wooden and plastic parts should be smooth and bewelled at the edges to protect furniture from damage. Construction handles should be comfortable to hold

They are made from a variety of materials and so provide varying qualities in brooms and brushes. The bristles are obtained from three main sources.

Animal

Vegetable

Man-made.

animal source - These are chiefly from the hair on the hides of animals e.g. horse and pig. They are of varying degrees of stiffness to suit the job, e.g., pig for laundry brushes.

vegetable source - The vegetable fibre used for making brooms is mainly dried leaves of the palm grass, mid rib of the coconut palm, weeds, twigs and many others. These produce brooms and brushes with bristles which can be either stiff or soft, e.g., (sisal) for a variety of cleaning jobs.

man-made or synthetic source - Nylon and other synthetic materials are used for making all kinds of brooms and brushes. Some brushes which need to be particularly stiff are made of special metallic fibres.

Today, bristles are made in a variety of colours. The tufts or bristles are chiefly of nylon, polythene or Poly Vinyl Chloride (P.V.C).

Uses of brooms

- Hand brooms or whisks made from the midrib of palm leaves and other leaves are used for sweeping all types of floors. Old and worn ones are useful for cement floors and outer surroundings.
- Long-handled brooms are needed for cleaning ceiling and walls.
- Medium length brooms are useful for sweeping floors without stooping.
- Long-handled brooms (hard and stiff) are best for sweeping the surroundings and cleaning gutters.

Note: The hard broom fitted with a stick can be used for cleaning walls and ceilings.

Uses of brushes

- Hand brooms with soft bristle for brushing into corners and crevices and for removing surface dust.
- Scrubbing brushes made of tuft or stiff bristles for scrubbing cement, tiled or wooden floors, plain or white wood and other surfaces which require scrubbing.
- Bottle brushes for washing water bottles and decanters.
- Stiff household brushes for cleaning carpets, upholstery, rugs, mats.
- Lavatory brushes for cleaning the lavatory bowl.

Buying brooms and brushes

Try to buy good quality with fine tufts. Pull them to see that they are firm before buying. Cheap ones often have poor quality tufts which tangle and damage easily. The bristle will be closely set on good quality brushes.

Care of household brushes and brooms

- Use them for the correct job.
- Use the cleanest brush for the cleanest job.
- Keep long-handled brooms with bristles upwards.
- Store broom in a cupboard or broom rack.
- Always remove dust and fluff before storing.
- Wet brooms and brushes should be shaken after use, dry outdoors, if possible, allowing wooden head and handle to dry thoroughly.
- Keep locally made brooms lying flat or hanging by the head.

Cleaning brooms and brushes



Figure 6-3: Cleaning brush

- Wash brooms and brushes occasionally but not too often as this can loosen the bristles.
- Remove dirt and fluff with an old skewer or piece of wire.

- Wash in warm soapy water, beating the bristles up and down in the water. Add ammonia if brush is greasy.
- Rinse in warm water.
- Shake well and hang them to dry so that the water drips away from the head or handle, or place them with the bristles down to prevent breaking head and handles.
- Use cold water for washing stiff household brushes to avoid softening the fibre. Stiffen by rinsing in cold water and salt (1 tablespoon of salt to 2 pts. water).
- Coconut fibre brooms should be washed in plain water only, as soap and hot water tend to soften the fibres.

Note: The lavatory brush should be washed separately, adding some disinfectant to the water.

Dust pans

Dust pans are used for collecting and carrying away dust from the floor after sweeping away from the corners. They are made of metal or plastic but where these are not available, a piece of cardboard or stiff paper can be used. Wash metal or plastic dustpan after use.

Dusters and polish rag

These should be soft so that they do not scratch surfaces when dusting; do not leave f1uff behind. They are easily made from old clothes or household linen, e.g., table cloths, sheets, skirts. The material should be soft but not fluffy.

Use and care of dusters

- Fold into a pad, the size of your hand, with no loose edges to catch objects in the way.
- Remove ornaments before dusting skirting boards, furniture.
- Dust ornaments and place them on a tray.
- Shake duster outdoors to remove dust.
- Trim or stitch frayed edges.
- Wash frequently in warm soapy water. Oil dusters can be used to give polished furniture a sheen.
- Add disinfectant to damp duster for cleaning the sick room.

Note:- Try to keep dusters of one colour for particular jobs such as polishing, lavatory.

Mops

These are used for the removal of surface dust from wooden, tiled or linoleum floors. They may also he used for polishing and rubbing polished floors. A mop should he provided for each job.

The long handled mops are used for floors while the short handled mops are for dusting ledges and top surfaces. When using dusting mops, keep a clean one for dusting light coloured surfaces and white paint work and another for dark surfaces. Foam or sponge mops are very popular in some homes. Feather mops are used for dusting fragile articles or reaching in difficult corners.

Care and cleaning

- Mops are useful for collecting dust quickly in daily cleaning.
- They may he damped with liquid polish which picks up dust and, at the same time, polishes a surface.
- Shake mops thoroughly out of doors to remove all dust.
- Wash in warm soapy water and rinse thoroughly.
- Squeeze, shake well and dry in the open air, store when dry with mop head up.
- The foam or sponge mop should be well rinsed, squeezed and put to dry.
- Mops used for polishing f1oors should be shaken out doors, washed occasionally and rinsed thoroughly in hot water.

Sponges

These are used for washing up. To keep them clean, follow these instructions:

- Wash them well after use, squeeze and leave in an airy place to dry.
- Remove slimy soap by soaking in a solution of salt and water.
- Rinse them well in cold water.

Buckets and bowls

These may be galvanized, enamel or plastic. Presently, they are made mainly of lightweight plastics, making them cheap and easy to carry without destroying other surfaces.

Buckets are mainly used for carrying water for cooking and washing. They also help to make washing surfaces easier if two buckets are provided - one for washing-water and one for rinsing.

Wash them after use, dry or store them in a cupboard.

Note:- A covered waste bucket or bin in the kitchen is essential.

Vacuum cleaners, carpet sweepers and polishers

These are expensive but are very useful if they can be afforded. They are invaluable for thorough cleaning. The attachments remove loose dust from wooden floors, carpets, rugs and upholstery. They should be treated according to the manufacturer's instructions.

Small electrical appliances

Portable electric appliances can reduce the time and energy needed for many household jobs. Before deciding on the purchase of any small appliances, carefully consider each of the eight points listed below and choose the appliances that will give good service

- **Construction**: heavy enough, fixed on the table, a smooth finish and parts fitted properly.
- **Operation** - the controls should be easy to understand, reach and operate with heat resistant materials.
- **Design** - should please the eye avoid hard-to-clean crevices.
- **Brand** - one that is commonly used.
- **Wattage** - will not operate properly if there is not adequate electricity.
- **safety** - safety features should be provided, e.g., catches and finger guards.
- **Expected** - use consider what the appliance will do, its limitation and special features.
- **Guarantee** - a clear indication of the manufacturer's warranties and service.

Storage



Figure 6-4: Storing brooms

This is very important in the care of all equipment. Household cleaning equipment should be stored in a cupboard well away from food or clothing. This is necessary because many polishes and cleaning agents have strong smells which can be absorbed by food and clothing. Keep polishes and cleaning agents away from

children but these should be readily recognised and available when needed. They should be properly covered to avoid spilling and drying out. Rags should be stored folded in a box after washing and drying. Brushes and brooms should be placed in a cupboard, hanging from hooks; brooms should be upside-down or hang to the wall. Suction cleaner fixed to the wall. Suction cleaner attachments may be kept in a box or bag which is easily carried around the house. The hose should also be hung thus helping to prevent cracks and splits.

Summary

WE HAVE LEARNT THAT

- Housewifery concerns everyone, since it has to be combined with others jobs.
- Housewifery includes cleaning of the house, sanitation, care of the environment, cooking and serving of food.
- For daily chores in the home, two different types of cleaning aids are used to maintain various surfaces, e.g., cleaning agentsdetergents, aids, scouring powders, paste, polishes.
- There are basic equipment needed for cleaning, e.g., brooms, brushes , dustpan, mop
- These are simple and efficient.
- It is important to care and use cleaning materials properly, e.g., read labels and directions carefully before use, do not waste.
- There are more modern cleaning equipment, and appliances, though expensive, but if chosen properly, will save time and energy.
- Equipment and materials must be properly stored to avoid damage, e.g., they should be stored well away from food or clothing.

7. Sanitation in the home and surroundings

In this chapter you will learn about:

- the meaning of sanitation in the home and surroundings
- what is dust
- characteristics of dust
- basic ways of removing dust from rough surfaces as well as removing dust from smooth flat surface.
- rules for sweeping
- rules for dusting
- what is dirt
- the removal of dirt
- classification of household refuse, example of each type of refuse.
- reasons for disposing of household refuse
- methods of disposing of household refuse
- use and care of the refuse/garbage bin .

Sanitation

This is the practical application of measures designed to protect and promote health. Houseflies, cockroaches, rats mice, fleas and many other insects and animals are carriers of disease germs. Thus, it is important to remove these carriers.

In all countries including Guyana health officials have seen the need for proper sanitation to improve and maintain the health of citizens. Government has set up measures to promote sanitation and enforce sanitary regulations.

The family has an important part to play in helping the Government as well as ensuring the health of all family members by getting rid of disease and promoting good health, e.g., ensuring pure water supply in the house, maintaining fresh air, proper disposal of refuse and human waste, control of body waste, control of household pests, maintaining the surroundings and a good drainage system.

Dust

This is dry dust which rests on surfaces. It is everywhere but seen mainly in busy places. It is made up of particles which float in the wind. It is invisible in the air unless seen along a ray of light. It can be removed without the use of a cleaning agent. It can be collected on a duster or by brushing, sweeping or suction. Dust is made up of inorganic and organic substances. Examples of inorganic dust are: sea sand, soot, ash and chalk while organic dust are skin, fibres of materials, dried excreta from humans and animals.

Characteristics of dust

Dust

- Goes along with the wind for a period of time, and because it is heavier than air, it eventually settles on f1at surfaces.
- Fixes readily and easily.
- Is caught and held easily on rough surfaces, causing cleaning to be more difficult.
- Is completely dry.

Basic ways of removing dust

- Beating, brushing, shaking
- Gathering and dispensing
- Gathering and destroying
- Collecting by suction

Removal of dust from rough surfaces

Carpets can be placed on either rough or smooth surfaces. Begin by brushing the wrong way of the pile and end by smoothing it down the right way. Sweep the dust onto a smooth flat surface and then collect it in a dust pan.

Note: *A vacuum cleaner is one of the best methods of removing dust from carpets.*

Removal of dust from smooth flat surfaces (loose dust)

All rooms must be swept and dusted every day because dust contains disease germs and, if left lying in the house will be blown on to our food and be consumed. This could cause illnesses such as dysentry and diarrhea, or when breathed into our lungs, may cause colds or even tuberculosis. Dust is very unsightly to look at and can be very irritating when settled on

furniture or floors. If allowed to settle too long on clothes, ornaments and furnishings, it becomes dirt which is more difficult to remove.

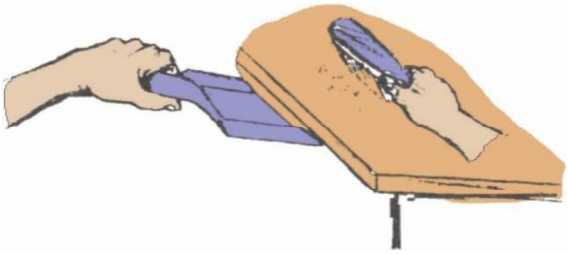


Figure 7-1: Sweeping

Rules for sweeping

- Place all furniture to one side of the room.
- Remove carpets and mats.
- Keep windows and doors shut, to prevent dust from blowing about.
- Stand behind the broom and do not raise it too high.
- Sweep the dust in front or at the side of you, never towards you.
- Use short overlapping strokes.
- When finished sweeping one section, remove furniture and continue sweeping the other.
- Gather dust in a dust pan, or on a piece of newspaper or cardboard. Wrap in the newspaper and place in the garbage bin or take outside in preparation for burning.
- Remove any remaining fluff from broom and dust from dust pan . Store with bristles of broom turned up.
- Replace furniture.
- Open all doors and windows.

Rules for dusting



- Always allow dust to settle after sweeping before beginning to dust.
- Use a soft cloth folded into a pad to prevent dust from scattering about.
- Start by dusting the highest things first and work methodically around the room.
- It is important to dust legs of tables and chairs, shelves, window ledges and ornaments.
- Polish smooth surfaces along the way of the grain.
- Shake the duster occasionally in the

open air away from the wind to get rid of accumulated dust.

- When finished, shake the duster outside or wash, dry, fold and put away.

Dirt

This is fixed dust attached to articles or surfaces by water grease or tarnish and must be removed either by dissolving it with a grease solvent or a tarnish solvent or using an abrasive which will rub away the dirt by friction.

Removal of dirt

Dirt is removed by cleaning with:

- water and soap or soapless detergent ;
- water, soap and an abrasive (scouring agent);
- a grease solvent only, e.g., petrol;
- a grease absorbent , e.g., chalk.

Disposal of refuse

Household refuse

This may be classified as:

- Organic - dead lowers, stale food, leaves, vegetable skins, scraps of food from plates.
- inorganic - broken crockery, glass, tins, plastic, nylon, dust, etc.
- liquid - this is collected in gutters and flows into street drains or trenches. Laundering water may he sprinkled on the surroundings to keep down the dust. Lavatory and bathroom water is f1ushed down into the septic tank.

Examples of liquid refuse are:

- water from baths, sinks and wash basins
- water used in the kitchen and for cleaning the
- floors and walls.
- water used for launde1ing
- water from the lavatory
- rain water.

Reasons for disposing of household refuse

It is important to get rid of household rubbish (anything in the home or surroundings which is not useful) as quickly as possible:

- to maintain healthy living.
- to improve the appearance and beautify the surroundings.
- to preserve the life of household furnishings, e.g., carpets.
- to stop the attraction of rats, flies and

other insects.

- to prevent unpleasant smells which are produced by rapidly decomposing organic refuse.
- because inorganic refuse looks untidy when left lying about. It takes up space and makes cleaning tedious.



Figure 7-2: Disposal of Refuse - Burning



Figure 7-3: Disposal of Refuse - Burying



Figure 7-4: Disposal of Refuse - Composing

Methods of disposing of household refuse

Solid refuse is disposed of by:

- Burning -Burn refuse that will not rot, e.g., rags, paper, pieces of wood.
- Burying- Empty tins, broken bottles and plates, cups, buckets, should be buried to avoid rain water collection that would breed mosquitoes.
- Composting - Some refuse make good manure for the soil, e.g., vegetable peelings, fruit skins, egg shells. Dig a hole, put them in, and allow to rot.
- Using animal food -Scraps of food, bones and vegetable peelings are used to feed animals. These should be put in a separate hag/bin and kept covered to prevent flies and rats which are disease carriers.
- Storing - Place rubbish that cannot be disposed of in any or the three ways in
- a dustbin . This will then be disposed of by the authorities concerned.

Use and care of the garbage bin

Use

- Every family should have two refuse bins; a small covered one in the kitchen

and a large one outside in the yard.

- The bin should be easily accessible to the family.
- The bin must be kept covered to prevent the breeding of flies and rain reaching the contents.
- Cares line the bin with newspaper or a polythene bag.
- Wrap all refuse before putting into the bin.
- Empty them as often as possible.
- Wash the bin as often as possible with hot soapy water, rinse with disinfectant water and put to dry in the sun.

Note: *Polythene bins are cheaper and lighter than but not as durable as galvanised iron bins. Never put any liquids or anything wet in the bin.*



Figure 7-5: Garbage bins/bags

Summary

WE HAVE LEARNT THAT

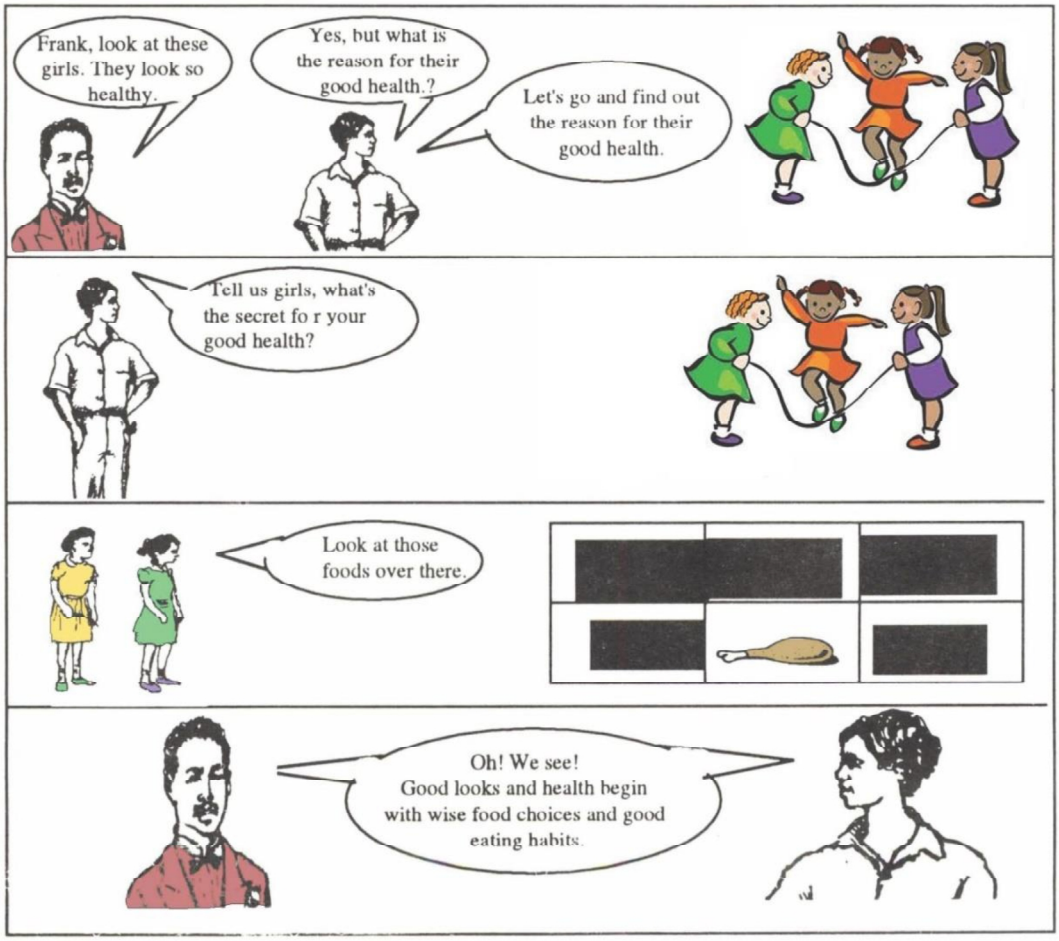
- Sanitation is the removal of diseases and the promotion of good health, e.g., ensuring pure water supply in the house, maintaining fresh air, proper disposal, of refuse, etc.
- Dust is made up of particles which float in the wind and settle on flat surfaces.
- There are four basic characteristics of dust, e.g., it fixes readily and easily, it is completely dry.
- There are basic ways of removing dust, e.g., heating, brushing, gathering and dispensing.
- Dirt is fixed dust attached to articles or surfaces by water, grease or tarnish.
- Dirt is removed by cleaning with water and soap or soapless detergent; water, soap and an abrasive; a grease solvent only, e.g. petrol , a grease absorbent, e.g., chalk.
- household refuse may be classified as organic - vegetable skins, inorganic - tins, liquid refuse - water used after laundering.
- It is important to get rid of household rubbish as quickly as possible, e.g., to maintain healthy surrounding.
- Solid refuse is disposed by burning, composting, using as animal food.

8. Introduction to food and nutrition

In this chapter you will learn about:

- definition of nutrition, over nutrition, mal-nutrition and balanced diet
- food, nutrition and health
- the food we eat
- the nutrients present in foods, their functions and conditions associated with poor nutrition
- the various signs of good health e.g good muscle tone
- ways to identify malnutrition
- how to choose foods for appearance and health

As long ago as 4,000 B.C., man realised that food and hygiene have an effect on health.



However, nutrition was not recognised as a science until the beginning of the twentieth century. Today it is taught in most schools as Food and Nutrition and the main aims are to:

- *study food and the nutrients they contain.*
- *show how these nutrients promote health and well-being.*





Nutrients *are the chemical substances in food that give foods their values.*

Nutrition *is the study of food nutrients and their effect on the body.*

Food *is any liquid or solid which we eat or drink to provide the body with nutrients.*

The food we eat

Food is any liquid or solid which we drink or eat to provide the body with nutrients.

What we eat or drink depends on a number of factors. Some of these are our personal taste , our culture and even the region in which we live. In Barbados, coo-coo and flying fish are popular foods and in Jamaica, ackee and salt fish are delicacies. Whatever our choice all foods come from plants and animals.

Here are some foods commonly eaten. These foods are placed into six groups and used throughout the Caribbean.

Food from animals

Dairy Products ,

e.g. milk, cheese, eggs Flesh Foods,

e.g. beef, chicken and wild meat such as labba and iguana

Most people enjoy these foods, even though they are highly priced. They are often thought of as necessities in any well balanced meal. This is not true. It is quite possible to be well nourished without using foods from animal sources.



Figure 8-0-1: Foods from animals

Although streaky bacon, butter, ghee and pork fat are products from animals, they are not included in this group because of their high fat content.

Legumes, nuts and seeds

Legumes,e.g., soya beans, pigeon peas, blackeye beans, chick peas (channa)

Nuts,e.g., peanuts, cashew nuts, almond nuts

Seeds, e.g., cotton-seed, pumpkin seed

This group consists of dried peas and beans, mature shelled peas, nuts and seeds.



Figure 8-0-2: Legumes, nuts and seeds

They provide the body with the same nutrients as foods from animals.

Fresh peas and beans that are eaten in their pods e.g. bora and saime, do not belong to this group.

Staple foods

***Cereal and cereal products**: rice, corn, flour and pasta products such as macaroni.*

***Starchy fruits, roots and tubers:** breadfruit, cassava, sweet potato, banana and plantain*

Staple foods are those foods that form the bulk of the diet. Because they are the cheapest foods in our market, some people tend to eat too much of them.



Figure 8-0-3: Staple food

Green and yellow vegetables

***Fruits:** bora, pumpkin, saime, peas tomato, carrot, ochro.*

***Leaves**: calaloo, eddo leaves, pakchoy, lettuce, cabbage.*

In Guyana, these vegetables are known as greens.



Figure 8-0-4: Green and yellow vegetables

Some may be served raw, but care must be taken when preparing them. Their nutritive value may be lost if poorly handled and may become carriers of cholera and other harmful diseases, if they are washed in contaminated water. Care must also be taken to avoid the loss of nutrients during cooking.

Fruits

Cherries, oranges, bananas, guava, pear mangoes, soursop, papaw, pineapple, pomegranate, mammy apple, cashew.

There is a wide variety of tasty fruits available in Guyana.

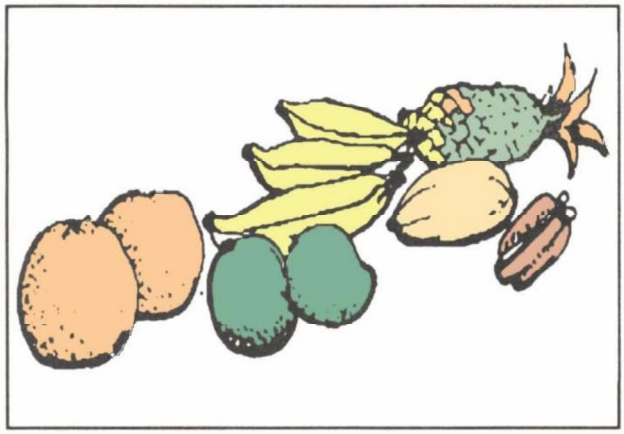


Figure 8-0-6: Fruits

They may be used raw or cooked. Fruits make meals attractive because of their rich colour and varied textures.

Coconut jelly and avocado are not included in this

Figure 0-5: Fruits

coconut water is normally used as a fruit drink.

Fats and oils

Cooking oil, margarine, butter, mayonnaise ghee, lard, peanut butter, avocado, shortening, streaky bacon, pork fat.

Any food that is rich in fat belongs to this group. Fats and fatty foods are very valuable in food preparation, hut they should only be used in small quantities. Too much fat in our meals can lead to overweight, heart disease and high blood pressure.



Figure 8-0-7: Fats and oils

You may be wondering why there is no special mention of sugars, sweets and other items such as pepper, spices and herbs. We all know that these items are used everyday to add flavour to dishes, but sugars and sweets have been omitted because they can be harmful to our health, if misused. Too much sugar and sweets in our diet can cause overweight, and improper brushing of our teeth after using them ·can lead to tooth decay.

Pepper, spices, and herbs were not men- tioned because they are regarded as non-food items. Some items are called non-food items because of their low nutrient content. Others are very rich sources of some nutrients, but they are still given this name because they are eaten in such small amounts that they only provide our bodies

with minute quantities of the nutrients they contain.

WHY DO WE EAT?

There are many and varied reasons. Some of these are:-

- because of hunger
- we need energy to do work
- for growth and repair
- when we are happy
- when we are sad
- when we are nervous
- when there is a party
- when persons visit the home.

Eating is sometimes done for cultural and religious reasons.

Can you think of any other reason we eat?

Food nutrients

Food is of value to us because it supplies our bodies with chemical substances that keep us alive and healthy. Do you know the name given to these substances?

The chemical substances in food that give the food its value are called nutrients.

There are over fifty nutrients. Many of them are alike, so they have been grouped together. The six groups or classes of nut1ients are:

Carbohydrates, proteins, fats, vitamins, minerals and water.

Sources

Most foods contain more than one nutrient, but in varying quantities. The following is a list of the six nutrients and some of their best food sources.

Carbohydrates

There are two types of carbohydrates:

- Starchy foods such as yam, cassava, plantain, rice, corn, flour
- Sugars and sweets such as sugar, honey,
- molasses, syrups.

Proteins

- Food from animals such as milk, cheese, fish, poultry, meat.
- Legumes, nuts and seeds such as soya beans, pigeon peas, peanuts, pumpkin seeds.
- Cereals such as wheat, oats, whole wheat flour.

Fats

- Fats and oils such as margarine, lard, olive
- Fatty foods such as bacon, cheese, pea nut, coconuts, egg yolk.

Vitamins

- Fruits such as cherries, papaw, oranges, mangoes, pineapples.

- Coloured vegetables such as carrots, tomatoes, calaloo, pumpkin.
- Other foods such as dried peas, beans,
- nuts, lean pork, fish, eggs and milk.

Minerals

Lean meat, egg yolk, milk, sea-food, molasses, cocoa, curry powder ,enriched cereals, dried fruits.

Water

Fruit, vegetable juices and milk

Function

Each nutrient has a special function or part to play in keeping us alive and healthy. Very often they work as a team. Study the nutrients and their functions and see if you .can identify the three teams in which they work.

Carbohydrates & fats

- provide energy for work and warmth
- may make body fat or flesh.



Figure8-0-9: Children skipping

Proteins

- build and repair cells and tissues. may provide energy.



Figure 8-0-8: A Sick child

Minerals

- build and repair cells and tissues
- regulate and maintain body processes, e.g., heartbeat.



Figure 8-0-10: A child sleeping

Vitamins

- protect the body from diseases.
- help the body use other nutrients for energy and growth and repair.

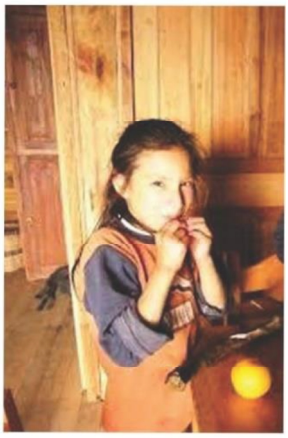


Figure 8-0-11: A child eating guava

Water

- helps regulate body processes, e.g., body ternperature.



Figure 8-0-12: A boy drinking water

Since we now know that no one food contains enough of all six nutrients needed by the body, the diet or meal that we choose must contain a wide variety of foods. It is important to eat a well balanced meal.

Combining foods for good health

There are several ways of ensuring that a meal is balanced. Remembering the sources of nutrients is one of keeping track of them. The simplest way of arriving at a balanced diet is by using the Daily Food Guide.

The Caribbean food guide has six food groups. But some food guides used in other parts of the world have as many as eight food groups while others have only three.

Choosing food for our appearance and health

DAILY SERVINGS FOR DIFFERENT AGE GROUPS

Foods	(6-11 Mths	1-3 Yrs	4-9 Yrs	Males Over 10 yrs	Females Over 10 yrs
Legumes	1			3	3
Coloured Vegetables	1	1	2	2	2
Food from Animals	3	4	4	5	4
Fruits	1	2	3	3	3
Fats and Oils	1	2	6	10	3

- One serving- approximately 1/2 cup or 4 oz food from all groups except Fats and Oils
- One serving of Fats and Oils- approximately 1 tsp pure fat, or 2 tsp fatty food. (Source: Food Budgeting for Caribbean Families, C.F.N.I. 1987).

The simplest way of planning meals using the Daily Food Guide is by choosing at least one food from each food group.

You can plan balanced meals with as few as three food groups if foods are chosen wisely.

The Six Food Groups chart shows us that there are two food groups that promote growth, two that protect and regulate our bodies and two that provide energy. Using one food from each pair can therefore provide a cheap yet balanced meal.

Balanced meals can also be planned from four or five food groups. Simply add foods from one or two of the groups not used, to any of the good three-group combinations.

Meals made up of foods from the two food groups staples and foods from animals or staples and legumes can be quite nourishing, but they seldom contain all six nutrients in the

right amounts.

Conditions associated with poor nutrition

When people do not try to balance their meals, we say that they are practising bad nutrition. People who practise bad nutrition over a period of time eventually become malnourished. *Mal* is the French word for bad, hence the word malnutrition. Persons suffering from malnutrition may be using a diet that has too much or too little of one or more nutrient. Persons who constantly receive more nutrients than their bodies require, eventually develop the form of malnutrition known as over nutrition. One of the common conditions associated with over nutrition is overweight or obesity. Excess pounds are gained and the person may feel uncomfortable when performing certain activities, but the effect it has on one's health is even worse. Extra weight puts extra strain on the heart, liver and kidney, and causes painful conditions of the joints and bones. Diabetes, heart disease and high blood pressure, the leading causes of hospitalisation in Guyana, are all known to be associated with obesity.

Here are some combinations that can be used.

Foods Groups	Foods	Dishes
Food from animals	Fish	Steamed fish
Staple	Plantain	Boiled plantain
Fruit	Mango	Mango slices
	OR	
Legume	Blackeye beans	Stewed blackeye
Staple	Flour	Dumplings
Coloured vegetable	Ochro	Steamed ochro
	OR	
Legume	Split peas	Dholl
Staple	Rice	Boiled rice
Coloured vegetable	Pumpkin	Steamed pumpkin

Those who constantly use diets with an insufficient amount of nutrients develop another form of malnutrition which is known as under nutrition. Some common deficiency diseases associated with under nutrition are anaemia, scurvy, beri-beri, and protein energy malnutrition. (PEM)





Figure 8-0-13: Two types of malnutrition

Sometimes, persons who are poorly nourished do not suffer from a specific disease. Instead they:

- tire easily
- find it difficult to concentrate
- catch a cold easily
- may also take a long time to heal from cuts and bruises

In some parts of the world there is so little food that some people go without food for long periods of time. This situation can lead to starvation and eventually, death.

Case studies show that persons who survive childhood malnutrition may acquire handicaps in development that affect their entire lives. Groups of persons most likely to suffer from malnutrition are:

- young children
- pregnant women and nursing mothers
- the elderly

Signs of good health

A healthy individual:

- Posture is good
- Weight and height are suitable for age.
- Skin is unblemished, smooth and soft, with no signs of excessive dryness or swelling.
- Teeth and bones are firm and well developed.
- Muscle tone is good.
- Hair has body and is of the correct colour and texture.
- Mucous membranes are pink and moist.
- Has resistance to communicable disease

such as colds.

- Has a realistic outlook and is generally alert, cheerful and energetic.
- Rests, relaxes and sleeps well.

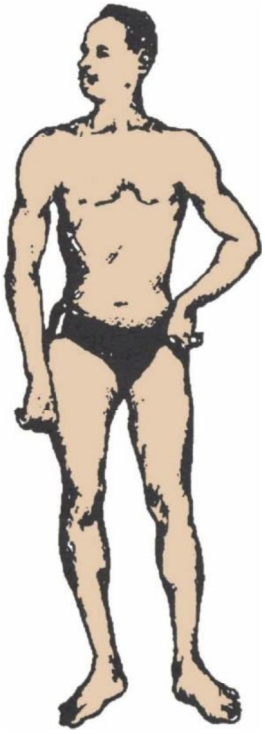


Figure 8-0-14: A healthy individual

Activities

1. Complete the following table
2. Determine your reasons for eating

Read each statement below then put the letter in the columns to indicate your reason for eating.

Hunger Nervous Visit Religious	

a. You are at your friend's home to meet her parents. She has served a glass of drink and some cookies.

b. Since your father left home to collect your report booklet you have been eating continually.

c. You rushed out this morning without breakfast so your stomach is growling. You sneak out to get a quick snack.

d. It is Diwali and your neighbour has invited you to join a service and partake of some sweet meat.

3. Nutrients and their functions

What is the major function of green and yellow vegetables?

4. There is a group of nutrients that helps other nutrients to produce energy
   a. Name this group of nutrients.
   b. These nutrients also help proteins and minerals to -------- and -------- tissues.
   c. What other function does this group of nutrients have?
5. Rate the plate
   1. Use the Six Food Group Chart to help you

decide whether the following menus are balanced.

2. Name the food groups that have been used in planning each menu. (Do not forget the fats and oils that might have been used for frying).

Morning meal	
Orange juice	
Boiled egg	
Toast	
Fruit punch	

Midday meal	
Fried chicken	
Stewed minica	
Chocolate	
ice-cream	

Party snack	
Patties	
Peanut biscuit	

6. Nutritional need?

Read the passage below and answer the questions that follow.

Your friend Jan has been feeling ill for quite sometime so she decided to visit a doctor.

The doctor told her that she is suffering from a protein deficiency disease and she must eat certain foods in larger quantities, if she wants to feel well again.

Food Groups	Foods	Dishes
Staple	Rice	
Legume	Pigeon peas	Pigeon peas cook-up
Food from animal	Meat	
Fats and oils	Coconut	
Green and yellow vegetable	Pumpkin	Steamed pumpkn
Fruit	Cherries	Cherry drink

a. Which form of malnutrition is Jan suffering from?
b. List five foods that you think the doctor would advise Jan to use.
c. Why should Jan use more of the foods you listed at (B)

Summary

WE HAVE LEARNT THAT

- The six food groups are:

  foods from animals, e.g., milk, cheese meat.

  legumes, nuts and seeds, e.g., pumpkin seed, cashew nut, blackeye staple foods, e.g., rice, corn, cassava, plantain.

  green and yellow vegetables, e.g., pumpkin, calaloo

  fruits, e.g., cherries, bananas, oranges

  fats and oils, e.g., butter, cooking oil, lard.

- The functions of these groups are:

Carbohydrates	provide energy for work and warmth
proteins	build and repair cells and tissues.
minerals	regulate and maintain body processes
vitamins	protect the body from diseases
fat	supplies heat to the body
water	helps regulate body processes

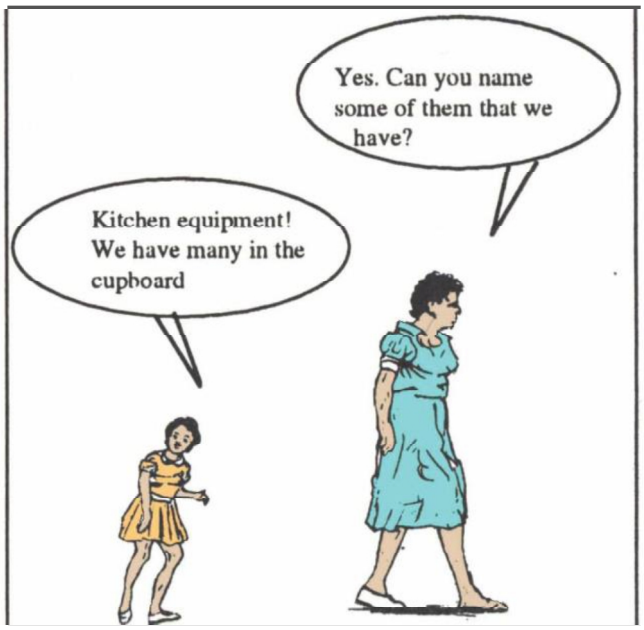
- Conditions associated with poor nutrition are, for example, overweight or obesity, anaemia and beri-beri.
- Conditions associated with good nutrition are, for example, well developed teeth, bones and smooth skin.

9. The food laboratory - equipment and safety

In this chapter you will learn about:

- equipment necessary for the kitchen
- the methods of weighing and measuring
- the rules for successful measuring and weighing









Kitchen equipment

There is a wide selection of kitchen equipment available in our stores today. Owning all of them is not important, however, it is important to know which piece of equipment is most suitable for a given task and to learn how to use each piece correctly. The correct choice and use of kitchen equipment for tasks such as weighing, stirring and whisking save time and energy and guarantee good results.

Classification of kitchen equipment

Kitchen equipment can be classified as either large or small equipment

Small equipment can be further sub-divided into:

- time and labour saving devices or kitchen appliances
- kitchen utensils

Identification and use of kitchen utensils

Most kitchen utensils are simple well designed tools that have been in use for years. Although simple, these well known pieces can very often do the same job as most of the modern gadgets and appliances.

The following are some of the pieces found in most well equipped food laboratories.

Measuring utensils

Measuring utensils are precision tools, e.g., measuring spoon, scales, measuring cups. These allow us to measure ingredients accurately. Timers and thermometers are also measuring tools which help us to control cooking time and temperature.

- Measuring spoons are used for measuring small amounts of solid or liquid ingredients. The most common sizes are 1/4 teaspoon, 1/2 tea spoon, 1 teaspoon and 1 tablespoon (1ml,2.5ml, 5 ml and 15ml). These spoons are sold in sets.



Fig.9.1 Measuring spoons

• Measuring cups are of two types. Those with lips are used for measuring liquids and those without are used for measuring dry ingredients. Liquid measuring cups are usually made of transparent material and may show one or more of the following scales of measurement on the sides -cups, ounces, pints or litres.

Common sizes are 4 cups, 2 cups and 1 cup (1,000 ml, 500 ml and 250 ml). Dry measuring cups are sold in sets of ¼ , 1/3, ½, 1/ ml, 160 ml 80 ml 25 ml and 250 ml) measures.



Fig.9.2 Measuring cups

Metal spatulas look like kitchen knives but their blades are round, flexible and dull. They are used for levelling measuring cups and spoons, turning items, loosening baked products from baking pans and spreading pastes and fillings.



Fig.9.3 Metal spatulas

• Kitchen scales are useful for weighing large quantities of solid ingredients. The two most commonly used types are the beam scale and the spring scale. However, there is also a new electronic type kitchen scale that has been recently put on the market. Besides weighing ingredients, this scale also indicates calorie, carbohydrate and fat content of over 1,000 foods.



Fig.9.4 Kitchen scale

• **Timers** remind us about cooking time. Most of them are like alarm clocks and can he set for periods of up to sixty minutes. Another type pops up when the roast is sufficiently cooked. Some roasts are sold with the pop-up type timer already stuck in them.



Fig.9.5 Timer

• **Thermometers** are useful for measuring temperatures. Temperature is a good indicator of whether the food is thoroughly cooked for, e.g., meats, candies and jellies. Temperature readings also help us to control the rate of browning during deep-fat frying.



Fig.9.6 Thermometers

Mixing and turning equipment

Mixing equipment help us to blend ingredients together but some of them can he used for a variety of other tasks. Turning equipment i s used for lifting and turning food during the cooking process.

• **Mixing bowls** are used to hold ingredients while they are being mixed. They come in various sizes and may be made of pyrex, metal, plastic or ceramic materials. Wide mixing howls are more comfortable to use when hand-whisking or stirring has to be done, while deep bowls are a better choice when a rotary whisk is being used.



Fig.9.7 Mixing bowls

• **Mixing spoons** are long-handled spoons that are used for combining ingredients. They are usually made of plastic, metal or tine-grained wood.



Fig.9.8 Mixing spoons

•**Rubber or plastic** spatulas are used for folding light ingredients such as egg white, but they are also used for scraping batter and other soft mixtures from the side of bowls. The blades of rubber spatulas are made of a flexible plastic or rubber while the handles are made of a more rigid plastic or wood.



Fig. 9.9 Rubber or plastic spatula

- Hand beaters may be simple wire whisk or more complex rotary whisks. They are used for beating eggs, mixing thin batters and reconstituting powdered ingredients.



Fig.9.10 Hand beater

• **Pastry blenders** are used to cut or blend fat in to flour when making pastries, plain cakes and biscuits. Two knives, a fork or the finger tips may be used in place of pastry blenders.



Fig.9.11 Pastry blender

- **Frying spatulas** are long handled instruments that are wide enough for comfortably turning foods such as roti, fish, pancakes and eggs.



Fig9.12 Frying spatulas

• **Tongs** are instruments with two long arms joined at one point. They are used for grasping meat, baked potatoes and other foods that require turning during cooking. They are also used for green vegetable salads and ice cubes.



Fig. 9.13 Tong

Cutting and chopping tools

Most cutting and chopping tools are directly or indirectly involved in peeling, cutting or reducing the size of foods. Others are used for opening bottles and cans.



Fig.9.14 Knife and peeler

• **Knives and peelers** come in a variety of shapes and sizes to suit our many food preparation needs. Peelers, like knives with short blades, are used for paring and cutting fruits and vegetables. Knives with longer blades are used for slicing chopping and cutting meat, fish. Knives with serrated edges are used for slicing bread etc.



Fig.9.15 Kitchen shear

• **Kitchen shears** are sturdy scissors. They are used for cutting food items such as vegetables, and fish fins. Those with saw edged blades have the better gripping power. The handles of some shears are fashioned to function as the nut crackers and bottle and lid openers.



Fig.9.16 Grater and shredder

• **Graters and shredders** are made in different shapes and sizes and may have a variety of cutting edges that are suitable for grating, shredding and slicing cheese, fruits and vegetables.



Fig.9.17 Food mill or mincer

• **Food mills or mincers** are used to crush and mince foods such as dried fruits, nuts and meat. When the crank type handle is turned, blades crush and force food through holes in one or more detachable discs at the front of the mill.

• **Cutting boards** help to protect table and counter tops. They are wooden or plastic boards on which cutting is done. Note that these are not the same as pastry boards. Pastry boards are specially kept boards on which pastry, roti and other doughs are rolled out.



Fig.9.18 Cutting board

• **Can openers** are used to cut can tops out. They may be hand-held or wall mounted. Some hand-held varieties have parts for removing bottle stoppers and bottle caps.



Fig.9.19 Can opener

Drainers, strainers and sieves

These are a variety of perforated utensils for draining and separating coarser particles from finer ones.



- Slotted or draining spoons are mixing spoons with holes or slots in the bow 1of the spoon. They are used for lifting small amounts of food out of liquids

Fig. 9.20 Slotted or draining spoon



- Colanders are bowls with holes for draining away liquid from coarse foods such as cooked vegetables and noodles. Each perforated bowl is mounted on a base and may have one or two handles.

Fig.9.21 Colander

Drainers, strainers and sieves are bowl shaped utensils consisting of a frame with mesh or gauze. They are used for sorting solids from liquids and coarse matter from finer particles. The solid or coarse matter is retained in the mesh while the liquid passes through. Sieves are also used for reducing soft foods to a uniform pulp.



Fig.9.22 Strainer and sieve

Cookware

This group includes pots, pans and ovenware. They come in various designs and sizes and can be made from metal, glass or ceramic material. Finishes vary from non-stick coatings to those that speed up the browning process.



Fig.9.23 Frying pan or skillet

Frying pans or **skillets** are shallow utensils for top of the range cooking. They have long handles and may have lids. Frying pans are used for frying and pan broiling.



Fig.9.24 Saucepan or pot

Saucepans and **pots** are deeper than frying pans and are generally used for cooking food in liquid. Sauce pans usually have one long handle while pots usually have short handles. Most saucepans and pots have lids. Common sizes are 1 quart, 1 4 quart, 2 quarts and 3 quarts (1 L, 1/ ½ L, 2L, 3L).



Fig.9.25 Baking pans

Baking pans are usually made of metal but some are made of ovenproof glass. Different types of pans are available for baking items such as bread, cake, cookies, patties and muffins.

Roasting pans are large heavy duty pans which may be either rectangular or oval. They may have a trivet or rack to allow for even browning.



Fig.9.26 Roasting pan

Baking dishes or **casseroles** may be made of oven or flame proof glass, oven or flame proof earthen-ware, or vitreous enamel. Some of these materials can be used either in the oven or over a moderate flame. These cooker-to-table dishes save time in dishing and washing as they can be taken directly from the cooker to the table. Most come with matching lids.



Fig.9.27 Baking dishes or casserole

Cooling racks are made of metal wire. The rocks are used for holding cakes and cookies while they are cooling. The mesh surface allows air to circulate around the baked goods and helps prevent sweating.



Fig.9.28 Cooling rack

Measuring ingredients

Sometimes we feel that weighing and measuring are humbugs, and many of us can list occasions when we have seen dishes prepared without the use of measuring instruments. But there are some good reasons for always weighing and measureing ingredients for every dish.

The importance of weighing and measuring

- Weighing and measuring allow us to produce a perfect dish everytime. Good results are achieved everytime because most recipes have been tested repeatedly to ensure that ingredients are being used in proportions that produce the best possible results. Averaging may seem to be the quickest and easiest way out, but guessing very often results in failure, and a spoilt dish is a waste of time, money and energy.

- Weighing and measuring allow us to compile recipes that can be used successfully by others. After years of experience, some persons learn to estimate quantities fairly well. But because it is not customary for them to weigh or measure, they cannot tell others what quantities must be used to obtain good results.

- Weighing and measuring allow us to make accurate estimates of the number of servings or items that will be produced. A good recipe always indicates the number of servings or items that one can expect to get from the quantities used in a recipe. Careful multiplication or division, along with proper weighing and measuring allows us to produce the exact number of servings needed without much fuss.



Fig. 9.29 Measuring ingredients

Teacher: Today we will be measuring and weighing dry and liquid ingredients.

Class: Miss, will we really use flour sugar and margarine?

Rajesh: I asked my mummy for milk so I can help too.

Teacher: Boys and girls in order for your dishes to be right in texture and flavour we must be accurate in measuring and weighing. May I have two helpers? Thank you, Donna and Rajesh

Donna: Miss, what will we use to measure the sugar and margarine? Will it be measuring cup, spoons or scale?

Teacher: Yes, boys and girls we will measure the dry ingredients with cups and spoons. First let's till the cup with the sugar to the brim, then level with spatula or plain edged knife.

Rajesh: Why can't we shake, tap or pack the ingredients?

Teacher: By doing so, the cup will not give the correct measurement.

Donna: How will we measure the milk or oil?

Teacher: Place the cup on a level surface. Stoop until the eyes are level with the measuring point required.

Rajesh: Now I'll pour the milk, Miss, and check the level.

Donna: Let me measure some too.

Teacher: That's all for today. Tomorrow we will divide into groups and measure flour.

Rules for successful measuring

To be successful or accurate when measuring, there are two things that we must do:

- Learn to use measuring equipment correctly.
- Learn to measure different types of ingredients.

Learning to use measuring equipment

THE SCALE

The scale is the most accurate piece of measuring equipment when used correctly. To use the very popular beam scale, place the scale pan securely in position then ensure that the needle is on zero (0). If the needle is not on zero, make the necessary adjustment by re-setting the knob provided for this purpose. Standing directly in front of the scale, with eyes fixed on the needle, place the ingredient in the scale pan. Remove or add small quantities of ingredient to the pan until the desired weight is obtained.



Fig. 9.30 The scale

MEASURING CUPS AND SPOONS

When using measuring spoons and dry measuring cups, simply fill the cup or spoon to the brim, then level off with the straight edge of a spatula

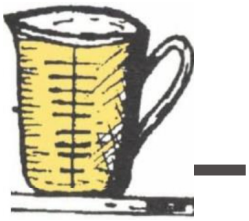


Fig. 931 Measuring cup

To use the liquid measuring cup, place the cup on a *level* surface, stoop until the *eyes are level with the measuring point* desired, e.g., 1 pt- then pour or have someone pour liquid into the cup until it is exactly in line with your measuring point.

Measuring different ingredients

Liquids such as milk, water and melted fat are best measured in liquid cups, as these cups have extra space at the top to prevent spillage. Because most liquid cups are transparent, they also allow us to see the level of liquids more clearly. If measuring spoons or dry measuring cups have to be used for measuring liquids, do not measure over the mixing bowl as one extra spill can change the outcome of a recipe.

Most recipes state the number of eggs required for preparing a dish. If this is done, use medium-sized eggs. If larger or smaller eggs are used, the number used will have to be altered. To overcome the problem of varying egg sizes, some recipes request cup measurements of egg. In such cases, blend together the yolk and white with a fork or whisk, before measuring in a liquid cup.

Dry ingredients such as sugar, flour, salt and baking powder can be measured in measuring spoons, dry cups or a scale. To measure 1/4 cup or less, simply dip the cup or spoon into the ingredient then level off. When using larger cup measures, spoon the ingredient into the cup until it is full and overflowing, then level off.

Never pack, shake, or tap spoons or cups when measuring dry ingredients.

Measuring dry ingredients

Some dry ingredients require special treatment for greater accuracy in measuring. Sugar, flour and meals such as cornmeal and oatmeal should be stirred before they are measured. Stirring breaks up any existing lumps and clumps. If a recipe calls for sifted flour, sift the flour before measuring as the tiny particles of flour pack together on standing.

Table.9.1

HANDY MEASURES	APPROXIMATE	APPROXIMATE
Cups and spoons	**Imperial equivalent**	**Metric equivalent**
2 tablespoons fat or sugar	= 1 ounce	= 25 grams
4 tablespoons flour	= 1ounce	= 25 grams
1 cup fat or sugar	= 8 ounces	= 200 grams
1 cup flour	= 4 ounces	= 100 grams
16 tablespoons = 1 cup	= ½ pt	= 250 millilitres
8 tablespoons = ½ cup	= ¼ pt	= 120-125 millilitres
4 tablespoons = ¼ cup	= ⅛ pt	= 60- 75 millilitres
3 teaspoons = 1 tablespoon	= 15 millilitres	
1 tsp	= 5ml	

N.B 1 lb is approximately 454 grams, but since it is easier to use multiples of five, twenty-five grams is used to represent one ounce.

Ingredients such as grated coconut, chopped dried fruits and breadcrumbs should be lightly pressed into measuring cups until level with the top. Solid fats such as margarine should also be pressed firmly into cups before they are levelled off.

Conversion tables

It is always best to measure ingredients using measuring equipment that have been graded in the system of measurement that has been used in the recipe. Metric scales, cups and spoons should be used when recipes list ingredients in grams, litres and other metric units of measurement. However, it is possible to convert units of measurement from one system to another if necessary. Table 9.1 can be very useful when making such conversions.

Preparing for practical work

Preparing food can be a lot of fun. The look, smell and taste of the finished product can give us a feeling of pride, but success does not come easily. Good *organisation* is necessary for successful practical work.

At home, time is not a big problem so we tend to use more time than is necessary for preparing simple dishes, and if we are not being supervised, spoilt dishes might even get "ducked". However, if we want our parents to encourage our "kitchen experiments" it would be a good idea to check recipes and do some organizing before hand. This reduces wastage of time, ingredients and energy. Good organisation also cuts down on the pile-up of dishes that is often left behind for others to wash up. Since most of the work at school will be done in groups, *cooperation* is also an important part of practicals. Cooperation means learning to work with each other. When each member of a team does his or her job and follows the teacher's instructions, the group will be successful.

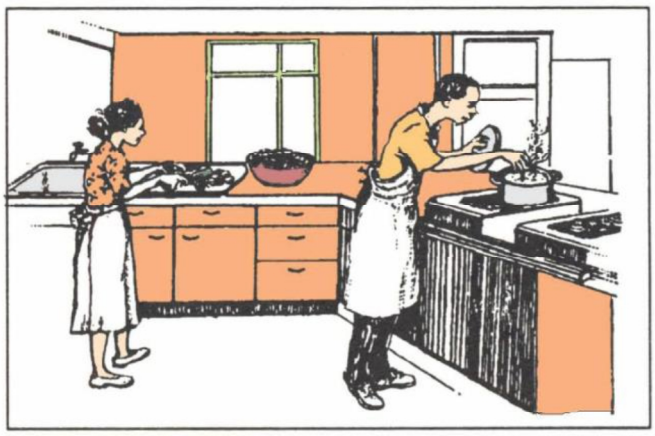


Fig. 9.32 Preparing for practical work

Here are some "tips" that help food preparation to go smoothly.

- Read recipes before practicals. If a step is not clearly understood, seek the advice of your teacher.

  List the main jobs and share them among team members. One advantage of teamwork is that several different tasks can be *dovetailed* or done at the same time, e.g., Ian can cream the margarine and sugar while Soma sieves the flour.

  Make a list of equipment needed and collect them before the practical begins. This allows

work to flow more smoothly.

- Set up the work table in an organised manner.

- Gather all ingredients then weigh and measure the exact amounts stated in the recipe. *Remember that inaccurate weighing and measuring can spoil the outcome of your dish.*

- Do as much pre-preparation as possible before the practical begins, e.g., wash fruits and vegetables, grate coconuts, grease pans.

- Clean up as you work. This makes cleaning at the end, a much easier task.

EXAMPLE OF A TEAM WORK PLAN

Dish : Cocoa Drop Cookies

Ingredients needed

flour .... 1 ¾ cup

margarine...½ cup

baking powder .... ½ teaspoon
sugar.... 1cup salt....
teaspoon egg.... 1egg
cocoa .... ½ cup
essence 1teaspoon

-sieve -Cooling rack

- metal and rubber spatulas - Teaspoons for dropping cookies

- plate and doiley to serve



Fig. 9.33 Team work plan

DISTRIBUTION OF WORK

Ian (1) Collect equipment

Soma (2) Measure ingredients

Ian (3) Set oven at 400°F. Check racks in oven

Soma (4) Mix cookies

Ian (a) cream margarine and sugar

(b) mix in egg, essence and milk

Soma (c) sift flour, baking powder, cocoa

(d) fold dry ingredients into creamed mixture

Soma (5) Drop dough on cookie pans using teaspoons

Ian (6) Wash up and clean work area

Soma (7) Check and remove cookies from

EQUIPMENT NEEDED

- dry measuring cups
- liquid measuring cup
- set of measuring spoons
- Mixing bowl
- Wooden spoon
- 2 cookie sheets

oven. Place cookies on cooling rack.

Ian (8) Prepare display table and display cookies

Kitchen safety

The kitchen is the favourite place in most homes but it is also the place where most accidents occur. The most common accidents that occur in kitchens are bums, scalds, electric shocks, cuts, and falls. These same accidents can also occur in a food lab, if we are not careful. To reduce the occurrence of these accidents in the kitchen and food lab we should:

- keep floors clean and dry
- keep appliances in good working order
- exercise care when using applinces and equipment.

However, there are specific rules that we can observe to help reduce the incidence of each type of accident named above.

Causes and prevention of common accidents

SCALDS BURNS AND ELECTRIC SHOCKS

- Keep paper, plastic, dish towels and pressurized cans away from the cooker. These materials are *flammable* and pressurised cans tend to explode when heated
- Use flat bottomed, well balanced pots and pans. These will not tip over easily.
- Turn handles of pots and pans inwards, over the cooker to avoid having them knocked over by passers-by. Be sure that handles do not just-out over hot burners.

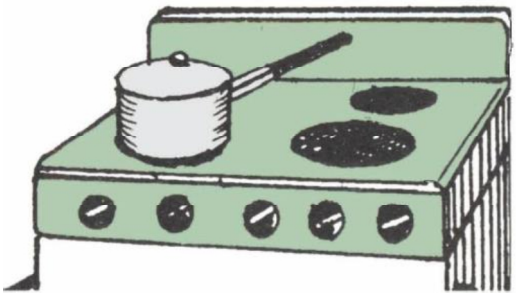


Fig. 9.34 Pot handle over cooker

- Use thick, dry pot holders to hold pots and pans. Hanging ends of towels can easily catch afire and wet ones produce steam which can cause serious scalds.
- To open pots, lift lids towards you and turn upwards to prevent drips. This allows steam to flow away from you, rather than towards you.
- When lighting gas burners, strike the match first then turn on the burner. If too much gas is allowed to escape before the match is struck, a flare-up or explosion could occur.
- When frying foods, do not overheat the fat as

it can ignite. If this happens, turn off the burner then cover the pan with a lid or damp cloth.

Do not try to carry the blazing pan to the sink. Do not pour water on a blazing pan.

- Ensure that handles and knobs of cook ware are securely fastened before putting them to use. Faulty handles and knobs can come loose and cause serious bums and cuts.
- Always check electric cookers to be sure that they are turned off. Burners of electric cookers only show signs of being hot when they are on "high".
- Keep one or two buckets of sand and one or two buckets of water and a fire extinguisher in the kitchen or food lab and be sure that everyone knows how to use them.

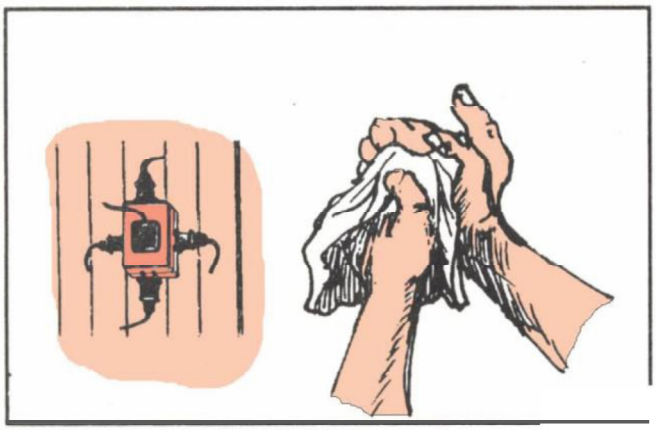


Fig.9.35 Eletrical appliances should be handled with dry hands

- Never use metal objects to remove food from an electrical appliance while it is still connected. Like water, metal is a good *conductor* of electricity.
- Dry hands thoroughly before handling electrical appliances. Electricity passes through water readily, so wet hands can lead to severe electrical shocks.
- Avoid the "electrical octopus" - one outlet with many appliances plugged into it. This can result in a fire. Never plug more than two appliances into an electric outlet at one time.
- To unplug an electrical appliance, hold the plug and pull gently. Never tug the cord to remove the plug from an outlet. This can cause the cord to become worn and cause dangerous electrical shocks.
- Disconnect all appliances before cleaning them.

CUTS



Fig 9.36 Cut away from the body

- Keep knives sharp. Less pressure has to be applied when using a sharp

knife, so there is less danger of the knife slipping and causing cuts.

- Cut away from the body, not towards it
- If a knife starts to fall, do not try to catch it in mid-air, you can cut yourself.
- Never put a knife in a pan or sink of water when washing-up.
- Store knives in racks or separate containers. Do not keep them loose in drawers with other equipment.
- Never grope for broken glass in a sink filled with water.
- When trying to reach high shelves do not stand on make-shift arrangements that can tip over easily.
- Use non-skid floor wax. Frequent application caused the floor to become slippery. If rugs are used in the kitchen, make sure that they have non-skid backs.

OTHER KITCHEN HAZARDS

- Never put poisons in cupboards where food is kept. Someone may accidentally pick up the wrong container.
- Never put plastics where they can catch afire. Some produce large amounts of thick black smoke and poisonous gases.



Fig.9.37 Wet floor can cause a fall

- Avoid using charcoal firesides or coalpots inside a building. Burning charcoal gives off large amounts of carbon-monoxide deadly gas.

Treatment of simple injuries

In all severe cases of injury and poisoning, take the person to a doctor immediately.

Burns

Cool the area with cold water. If the bum is serious, cover it with a clean cloth. *Never* put grease or oil on a bum. Do not try to clean bums or break blisters.

If the person is in flames, smother the flames by rolling the person in a thick coat or rug.

Electric shocks

Pull the plug out if an appliance is involved or turn off the electricity. Never touch the plug before this is done as you will get a severe shock.

Cuts

Wash small cuts with a dilute antiseptic solution and cover. For large cuts where much bleeding is taking place, bandage and raise the limb above the level of the head. This reduces bleeding. If an artery is cut the blood will come out in spurts. Apply pressure at both ends of the bleeding point; this reduces the flow of blood.

- Keep cabinet doors and drawers closed. If these are left open, they can cause serious injury if anyone bumps into them.
- Read directions and warnings on oven and other cleaners. Never mix two or more of these compounds as they may release irritating or poisonous gases.

Falls

Do not move the person or give any treatment unless it is absolutely necessary. Do not give anything to drink as the person may need to be given anaesthetic.

Poisoning

If the container is available, use the antidote suggested. For poisons that will not bum, give plenty of water and induce vomiting.For strong acids and alkalis, give milk but do not try to induce vomiting.

Exercises

1. List the kitchen utensils we could use to carry out each of the following tasks.
   (a) Beat eggs
   (b) Mince meat
   (c) Remove cake mixture from the side of a bowl.
   (d) Determine the "doneness" of a roast.
   (e) Measure milk.

2. Peter decided to surprise everyone by making a batch of cookies. Try to identify Peter's *seven* measuring flaws and suggest how he could correct each flaw.

   (a) The first ingredient the recipe called for was 8 oz flour.

   Peter poured flour into the scale pan then placed the pan on the scale.

   He then added enough flour to the pan until the needle was directly on the 8 oz mark.

   (b) The next ingredient that he needed was sugar.

   He needed 4 oz sugar.

   Since he had already washed the scale pan he decide to use a one cup measure instead.

   He dipped the cup measure into the sugar bin then levelled it with a spatula.

   (c) He also needed 4 oz margarine and this time he used one level ½ cup measure.

   (d) Next he added 1 large egg where the recipe asked for an egg.

   (e) The final ingredient he needed was 1tsp baking powder.

   Since the teaspoon in his set was missing he borrowed one from his Mom's tableware.

   - To be sure that the spoon was quite full he tapped it once or twice before levelling it off.

3. In the spaces provided, fill in the approximate equivalents.

   teaspoons - 1 tablespoon

   ounces - ½ cup

   grams - 1 pound

   milliliters - 1 cup

   cups - 2 pints

4. Using a recipe of your choice, prepare a team work plan for your work group.

5. Identify five possible causes of kitchen accidents in Fig.9.37 provided, then suggest how these accidents can be avoided.



Fig.9.38 A fall

Summary

WE HAVE LEARNT THAT:

- Kitchen equipment is made from various metals, shapes and sizes.
- Correct measuring and weighing is important to ensure good end product.
- Imperial units of measurement can be converted to metric units.
- Practical work requires preparation.
- Accidents can and do occur.
- Accidents can be prevented.
- There are safety rules.

10. Keeping food safe for eating

In this chapter you will learn about:

- hygiene and its importance to good health
- personal hygiene and dress for practical
- importance and method of laundering kitchen cloths
- proper handling and preparation of food to prevent contamination.

Washing hands before practicals may seem unnecessarily finicky, and wearing an apron may seem fussy but there is a good reason why we should observe these and other hygiene practices. They help us to keep food safe for eating.

The importance of hygiene

It is important to observe cleanliness when handling food. Good hygiene practices prevent food spoilage and protect us from harmful bacteria. Bacteria are tiny one-celled living things that cannot be seen by the naked eye but can cause food borne illness like food poisoning. Some even cause death. Governments make laws to ensure that food and water supplies are protected from bacteria. Some diseases caused by poor hygiene are gastro-enteritis, typhoid, worm infestation, diptheria, and tuberculosis.

Personal hygiene

It is very important that we keep food safe and clean. The first step to keeping food safe for eating is observing personal hygiene. Pride in our appearance and good personal habits promote a high standard of cleanliness and help to keep food safe for eating. If we practise poor hygiene we become the chief source of bacteria in the kitchen for we carry bacteria in our breath, in discharges from our bodies, on our skin, in our hair and on our clothing.

Rings, watches and other jewellery should be avoided when handling food. Particles of food may be caught under and between them providing a breeding ground for germs which can eventually be transferred to food.

Fig 10.1 Well Dressed for handling food

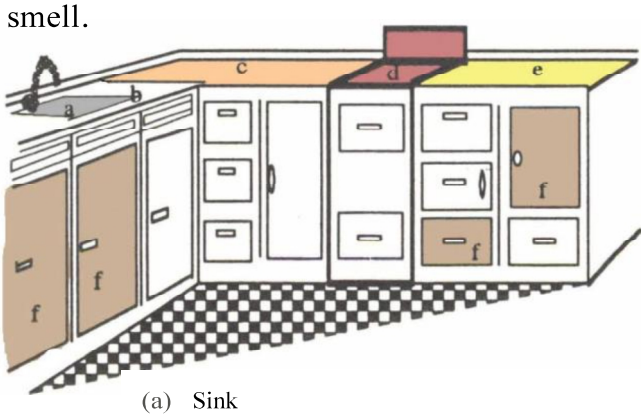


Hygiene in the food laboratory

- Regular care and cleaning of the food laboratory and its equipment is another way to keep food safe.

  The best ventilation, plumbing and lighting available should be considered in the design of the building.
- Adequate supplies of water for regular cleaning and food preparation.
- Clean glass in windows, doors and other areas of the building.
- Avoid dark, dirty places. They harbour germs and vermin.
- Ensure that the room is always left dean and its equipment are properly cared, cleaned and stored in an organised manner.
- Make sure there is good, non slippery floor covering and a waste bin with cover.

Towels, wash rags, sponges and pot holders are very "hardworking" articles so special care should be given to them.Use them only for their special purposes, then wash and hang them in open air to dry. If they are left lying around, they would develop an unpleasant smell.



(a) Sink
(b) Draining
(c) Work center
(d) Service counter
(e) Cooker
(f) Storage cupboards & drawers

Fig. 10.2 Food Laboratory

Laundering kitchen cloths

- Steep in warm water with a bit of soda if greasy. Neglected cloths may be soaked in hot water containing disinfectant.
- Wash in hot, soapy water and scrub if necessary.
- Rinse thoroughly.
- Hang to dry in open air.
- Boil frequently to help destroy bacteria. Sponges should be washed frequently. A bit of salt added to the water helps to remove slime.

Safe food handling habits

Bacteria require three things to grow: food, moisture and the right temperature. If we observe the following safe food handling habits, we can create conditions which would make it impossible for them to live and multiply.

Personal hygiene

- Wash hands before handling food and be sure to clean under nails.





Fig. 10.3 Wash hands before handling food.

- Cover nose and mouth with disposable tissue or handkerchief when coughing or sneezing. Wash hands immediately after.



Fig. 10.4 Cover nose and mouth

- Wash hands after using the toilet or handling pets.
- Do not fuss with hair or other parts of the body. If this is done, wash hands immediately.
- Have a separate hand towel. Do not use the same one used for dishes and counter tops.
- Cover all cuts, boils and bruises. If they are located on the hands, do not handle food.

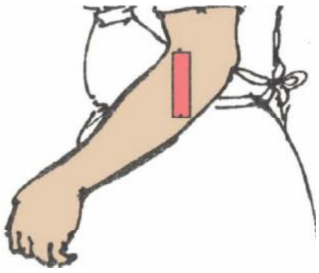


Fig. 105 Cover cuts, boils and bruises

- Wear clean clothes when handling food.

Kitchen/foods laboratories

- Keep the kitchen free of pests, rodents and insects.
- Keep pets out of the kitchen because small bits of their covering can float through the air and may carry bacteria.
- Disinfect chopping boards periodically with a chlorine bleach solution (1/2 tsp. bleach to 4 litres water).
- Use a tasting spoon only once, then wash it before using it again.
- Do not use hands to mix food if a clean equipment can be used.
- Wipe up spills and spots as they happen. They attract vermin and bacteria.

Food

- Keep hot food hot and cold food cold. Bacteria grow quickly between 60°F and 125°F (16°C and 52°C).
- Be sure that certain foods are cooked thoroughly especially pork. Pork can be a carrier of worms which cause severe illness. However, if vegetables must be eaten raw they must be disinfected appropriately using potassium permanganate commonly called 'condy's crystal'.
- Use proper storage for food.
- After serving, refrigerate leftover food immediately.
- Cover all foods.
- Do not allow fingers to dip into food while serving.
- Do not put cooked food in utensils without first washing the utensils.

Summary

WE HAVE LEARNT THAT:

- There are some important points to remember before cooking.
- Good hygiene prevents food spoilage and protects us from harmful bacteria.
- Kitchen hygiene promotes a high standard of cleanliness and helps to keep food safe.
- Personal hygiene promotes pride in appearance and good habits.
- Laundering of kitchen cloth requires the use of warm or hot water with a bit of soda, soap or disinfectant.
- There is a correct way to be attired for practicals.
- Safe handling of food involves washing hands before handling food.

11. Food Preparation

In this chapter you will learn about:

- why some foods must be cooked
- the methods used to cook food, e.g., boiling, frying and baking
- rules and foods suitable of boiling and baking
- advantages and disadvantages for boiling and baking
- reading and understanding a recipe.
- some common cooking terms

There is a wide variety of foods available to us in Guyana. To make them into wholesome and nutritious meals, some amount of food preparation must take place. Some foods can be enjoyed raw, so for some meals, very little heat is necessary. However, there are some essential reasons for cooking or applying heat to certain foods before eating.

Reasons for cooking

We cook food to:

- improve flavor, e.g. the extractives in meat are developed making it more tasty.
- make food easy to digest, e.g., fibres in food soften and separate, exposing nutrients to digestive juices.
- destroy harmful substances, e.g., some harmful bacteria in milk can be killed at normal cooking temperatures.
- make food attractive, e.g., foods such as meat and cake mixtures are appealing when cooked.
- stimulate digestive juices, e.g., the aroma of freshly baked bread may cause digestive juices to flow.
- preserve food, e.g., the shelf life of fish is extended with the application of heat.
- add variety to menus, e.g., raw carrots eaten every day can be monotonous.
- provide hot food in cold weather, e.g., a hot cup of beverage is most welcomed on a rainy day.

Methods of cooking

In the world of food, there is a wide variety of cooking methods. As many of the methods involve similar procedures, they can be classified under the headings-

- Moist heat- boiling, stewing, steaming, poaching.
- Dry heat- baking, broiling or grilling, roasting.
- Hot fat- frying.

Because braising and conservative cooking involve the use of a combination of cooking methods and variations in cooking procedures, it is difficult to classify them under any *one* of the above headings

Two factors that affect the choice of cooking method are food to be cooked and time available.

Could you list other factors that may affect your choice of cooking methods?

Boiling



Fig. 11.1 Boiling

Boiling is the cooking of food in rapidly bubbling liquid which is later lowered to simmering point

Simmering point is that stage when the surface of the liquid is occasionally broken by a bubble. It should be noted however, that while rapid boiling does not affect cooking time, foods such as pasta and syrups are best cooked by rapid boiling for the entire cooking time.

Foods suitable for boiling

Ground provisions or root vegetables, eggs, pasta, tough cuts of meat, e.g., knuckle, cow-heel, neck.

Rules for boiling

- Ensure that the liquid is boiling before adding foods. The hot liquid seals in natural food juices.
- Liquid should barely cover the food. This reduces loss of flavour.
- Avoid rapid boiling. This results in the crushing of vegetables and the toughening of meats.

Advantages of boiling

- It dissolves the connective tissues in meat and softens the cellulose in fruits and vegetables.
- It requires little fuel and attention.
- The liquid may be used for making stocks, soups, sauces and gravy.
- Various types of foods can be cooked by this method.
- A number of foods can be cooked at the same time in the same pot, e.g., plantains,

carrots and eggs.

Disadvantages of boiling

- Food may be broken down by over-boiling and flavour may be lost
- There is some loss of vitamins and minerals.
- Food tends to go sour easily.
- It is a lengthy process.

Baking



Fig.11.2 Baking

Baking is the cooking of food in an enclosed space with little or no fat. Sometimes, food may beroasted in an enclosed space. In both cases, the oven temperature is lowered after the outside of the food has been slightly browned.

Foods suitable for baking

Meats of a good quality, fish, juicy fruits, vegetables, and starchy foods such as breads, pastries, puddings and cookies.

Rules for baking

When baking:

- pre-heat the oven to the required temperature.
- before lighting, place shelves inthe desired position.
- utilise oven space fully but avoid overcrowding.
- when placing dishes within the oven, make good use of temperature differences (The top shelf is usually 3° to 5° C hotter than lower shelves.
- avoid baking food that gives off moisture, along with those that require a crisp finish.

Advantages

- Some foods have an attractive brown colour.
- Foods are more tasty as less food juices are lost.
- Food requires little attention.
- Several dishes can be cooked at the same time.
- Food tends to have a better keeping quality.

Disadvantages

- Only good quality meat can be used.
- Much of the moisture is lost hence many foods shrink.

Interpreting a recipe

Recipes can be described as guidelines for preparing dishes. Each recipe carries a name. The name usually gives us an idea of the type of dish we are about to prepare. It might even suggest the source of the recipe, e.g., Demerara Fruit Punch. The standard form is the style most frequently used in schools. Like all well written styles, it has two main parts:

- a list of ingredients and amounts necessary for the dish.

- directions and order in which ingredients should be combined.

In this and other styles of recipe writing, ingredients are usually listed according to the order in which they are used. The directions for preparing and combining items are also given in the order in which they should be done. This ensures a smooth flow of work and prevents a waste of time.

A recipe is written in the standard style.

Ingredients

250 millilitres (1/2 pint) milk

1 egg

5 millilitres (1 teaspoon) sugar

5 millilitres (1 teaspoon) essence

Method

1. Heat oven to 180° C (350° F) Gas Mark 4
2. Grease three 1/2 - pint custard cups/one dish
3. Warm milk to blood heat
4. Beat egg, sugar and essence
5. Slowly add milk to egg mixture while still beating gently
6. train mixture into individual custard bowl/ dish and add a dash of nutmeg.
7. Place custard cups/dish in a large baking tray
8. Pour water into the baking tray so that it comes half way up the custard cups/dish.
9. Place on the middle shelf of the oven and bake for 30 minutes or until custard is firmly set on middle shelf of oven.

Serves 3 persons

Recipe abbreviations

In most recipes, the units of measurement are *abbreviated* or shortened. We should try to become familiar with the list of abbreviated measuring terms and other commonly used abbreviations, before using any type of recipe.

teaspoon	= tsp or t	ounce	= oz
tablespoon	= tbsp or T	pound	= lb
cup	= C	gram	= g
pint	= pt	kilogram	= kg
quart	= qt	litre	= l
gallon	= gal	millilitre	= ml
inch	= in	centimetre	= cm
hour	= h	Degree Celsius	= °C
minute	= min	Degree Fahrenheit	= °F

Language of the recipe

It is therefore important for us to learn as many food preparation and cooking terms as we possibly can. Some simple recipe terms and their meanings are given below.

Aerate

Mix air into flour by passing through a sieve.



Fig.11.3 Aerating flour

Beat

To mix with quick over-and-under m o t i o n s using a spoon or beater, usually to make a mixture smooth or to include air.



Fig.11.4 Beating

Blend

To combine two or more ingredients thoroughly by stirring or using a blender.



Fig.11.5 A blender

Chop

To cut into very small pieces as of parsley or onion.



Fig.11.6 Chopping carrots and onions

Cream

To soften and blend with a spoon or mixer, until smooth, creamy and light. The colour and texture are signs that many tiny air bubbles have been enclosed.



Fig.11.7 C r e a m i n g butter and sugar

Decorate

To improve the presentation or attractiveness of sweet dishes.



Fig. 11.7 Decorating a cake

Dice

To cut into very small cubes.



Fig. 11.8 Dicing cheese

Dough

Stiff mixture of flour and liquid eg bread dough.



Fig.11.8 Kneading ugh

Dredge

To sprinkle lightly with powdered ingredients such as flour sugar and pepper.



Fig. 11.10 Sprinkling pepper

Garnish

To improve the appearance of savoury dishes eg parsley for eggs and lemon slices for fish.



Fig. 11.11 Garninshing fish

Glaze:

A thin coating that is applied to the surface of pastries etc. to give a sheen. Beaten egg, milk, and syrup are some substances used to give a glaze.



Fig.11.12 Glazing sweetbread

Grate:

To rub food against a grater to obtain fine particles.



Fig.11.13 Grating coconut

Grease:

To rub lightly with fat



Fig 11.14 Greasing a baking pan

Pipe:

To form decorative patterns by' forcing soft mixtures such as icing and creamed potatoes through pipes or thimbles.



Fig. 11 .15 An icing thimble

Rub:

To distribute solid fat in dry ingredients using finger tips

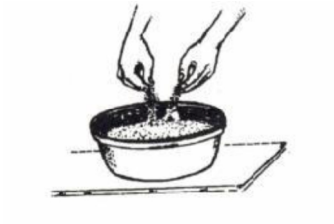


Fig.11.16 Rubbing-in fat in dry ingredients

Season:

To add seasonings such as pepper and salt.



Fig.11.17 Leveling a spoon of seasoning

Shred:

To tear or cut into small pieces or strip



Fig.11.18 Shredding

Sieve/Sift:

To put dry ingredients through a flour sifter or sieve in order to aerate and remove unwanted particles.



Fig.11 .18 Sifting flour

Stir:

To mix by moving spoon or other implement in a circular motion



Fig.11 .19 Stirring ingredients

Strain:

To separate liquid from solid food by means of a sieve or strainer



Fig. 11 .20 Straining to separate liquid from solid

Other important information that may be given in a recipe are:

- the number and size of servings that will be produced by the recipe.
- the approximate time and oven temperature needed for preparing the dish. When the oven temperature is given at the top of the recipe we are reminded to pre-heat the oven.
- the cost of the dish. This information helps home makers to choose dishes within their means.
- the equipment and size of cookware and dishes to be used. This helps the inexperienced home makers to choose cookware and serving dishes that are of the correct size for the quantities being prepared.

QUESTIONS AND ACTIVITIES

Directions:

1. Read the statements below, and fill in the blanks to show the correct answers.

   Numbers (i)- (vii) are clues

   (i) H- - - - - - -

   (ii) - Y - - - - -

   (iii) G- - - - -

   (iv) ----------I-

   (v) -E- - - - - - -

   (vi) ----- N

   (vii) - E- - - - - - - -

(a) ------ prevents hair from falling into food while we work.

(b) ------- is a disease caused by poor food handling.

(c) Dark dirty places are good harbouring grounds for ------- and vermins.

(d) Tiny one-celled living things that cause food spoilage are called-------.

(e) We should avoid wearing------ on our hands when handling food.

(f) ----- -protects our clothes and helps to protect the food we are handling.

(g) Good plumbing, lighting and ------ help to keep the foods lab in a sanitary condition.

2. At what temperatures should food be kept to prevent the growth of bacteria?

3. Create two new sanitation rules for the food laboratory.

4. Name two occasions when you should always wash your hands.

5. What are two conditions bacteria need to grow?

6. (a) List two dishes that can be prepared by:

   (i) boiling(ii) baking

   (b) Give two guidelines that the cook must observe if baking is to be carried out successfully.

   (c) Give two reasons for

   (i) boiling

   (ii) baking as popular methods of cooking.

7. What is a recipe?

8. What do the following abbreviations mean?

   tsp. tbsp. oz. min.

9. Match the following food preparation terms with the processes below.

   strain sift cream stir chop

   (a) to mix with a circular motion of the spoon.

   (b) to blend together sugar and margarine until fluffy.

   (c) to separate noodles from boiling water.

   (d) to cut into small pieces with a knife.

   (e) to introduce air into flour.

10. You are asked to be a Judge at a recipe writing competition. List five important things for which you would check.

Summary

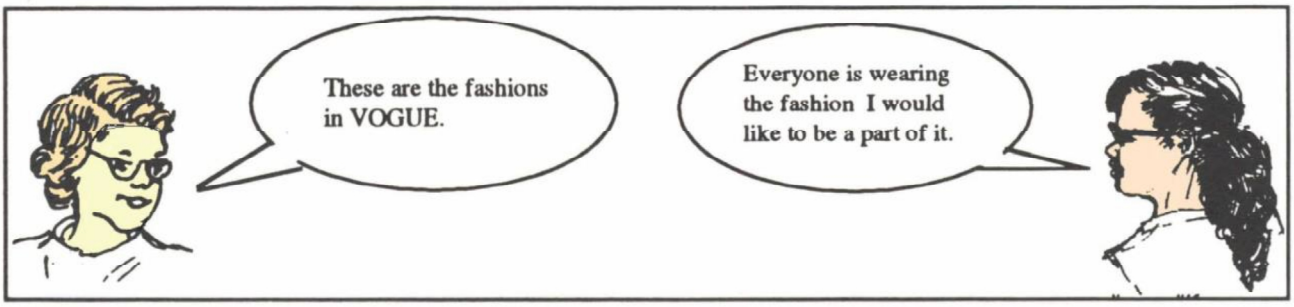
WE HAVE LEARNT THAT:

- Food is cooked to improve flavour, ease digestion, destroy harmful substances, enhance appearance, preserve, add variety and provide hot meals in cold weather.
- The various methods of cooking can be classified as moist heat, dry heat and hot fat.
- Ingredients in a recipe are written in the order in which they are used.
- Directions given in a recipe are written in the order in which the tasks are done.
- Terms used in food preparation are important in understanding a recipe.

Clothing & Textiles

12 Understanding clothing

Introduction



Sometimes all the outfits worn are not suitable for the occasion or the wearer.

A knowledge of Clothing and Textiles will help us to understand the reasons for choosing the right garments for different occasions and body shapes.

From the study of clothing and textiles we will learn some basic principles involved in dress.



Fig. 12.1 Clothing



Fig.12.2 Textiles

Textiles Studies teach us identification of fabrics by

- appearance
- touch/feel
- methods of construction
- scientific tests

This knowledge will assist us in correct fabric selection for garments to be made.

We learnt the know-how of:

- good fit
- garment construction processes.
- correct finishes of seams.
- hems
- collars

Activities

Imagine you are preparing to attend your friend's birthday party.

1. Select the clothing and accessories you will wear.

   (i) Cut out a basic figure shape from a book or a magazine.

   (ii) Cut out shirt, pants, dress, shoes and other forms of clothing from magazines or fashion books and are range them on the figure to give an idea of how you will dress to attend the party.

   (iii) Paste the figure with dress on a sheet of paper to begin your clothing project book.

Summary

WE HAVE LEARNT THAT

- Clothing in fashion at a certain period in time are said to be EN VOGUE.
- A study of Clothing and Textiles helps us to choose correct clothing.
- Fabrics may be identified by
  - appearance
  - touch
  - methods of construction
  - scientific tests

13. Clues fromclothing



Fig 13.1 Different types of clothing

Dress

Do you know that your dress sends out personal messages about you?

Even before we say anything about ourselves our dress makes many important statements about who we are. Itsuggests our:

- gender
- age
- values
- mood
- associates
- job
- personal qualities, such as carefulness and neatness.

Dress is a non-verbal form of communication and people form first impressions about us from what our dress tells them. What we choose to wear, can therefore give people correct or incorrect information about us. Dress is a form of language and can be analysed and understood just as we analyse the spoken word. We should therefore be extremely careful to wear clothing that give correct impressions of who we are.

People who have studied and analysed dress over the years have concluded that there are three basic reasons for wearing clothes.

- Utility - to make living and working easier and more comfortable.
- Status - to proclaim or disguise our identities.
- Attraction - to attract attention.

These reasons conform to some basic principles in our verbal communication.

Utility

Today is rainy and cold therefore Omar has to protect himself with a rain coat and probably a light cardigan. Sanitation workers wear special overalls, gloves, boots and masks to protect themselves from harmful bacteria .When Auntie Jane goes to work at the Fisheries, she wears an overall to protect her clothing, because she wants to keep them clean. These three examples explain instances when our manner of dress conforms to the Utility Principle.

Status

Gail is a member of the Girls' Guide Movement and Rajiv a member of the Boys' Scout Movement. Whenever we see others wearing the same uniforms as Gail and Rajiv we know that they all belong to the same groups in our society.

Similarly nurses, policeman, soldiers, postmen and women can be easily identified, as their dress tells us who they are and we automatically assume what jobs they are expected to do.

Attraction

Our ancestors used coloured paints and beaded aprons to decorate their bodies long before man started to wear clothing. It is said that these forms of decoration were used to attract magical powers.

My mother always dresses beautifully when she is going to parties. She looks pretty and all her friends admire her. Even though she does not plan to, her mode of dress attracts attention. She also looks pretty when she is going to church, but she wears different outfits for church because she says plunging necklines and halter outfits are not suitable for church.

The costumes worn by our ancestors and the outfits worn by my mother to church and parties are all different but they are forms of body decoration and so conform to the Attraction Principle.

Activities

1. Look through fashion magazines and select two outfits you will wear for each of the reasons discussed in the chapter.
2. Cut out and paste there in the scrapbook you used for the first exercise.

Knowing what to wear

Housewear

When we are at home, we want to be comfortable and relaxed. Clothing should therefore be simple to allow this freedom. Styles chosen should have no unnecessary details which may hinder performance while carrying out chores, e.g., frills, flounces, ribbons, laces.

Fabrics should be absorbent and easily laundered .Some bright colours tend to make the wearer cheerful. Dark colours absorb light rays and make us feel warm. An outfit for home will conform more to the Utility Principle rather than the Attraction or Status Principle.

Sleepwear

Like housewear, sleepwear serves a utilitarian purpose. It is not meant to be decorative even though some female sleepwear is elaborately decorated. Decoration however, should allow the wearer to be comfortable during sleep. Large buttons or other hard fastenings should be avoided as they will bruise the skin. Fabrics must be soft, absorbent and easy to launder.

School

Schools in Guyana require all pupils to wear uniforms. Uniforms must conform to colour and style prescribed by the school. Uniforms while serving utilitarian purposes identify pupils and help us to place them in specific groups. Thus uniforms are also status symbols. If we want people to respect us and other members of our school, we must be careful how we conduct ourselves in public and private places. Make-up, large earrings and other forms of jewellery are not worn with uniforms. Good grooming, however, is very important, soour clothing, teeth, nails, hair and skin should all be clean and well kept.

Church

Church is a formal place, so clothing for church cannot be house or sleep wear. It must be the kind we wear when **dressed up.** Church wear is therefore a form of decoration conforming to the Attraction principle of dress. Modest clothing demonstrates our respect for God. Some party wear is suitable but garments with low necklines or deep cut armholes are unsuitable. All the beautiful fabrics like rayons, polyesters, nylons and silks make suitable church wear.

Work

The work place is a formal one but different from church, in that, if we are too dressed **up,** we tend to distract the people we are employed to serve. If we are too casual or sloppy in dress, psychologists say we display the same attitude on the job. Dress for Office should be tailored to suit the job. Garments with shirt or rolled collars or simple collar less necklines are Suitable. Sleeveless garments should be avoided. Pockets are functional and should be added. Garments should fit the body, but must never be too close to reveal figure curves. T shirts and slippers are not suitable for office wear.

Wide skirts should be avoided, if work places have too many stairs. Kick pleats should be used instead of slits. Shiny fabrics are for evening wear. Crisp fabrics such as linens, cottons, polyester/cotton and polyester/rayon blends, are best suited. They keep the wearer cool and comfortable and are easy to launder. Simple jewellery and make-up may be used.

Sports

Sports suggest strenuous activities so clothing should be more functional or utilitarian rather than attractive or for Status. Simple styles will provide comfort and allow easy movement. Fabrics should be absorbent and hardwearing. Cotton T shirts are best for these activities.

Travel

We can wear clothing for any of the reasons, utility, status or attraction, when travelling, depending on where we are going. Fabrics used are more important as the occasion will determine the suitable style. Travelling by bus, car or air craft requires crease resistant fabrics to avoid us looking untidy on arrival at our destination. Lightweight clothing is best when we have to pack for travel by air. They are less bulky and reduce weight, especially when there is limited baggage allowance. Business travellers

seldom take many pieces of clothing, hence those selected should be easy to launder and quick drying.

Activities

1. Collect pieces of fabrics which are soft, stiff, shiny, strong, easy to crush and absorbent
2. You will do some observations to find the Shiny, fabrics.
3. Feeling will tell you if they are soft or stiff.
4. You will need to collect many of pieces to check which ones are easy to crush, strong and absorbent.
5. Crush the different pieces and see what happens when you try to smooth them out.
6. Soak some in water to see which ones absorb water in the shortest time. Put them to dry and see which ones dry first. (You will need to number them to keep a record).
7. Try tearing different pieces to see which ones tear easily.
8. Write up all your results and keep samples of these fabrics for your later exercises in fabric identification.

After your teacher has discussed and shown you examples of dress for different occasions, do some cut outs for:-

- House wear
- Sports wear
- Church wear

Looking your best

If you know you look your best, it gives you a feeling of self-confidence, you are happy and relaxed. In our opening discussion on Clothing and Textiles, it was suggested that we must be extremely careful to wear clothes that give the correct impressions of who we are. To have a *well groomed look* we need to take regular care of our body. Looking your best does not mean wearing your *best* clothes all the time but, by simply ensuring that your body from head to toe is well groomed so that you do not only look good but also feel good.

The secret lies in three essentials – good health, cleanliness and good personal grooming. Good health is necessary, for we can never look our best if we feel sick, or look pale and have dark lines under our eyes. Cleanliness or good hygienic practices, combined with good nutrition will ensure glossy hair, good teeth, smooth skin, attractive hands and nails, comfortable feet, good posture and clean clothes. Good personal grooming, means taking regular care of your body and clothes.

We will now discuss the importance of good posture, clean skin, hair, hands, nails and feet as they relate to looking your best.

Good posture

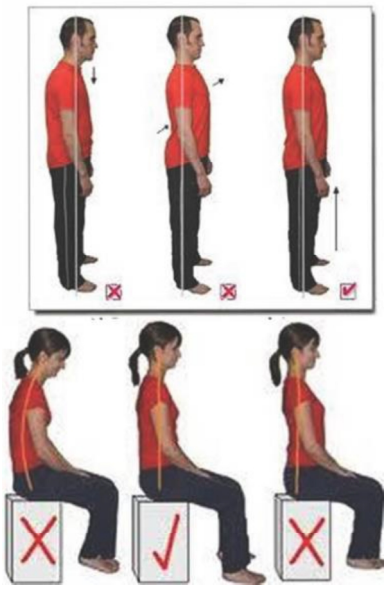


Fig 13.2 Good posture (v) Bad posture (x)

Good posture refers to the way in which you position your body when standing, sitting and walking.

Standing

Stand erect balancing your weight equally on both feet

Sitting

Sit with back straight, hips well back in the chair, head and chest up and shoulders relaxed. Place hands in the lap, one on the other, palms up. If you cross the feet, do so at the ankles and not at the knees.

Walking

The condition of your feet and the kind of shoes you wear have much to do with the way you walk. When walking, always imagine that you are carrying a prized, breakable, heavy article on your head. If you form the habit of bearing the article so that it will not fall, then you are walking gracefully. Avoid swaying hips.

Hair



Fig 13.3 Hair Care

Your hair is your crowning glory so, you should ensure that it is clean and combed in a style to suit your face and the occasion. Shampoo and condition hair when necessary. Rinse thoroughly to remove all traces of shampoo and conditioner. Comb and brush should also be washed regularly. Regular brushing of hair helps to get rid of dirt and dandruff and makes the hair glossy by bringing out the natural oil and leaving a beautiful lustre.

The skin

The skin is the outer covering of the body. The surface of it becomes dirty as it collects waste matter from perspiration.

- oil from skin glands
- dirt from the air around us

If nothing is done to remove perspiration from the skin, the pores will become clogged, resulting in skin irritation, spots, black heads and unpleasant body odour. A daily bath will help cleanse the body and make you feel, smell and look good. Use a clean bath rag to apply the suds to the body. Rinse with cold water to close the pores and dry thoroughly. Use a deodorant to control body odour.

Hands and nails



Fig. 13.4 Care of hands and nails

Your hands send out messages about your personality. Do you knowingly or unknowingly contribute to any of the following?

- Biting of your finger nails
- Tapping your fingers
- Snapping your knuckles
- Using your hands in an affected way when you are talking

The appearance of your hands is an indication of its use. Clean hands are essential to good grooming. Develop the habit of automatically washing hands with soap and water before preparing food or eating after using the toilet and before handling fabrics. Your nails form the protective covering for your finger tips and should be cared daily. Keep them short and well shaped by using a nail file. Short fingers should have long nails and long fingers. Teenager should use a pale or natural tint nail polish. The more exotic colours are used as costume jewellery and should blend with the colour of your outfit. Flaked nail polish and chipped dirty nails are unsightly and detract from a well groomed appearance.

Feet



Fig. 13.5 Care of feet and nails

The foundation of your body, the feet, play a major role in good posture. Problems of the feet, such as corns, bunions, in growing nails and fallen arches are caused by badly fitted shoes. Shoes should be chosen for fit, comfort and fashion. Care feet by washing them daily and drying thoroughly especially between the toes. Cut the toe nails straight across and file smoothly. You may polish your toe nails if sandals are worn.

Summary

WE HAVE LEARNT THAT

- Our clothing gives lots of clues of who we are.
- Clothing may suggest our gender, age, values, mood, personal qualities.
- There are three basic reasons for which we wear clothing:

  - to make living and working easier and more comfortable,
  - to proclaim or disguise our identities,
  - to attract attention.

- Clothing varies according to the occasions for which it will be worn.
- Styles suitable for "fancy dresses" are unsuitable for work, home, sleep or sports.
- Good posture refers to the way we sit, walk and stand.
- Clothing must be selected according to where we are going and the activities we plan to undertake.
- Personal hygiene is part of dress and it involves care of hair, skin, hands, nails, feet and teeth.

14. Sewing laboratory equipment

By the end of this chapter you should know:

- the names of essential pieces of equipment,
- the names of the groups of equipment at least three pieces of equipment new to you
- the names of pieces of equipment in each group
- how to use the basic pieces of equipment.
- how to care them.

Measuring equipment

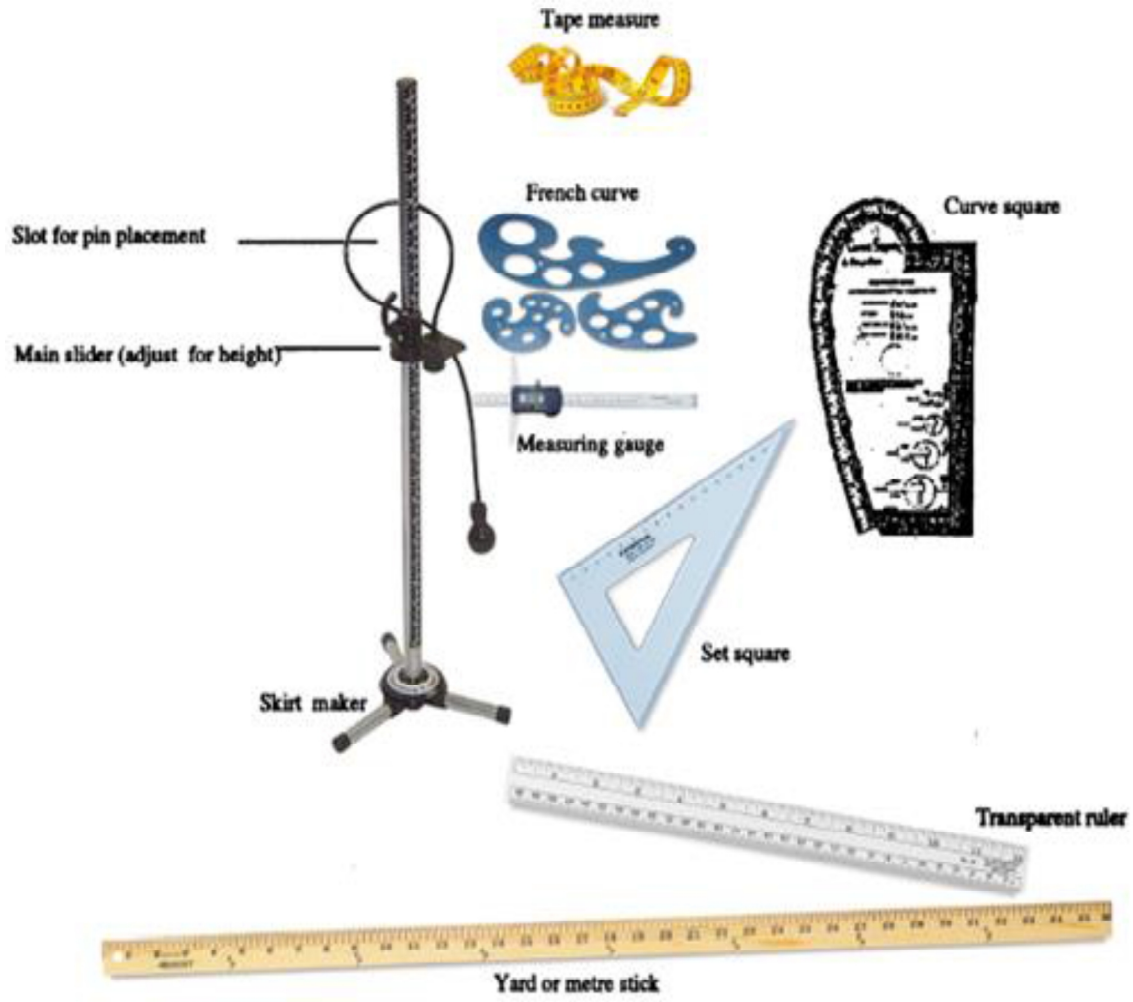


Fig.14.1 Measuring equipment

Tape measures of good quality, made of fabric or vinyl, with metric and imperial markings, are the best choice for taking measurements. These are used to take body measurements, measure pattern pieces and fabrics.

Transparent rulers are clear plastic rulers with plain edges which allow you to see what you are measuring.

Measuring sticks are either yard or metre lengths. They may be made of plastic, wood or metal with smooth edges. They are used for measuring patterns, fabrics and marking hem lengths.

Sewing gauges are small rulers with sliding markers, used for measuring small areas such as hems, button holes, pleats and seams. Some have scalloped edges for measuring scallops.

T-squares have many uses, including checking the straight grain. A triangle or tailor's square can be used.

Skirt markers are easy to use accurate pieces of equipment for marking hems. They are available in different forms. The pin type marker is the most exact and must be operated by two people.Another type has a rubber bulb and powdered chalk and can be used without help.

Curve squares measure curves, seam allowances and button holes.

Marking equipment

Marking equipment will help you to identify important construction points on garments and articles. These can be used to indicate the position of pockets, button holes, hems, collars and other items.

Tailor's chalk or chalk pencil may be obtained as a square, a triangle or a pencil in many colours. Wax is used for wool fabrics. Chalk can be used on all other fabrics. Chalk should be sharpened occasionally for accuracy in marking. Pencils give thin lines. Two colours should be used for different construction markings.



Fig.14.2 Marking equipment

Tracing paper also known as dressmaker's carbon, is a special carbon and is available in several colours for use with a tracing wheel.

Tracing wheels are used to transfer markings from the pattern on to the fabric. There are several types of tracing wheels. The needle like points are used for heavy fabrics. Wheels with saw like points are used for light to medium weight fabrics. There is also a smooth wheel, which works well on delicate fabrics.

Fabric markers are special pens which leave

markings on fabrics temporarily. Test on a scrap fabric before using. Markers for writing cannot be used in place of fabric markers.

French curves have different curved shapes. They are helpful for drawing or alerting curved areas on patterns

Cutting equipment



Fig.14.3 Cutting equipment

Trimming scissors are used to clip thread and trim or cut off extra fabric.

Cutting shears have long blades with either bent or straight handles. The finger holes of shears are different in shape from those of scissors used for cutting fabric.

Embroidery scissors have fine, sharp points an are useful for trimming and snipping fine details or cutting buttonholes.

Buttonhole scissors have an adjustable screw that can be set so that a cut of the required length can be made.

Jersey scissors have blades which are serrated and are useful for cutting knitted fabrics.

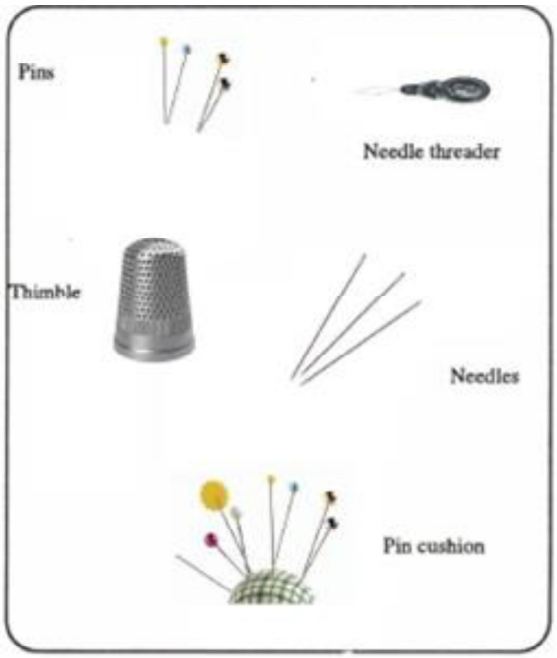
Pinking shears have serrated blades which are used for neatening the edges of non-fraying fabrics. Use them carefully as they are difficult and expensive to sharpen.

Electric scissors are operated by electricity. No finger movement is necessary.

Cutting machines/knives are used in industry. They operate on the principle of the electric scissors. Layers of fabric may be cut with them.

Seam rippers have hook-like points. They are handy for cutting stitches between two pieces of fabrics and button holes.

Sewing Equipment



Needles a needle is generally a thin cylindrical object often with a sharp point and an eye.

Sharps are long oval-eyed all purpose needles.

Between are shorter than sharps with bevelled eyes for very fine sewing.

Darner is a long needle with a long eye to takewool or thick thread through various sized holes.

Milliner is a long round-eyed thin needle used for hand-shirring and basting.

Crewels are used for embroidery. These have long eyes to take the embroidery thread. The lengths are similar to those of sharps.

Bodkin is a thick needle with a blunted end and long eye (sometimes round) used for threading cords, ribbons, tapes and elastic, through lacing-holes or hems.

Beading are straight, fine needles with long eyes, used for threading pearls and beads.

Leather point have small curved blades to slit holes in leather.

Pins a short slender piece of wire with a point at one end and a head at the other, for fastening things together.

Pin cushions a small cushion into which pins are stuck, ready for use.

Bodkin a blunt needle like instrument used for drawing tape, cord, etc, through a loop, hem or the like.

Thimbles a small cap, usually of metal, worn over the fingertip to protect it when pushing a needle through cloth in sewing.

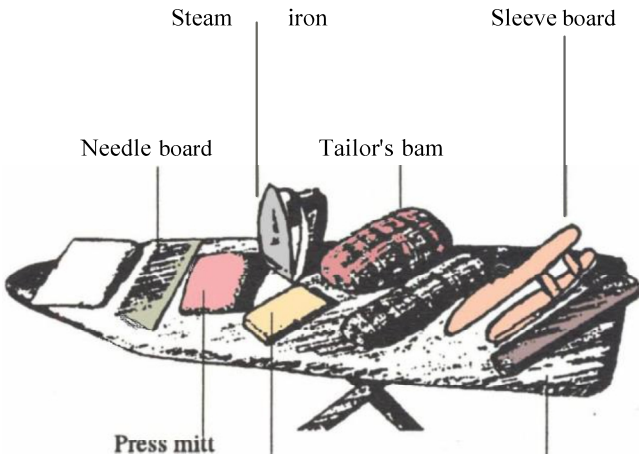
Pin cushions are safe, handy items to store pins while keeping them accessible. Some have a needle sharpener attached for cleaning pins and needles.

Seam Ripper a small tool used for unpicking stitches. The most common form consists of a handle, shaft and head.

Finishing equipment

Finishing equipment refer to those pieces of equipment which are used in Clothing and Textiles for one or more of the following purposes:

- to remove unwanted creases and to mark fitting and stitching lines on fabrics, garments and other textile articles.
- to press construction details such as seams and darts to obtain the desired finish.
- to give a good smooth appearance to garments or other textile articles.



The iron

The iron used may be flat, or dry or dry/ steam /spray. For home sewing purposes the iron used should be fairly heavy and capable of both dry and steam pressing. It should be thermostati- cally controlled so that the correct temperature may be obtained for the fabric type. A spray for dampening stubborn creases is a useful extra featureA well designed iron should have the following features:

- easy to handle and not too heavy
- an insulated and comfortable handle
- a flex, long enough to reach the ironing surface
- a point for ironing into gathers and pleats
- heat up evenly and quickly.

The ironing board

Either an ironing board or a flat surface can be used when ironing. The ironing board is most suitable when ironing shaped garments and articles as it would prevent ironing in creases on the portions not in contact with the iron. The board should be sturdy and adjustable so that it is of comfortable height for the worker. The folding type is recommended for easy storage.

Flat surfaces can be used for ironing flat articles and sections of garments. In Guyana, most tailors use the work/cutting table for ironing. Which ever surface is used it should have a well padded cover which does not wrinkle. Extra thickness of soft material will be needed for pressing embroidery to obtain a raised effect.

It is advisable to use a steam iron on ironing board which is perforated. This prevents the steam from collecting on the board, condensing and making the covering damp.

The sleeve board

The sleeve board looks like a miniature ironing board and is used on top of the normal ironing board. It is used for pressing/ironing narrow areas that will not fit on an ironing board, so it is possible to press/iron a single layer of fabric. It is padded like the ironing board.

The needle board

The needle board is a pressing aid which is made up of rows of fine needles or short wires arranged closely on a heavy duty fabric such as canvas. It is used as the ironing board for pressing pile fabrics to prevent the pile from flattening when pressed.

The tailor's ham

The tailor's ham is a firmly padded ham-shaped cushion with rounded ends. It is used when pressing curved areas such as darts and curved seams. A pressing mitt serves the same function, but it is smaller and can be slipped over a hand or the tip of a sleeve board.

The seam roll

The seam roll is a firmly padded rolled cushion, which is placed under a seam when pressing to prevent ridges from forming along the seam line.

Activities

1. Collect pictures or make sketches of sewing laboratory equipment.
2. Group them according to their function.
3. Paste each into your Clothing Project Book.
4. Write one sentence on the use of each piece.

Summary

WE HAVE LEARNT THAT:

- Sewing laboratory equipment can be grouped according to use.
- Measuring equipment is used for measuring lengths and widths for, and during, construction processes.
- Some pieces of measuring equipment are: tape measure, yard or metre stick, skirt marker and hem gauge.
- Marking equipment is used for marking important construction points:
- Some pieces of marking equipment are: tailor's chalk, chalk pencil, tracing wheel and dressmaker's carbon paper.
- Cutting equipment is used for cutting fabric, threads and button-holes.
- Some pieces of cutting equipment are: dressmaker's cutting shears, pinking shears, electric scissors, trimming scissors and seam ripper.
- Sewing equipment is used to perform the sewing act.
- Some pieces of sewing equipment are: sewing machine, needles, pins and thimbles.
- Finishing equipment is used to give a smooth appearance and finish to items made.
- Some pieces of finishing equipment are: iron, ironing board, sleeve and board.
- Essential pieces of sewing equipment are: scissors, pins, needle, tailor's chalk or chalk pencil and tape measure.

Other pieces may be desirable but not essential for the basic job. The best result can be achieved, if they are used correctly and care is taken in storing them.

15. Fibers of fabric

By the end of the chapter you should know:

- definitions for - textile, fibre, fabric
- sources of fibres
- groups of textile fabrics
- a brief history of cotton
- the main stages in the production of cotton fabrics
- the names of some cotton fabrics
- to identify some cotton fabrics
- to explain some of the finishes applied to improve the quality of cotton fabrics
- the uses of cotton fibres and fabrics
- how to care cotton fabrics



Knilled



Netted



Woven

In our introductory chapter on clothing, we noted the importance of studying textiles. What are textiles?

In the Oxford Dictionary, a textile is defined as a woven fabric. When we examine our socks, school shirt, mosquito nets and some pelon which is used to make collars look crisp, we see that these are all made up differently.



Fused



Felted

Fig.15.1

That definition in is therefore quite unsuitable. The textile dictionary states that the word textile is derived from the latin verb **texere** which means to weave. Traditionally a textile is defined as a woven fabric, but it is now used to describe any woven or non-woven cloth or fabric), that has been made on a loom, knitting machine, spun-bonded or entangled. If it is a structure, made from fibres and retains the characteristics of the fibres, it is textile.

We now know that textiles are made from fibres. What are fibres?

Fibres are minute hair-like structures obtained from plants, animals and man-made sources and are the smallest units in a textile.

Fabric is another word for cloth. Professionally we speak of fabric rather than cloth. A fabric is any construction made of fibres or yarns by weaving, knitting, crocheting, macrame, fusing, bonding, braiding, felting, netting.

Sources of fibres

Fibres are obtained from many different sources, some are produced naturally in our environment while others are made by man. Those produced naturally are called Natural fibres.

Natural fibres from plants

Fibres	Sources
Cotton	the cotton plant
Linen	the flax plant

Cotton and linen are natural fibres obtained from plants. They are called vegetable fibres. Hemp, jute, ramine and sisal are some other vegetable fibres, but they are not used as much as cotton and linen. These fibres consist of cellulose, the material which makes plants strong. Cellulose is composed of carbon, hydrogen and oxygen.

Natural fibres from animals

Fibres	Sources
Wool	Sheep
Silk	Silk worm

Wool and silk are natural fibres because they are obtained from animals. Hair of camel, horse and other animals are also used in textile production, but wool and silk are the most common.

Natural fibre from minerals

Fibre	Source
Asbestos	Rocks

Fibres are also produced from glass, ceramic and aluminium. These fibres have to be processed and refined before they emerge as textiles. Ceramic fibres are used mainly for industrial purposes. Fibres which are not obtained in nature are called Man-made fibres.

Groups of man-made fibres

REGENERATED CELLULOSE	SYNTHETIC
Viscose rayon	Polyamides (nylons)
Cellulose acetate	Polyesters
Cellulose triacetate	Acrylics
	Polyvinyl chlorides (PVC)
	Polyurethane elastomers

Glass (silica) and metallic (aluminium) fibres are often classified as synthetics.

Textiles may be produced from any one of the fibres listed. Each fibre has specific qualities which will determine the behaviour of the fabrics produced from it. It is always best to make good use of the qualities of fabrics rather than trying to change them to make items for which they are unsuitable. The textile manufacturer therefore provides information on fabric type and composition of fibre. This information will assist consumers to choose textiles correctly for specific end uses.

The three main groups of textile fabrics

Apparel fabrics -This group is made up of all the fabrics which are suitable for clothing.



(a) Apparel fabrics

Industrial fabrics -These are furnishing and medical fabrics, carpets and other types used in industries, e.g., conveyor belts, deck chairs, motor car tyres.



(b) Industrial fabrics

Decorative fabrics - These include, metallic fabrics, braids, ribbons, laces, bindings. Most decorative fabrics belong to the group of narrow fabrics.



(c) Decorative

Fig 15.2 Groups of textile fabrics

History of cotton

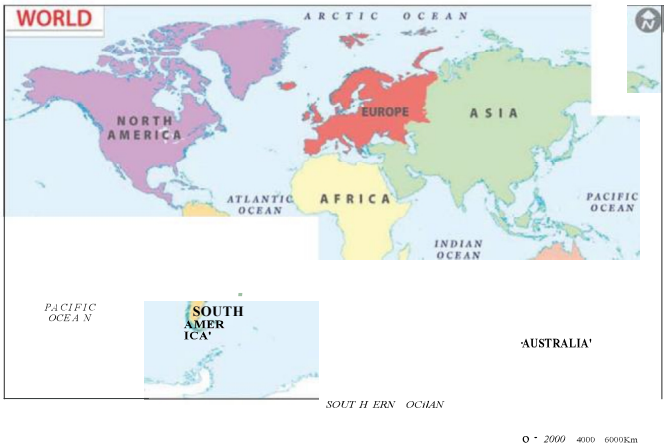


Fig 15.3

Activities

1. Spend a little time examining fabrics in stores.
2. List the names you have seen written on them.
3. Examine garments with labels.
4. List the different types of garments and the names of fabrics stated on each label.
5. See how many samples or photographs you can collect of fabrics used in the three groups. Your teacher will assist in compiling this information in your Clothing and Textiles Project book.

Cotton is derived from the Arabic word **Kutun** which means a plant found in conquered land**.** No one knows precisely when man first used cotton as a textile fibre. Archeologists have produced evidence to support the theory that cotton was used in Egypt as early as 12,000 B.C. Other data revealed that India produced cotton fabrics from about 3000 B.C.

When Columbus and others discovered the New World, they found that cotton was widely used by the Incas of Peru, The Mayas of the Yucatan Peninsula, and the Aztecs of Mexico. Items of clothing and household articles were all made of cotton.

Trade in cotton fabrics started when early European explorers established permanent trade routes to the East. The British East India Company allowed the importation of cotton fab- rics into England. This trade revolutionised the textile industry. Textile manufacturing was done as a cottage industry, as women and children did spinning and weaving as a handicraft activity in the home. Inventions of the steam engine and the Spinning Jenny about the 1770's led to an Industrial Revolution. Mass production and the factory system were introduced.

Lancashire in England became the centre of cotton fabric production in the world, until the first World War. India and China soon developed their own industries and are now the leading cotton producers in the world.

Cotton production



Cotton bolls or seed pods



Cotton flower

Fig.15.4 Cotton bolls and flower

Cotton is the seed fibre of a plant which grows mainly in tropical climates. The main purpose for the production of this plant is to provide lint, the hair like fibres which are attached to the seeds. The cotton plant bears creamy white flowers which become pinkish as they grow older. They finally wither, leaving a bud-like shape called the cotton boll or seed pod. When the boll reaches maturity, it bursts open, revealing a mass of soft white fibres.

These fibres are of varying lengths and quality, depending on the variety of cotton from which the fibres are obtained.

There are three main varieties of cotton fibres.

- Long staple-These fibres range from about 1 ¼ to 1 ½ inches and produce the finest quality cotton fabrics. Sea Island and

Egyption cottons belong to this group.

- Medium staple — American upland fibres 1/ ¼ inches ¾ to inch are medium staple.
- Fabrics produced from these fibres are of medium weight quality.

- Short Staple — These fibres are and below and produce coarse cotton fabrics.
  Asiatic and Indian cottons are of this variety.

The ripe cotton bolls are picked by hand wherever there is an abundance of manual labour. This method of picking is done in China and India. More developed countries employ the mechanical method of harvesting.

Cotton harvested by hand has less trash content (impurities) than cotton harvested by machines. The machines collect leaves and twigs along with fibres.

After harvesting, the cotton fibres are removed from the seeds in a machine called the gin. During ginning, the seeds are separated from the fibres. Some impurities also drop out at this stage. Fibres are graded and packed into bales weighing approximately 500 lbs each and sent to mills for processing into fabrics. Cotton seeds are used for the manufacture of cotton seed oil and stock feed.

STAGES OF PRODUCTION



(a) Carding



1. Ring spinning



2. Weaving on a loom



3. Weaving

When the bales arrive at the spinning mill, they are broken and examined for qualities specified in grade. This verifies sale/purchase agreement and provides essential information for the regulation of machines.

Opening and Cleaning- Cotton fibres pass through a series of machines which loosen them and extract impurities, large sheets of cotton fibres known as ***laps*** emerge at the end of this stage.

Carding- Carding machines open the laps into a filmy web which allows more impurities to fall out. Fibres are brushed and made to lie parallel to each other. The fibres are collected into a soft rope-like form known as a sliver.

Combing— Combing is done only for high quality cotton fabrics. The fibres are combed by fine needles in the machine, to remove short fibres.

Drawing— Drawing machines pull out the slivers and coil several into one. These are called drawn slivers.

Roving— Further drawing out and slightly twisting the diameter of the silver. Rovings emerge at this stage.

Spinning- The roving is converted into yarn on the spinning frame. Some other factories employ open end spinning or mule spinning.

Yarns may be spun in two directions.

Yams are wound on to bobbins and are ready for the weft of the fabric at this stage. Warp yams have to be further prepared before they are ready for weaving into fabric. Some factories sell the yams to other mills for the manufacture of fabric. (In our next chapter we will look at weaving in detail).

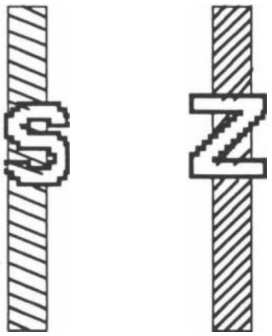


Fig.15.6
The letters illustrate the directions of the twist.

Activities

1. Collect samples of different fabrics which are made of yams.
2. Untwist these yams and see if you can identify the direction of the different twists.
3. Write up your observations in your Clothing and Textile Work book.
4. Identify on themapinFig.l5.3some places where cotton could be grown.

Properties of cotton

- is versatile being suitable for a wide range of garments and articles.
- fabrics absorb moisture easily. The moisture absorbed evaporates making cotton fabrics cool and healthy to wear.
- is easy to sew.
- fabrics are strong and hardwearing. Even the finest and lightest' fabrics can be easily laundered.
- fabrics tend to shrink after first laundering if not specially treated.
- is not harmed by alkalies.
- is strong, its strength increases when wet. White cottons can therefore be safely boiled or bleached.
- Fabries in their natural state crease easily.
- fabrics are mothproof.
- is highly flammable.

Some cotton fabrics

Here are examples of cotton fabrics:

Denim, calico, cambric, terry towelling, corduroy, drill, lawn, muslin, organdie, pique, damask voile, ticking, sateen, garbardine, poplin, seersucker, cretonne, damask

Special finishes applied to improve cotton fabrics

Mercerisation

The treatment of cotton fabrics with a solution of sodium hydroxide, under tension. This gives the fabric a lustre and improves its affinity for dyes.

Crease-resistant

A finish that minimises the tendency of fabrics to crease and helps them to shed wrinkles.

Flame-resistant

A special treatment which prevents fabrics from burning easily. Also known as Proban finish.

Sanforisation

A finish which prevents shrinkage during laundering. Fabric is pre-shrunk before appearing on the market.

Durable press

Fabrics are treated so that they may be hung to drip dry. They need little or no ironing.

Uses of cotton



(a) Apparel



(b) Industry



(c) At home

Fig. 15.7 Uses of cotton

Care of cotton

Cotton without special finishes



White cottons without special finishes. Maximum machine action.



Colours are fast at 60°C. Medium machine action.



Colour fast at 40°C but not at 60°C. Medium machine action.



White cottons only.



May be tumble dried.



Hot iron.

Cottons with special finishes



White cottons. Medium machine action.



Colours fast at 60°C Minimum machine action.



Colour fast at 40°C Minimum machine action.



Drip-dry. Do not tumble dry (All colours)



Hot iron

Do not store cottons while damp. They will develop mildew. Air before storing.

Identifying cotton



Fig. 15 .8 Cotton symbol

Burning

Cotton gives off a smell similar to that of burning leaves or paper. It burns in and out of the flame leaving a soft grey ash.

Microscopic examination

Cotton fibres are flat and twisted.

Chemical tests

Cotton fibres are destroyed by sulphuric acid.

Staining

I.C.I. is a dye and chemical company, which provides a special product that is used for staining fabric samples. These samples are matched with colours for each fibre type.

Cotton fabrics with special finishes smell like bad fish when burnt. The ash forms a blackened skeleton of the original yarn or fabric.

Note:- Most manufacturers provide information on fibre content in fabrics. This information can be found on swing tags, selvedges, or at the end or beginning of a piece length.

Activities

1. Check fabrics in stores for information printed on them. Write down all the information you have seen.
2. Collect samples of fabrics labelled cotton.
3. Look for some cotton fabrics with special finishes. Compare them with others without special finishes.
4. Collect other samples of fabrics which look like cotton.
5. Do some of the tests to find out if they are cotton.
6. Check some cotton samples for :-
   (i) Crease resistance.
   (ii) Flame resistance.
   (iii) Shrink resistance.

Your teacher will provide instructions on how to carry out these tests and assist you in writing up results in your project book.

7. Collect samples of all the different types of cotton fabrics you can find. Mount them in your book and write the name of each piece near to it.
8. Collect pictures of garments or articles which can be made in cotton.
9. Mount them in your book.
10. List the care-labelling symbols you will find on:-
    (i) cotton fabrics with special finishes.
    (ii) cotton fabrics without special finishes.

Summary

WE HAVE LEARNT THAT:

- Textiles are products of fibres which retain the characteristics of the fibres.
- Fibres are the smallest units in a textile.
- Fabrics are made from fibres or yarns by many different construction processes.
- There are 3 main groups of textile fabrics.
- Fibres may be obtained from natural or man-made sources.
- Cotton is a natural fibre obtained from plants which grow mainly in tropical climates.
- There are different varieties of cotton fibres. The longest produces the finest fabrics. The shortest produces coarse fabrics.
- Cotton fibres are passed through many stages before they become fabrics. Main stages are:- Ginning, carding, spinning, weaving or knitting.
- Cotton fabrics are absorbent making them cool and comfortable to wear. They crease and bum easily and shrink when washed.
- Special finishes may be applied to improve these qualities.
- Cotton fibres are strong and versatile- fabrics produced from them can withstand hard-wearing and are easy to launder.

16. Fabric Structures

By the end of this chapter you should know:

- About the different ways of making fabrics.
- How to identify fabrics that are felted, fused, woven, knitted, crocheted and braided.
- The basic terms related to yarns and fabrics- single and plied (yarns) warp, weft, selvedge for fabrics.
- How to compare woven and knitted fabrics.

Fabric structures are formed when textile fibres are combined, using different techniques, to produce fabrics.

There are two basic ways of combining fibres to produce fabrics.

Method I

- Fibres–fabrics

Method II

- Fibres–yarns-fabrics

Fibres-fabrics

Non-wovens

Non-woven fabrics are those produced as a result of method (1). Fabrics are made directly from fibres. Textile fibres are bonded or interlocked by mechanical means, using heat or chemicals, to form flat layers.

Felt and **pelon** are two examples of non-woven fabrics.

Felt is made by applying moisture, heat and pressure to short wool fibres. This process interlocks them in a matted layer. The technique used here is known as felting. Felting is said to be the first method used by man to produce fabrics.

Pelon is produced by a method slightly similar to that of felt. The fibres used are cotton or rayon, which do not matt naturally like wool, so a bonding agent has to be used. This technique is known as fusing.



Fig. 16.1 Non-woven fabrics

Woven, knitted and other types of fabric structures are formed from fibres spun into yarns then made into fabrics.

Fabrics made as a result of the weaving process are the only ones which are really woven, but the name non woven is only used to describe fabrics made directly from fibres.

Fibres- yarns- fabrics

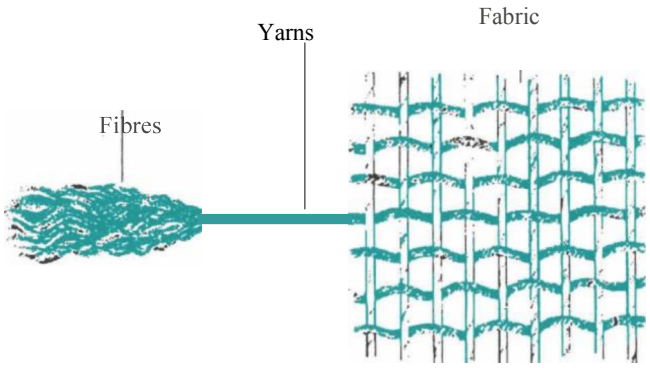


Fig.16.2: Weaving

Yarns

Fibres spun into yams make continuous lengths known as filaments. Silk and all the man-made fibres are produced in filament form. Cotton, linen and wool are **staple** fibres which are made continuous for processing into fabrics.

We read in the last Chapter that cotton fibres may be spun in directions of S or Z twists. The purpose of these twists is to bind the fibres together to give them strength.

Single yarns

These are the simplest and are made from strands or filament fibres twisted together.

Plied yarns

Two or more single yarns are twisted together to form plied yarns. A ply consists of two or more single yarns twisted together to form one, e.g., a two-ply yam would consist of two single plys, similarly a three- ply, three single plys. Plied yams are stronger and make better quality fabrics.

Cabled yarns

Cabled yams consist of two or more plied yarns twisted together. They are used mainly for heavy industrial fabrics.

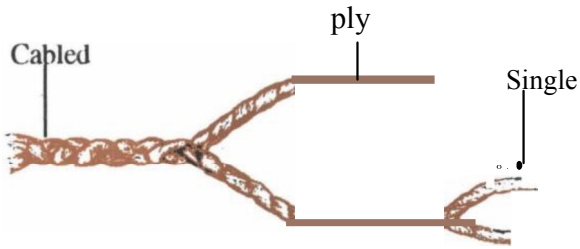


Fig. 16.3: Different types of yarn

BLENDS

Whenever two different types of fibres are combined, the yarns produced are said to be blended, e.g., cotton and polyester, or rayon and polyester will produce cotton/polyester or rayon/ polyester blends.

MIXTURES

Whenever two different yarns are used the fabric produced is said to be mixture, e.g., warp yams are cotton and weft yarns are rayon.

COUNT

The count is a unit of measure used to denote the fineness or coarseness of a yarn. (This term is only applied to cotton, linen, wool, spun silk and rayon yarns). The higher the count, the finer the fabric will be. The lower the count, the coarser the fabric will be, e.g., a 60 count yarn will produce a fine quality fabric while a 18 count yam will produce a coarse quality fabric. This factor is responsible for cottons being available in fine qualities as lawns and voiles, and also in heavy qualities as drills and canvases.

Silk and other filament yarns are measured in denier. This system is the opposite of the count. The lower the denier number the finer the yarn will be. (Check the denier number on the packet the next time mummy buys stockings).

Tex and **Decitex** are newer systems which fit into the metric system of measurement. They have replaced both count and denier systems. (This will be explained in more advanced studies).

Weaving

Weaving is one of the early techniques used in fabric manufacture. A history of dress informs us that weaving was in use long before man knew to cut and shape garments for sewing. Woven lengths of fabrics were some of the early pieces of clothing.

Weaving is a process of forming fabrics on a loom by interlacing lengthwise and crosswise yarns with each other.

The lengthwise yarns are called warp yarns or ends.

The crosswise yarns are called weft yams or picks.

The weaving process consists of three basic operations.

SHEDDING

Forming of sheds between the warp yarns to allow the insertion of weft yarns.

PICKING

Inserting weft yarns between the warp shed formed.

BEATING-UP - Beating up each individual weft yarn as it is woven across the warp.

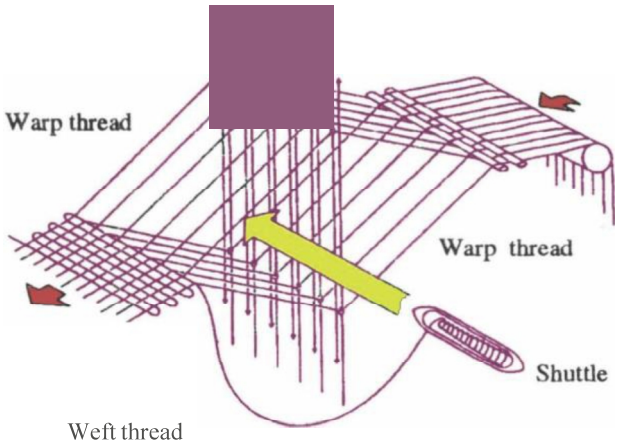


Fig. 16.4 The weaving process

The ribbon like edge formed on each length-wise side of a woven fabric is called a selvedge.

Woven structures may be divided into two main categories.

Simple structures

Warp and weft yarns interlace each other at right angles. There is only one series of warp yarns and one series of weft yams in these structures.

Compound structures

There are more than one series of warp and weft yarns. Some form the base of the fabric while others form decorative surface textures.

There are three basic weaves despite the many variations in woven fabric appearances.

These are:-

- plain weave.
- twill weave.
- satin or sateen weave.

THE PLAIN WEAVE



(a) Plain weave (b) Hopsack- variation of plain weave

Fig. 16.5 Samples of the plain weave

The plain weave is the simplest form of interlacing and most frequently used. One weft yarn passes over one warp yarn alternately. It produces a firm and strong fabric, ranging from lightweight cambric to coarse heavy canvas. Lightweight fabrics have to be made in plain weave in order to prevent distortion in the finished fabrics. Ribbed fabrics are also done in plain weave.

Basket or hopsack and hair-cord weaves are variations of the plain weave.

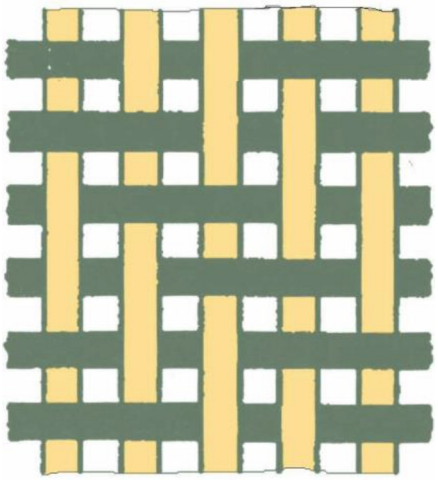
Some plain weave fabrics are cambric, lawn, organdie, poplin, voile, crepe, suiting, chiffon, taffeta, mull.

TWILL WEAVES



(a) Herringbone twill

(b) 2 x 1 Twill



(c) 2 x 2 Twill

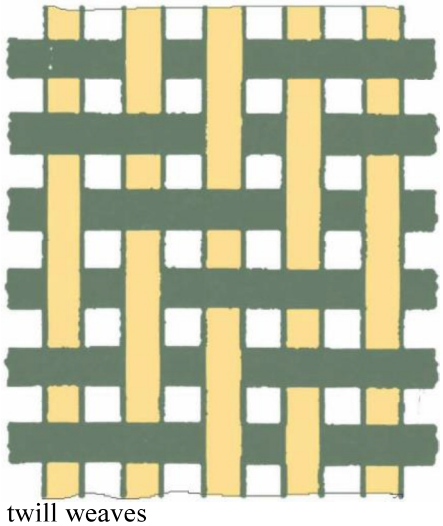


Fig 16.6 Types of twill weaves

The twill weave forms diagonal lines across the fabric. This weave is used to provide surface decoration, greater weight and better draping quality. Herring bone is one variation of twill weave.

Some fabrics made in the twill weave are denim, flannel, garberdine, twill and drill.

SATIN OR SATEEN WEAVE

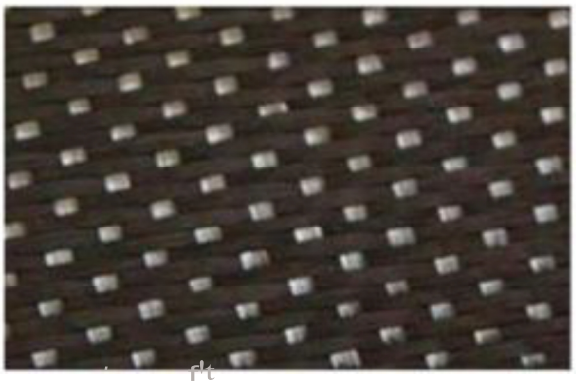


Fig. 16.7 Satin or sateen weave

Satin or sateen woven fabrics have weft and warp yarns floating on their surfaces. This results in smooth and lustrous fabrics. Sateen fabrics are those with the weft faced floats. Satins are those with the warp faced floats. (These can be clearly seen, if examined under a microscope.)

Some satin/sateen fabrics are slipper satin, lining satin, sateens (cotton fabrics), satin, damask and brocade.

Attachments to the basic looms allow for a wide range of complex structures called fancy fabrics. Diaper fabrics and a wide variety of the jacquard range are produced on these machines.

Pile weave

Pile weaves are formed when additional series of warp and weft yams form a pile on the surface. Pile yams may be cut or uncut in the fabric.

Corduroy and velvet are examples of cut pile fabrics. Terry towelling is an example of uncut pile fabric.



Fig.16.8 Pile weave

KNITTING

Knitting is not as old as weaving. It is said that it originated sometime around the Christian era. It was first a leisure activity for ladies. Knitting is now a common method of fabric construction, highly mechanised like weaving.

Knitting is formed by a series of interlocking loops, using one continuous length of yarn with two or more needles. The loops stretch and make the fabric more flexible than woven fabric. This quality makes knitted fabrics suitable for garments to be worn for exercising.



Fig. 16.9 Knitting

Weft knit fabrics have ribs across the fabric. Warp knit fabrics have ribs along the length of the fabric. These correspond to warp and weft yarns in a woven fabric

CROCHET

Crochet, like knitting, started as a leisure activity for ladies. It is worked with one continuous yarn, like knitting. Collect samples of fabrics which are :

A hook is used for forming the loops, in contrast to needles used in knitting.

Crochet a French word meaning a hook, is one of the easiest textile constructions to work. It also produces the quickest results. Crochet is not as elastic as knitting. It may be worked as edgings, or as collars, bedspreads, chairbacks and dresses.



Fig. 16.10 Crochet

BRAIDING



Fig. 16.11: Braiding

Braiding or plaiting is a process of interweaving or interwining strips of fabrics diagonally and lengthwise. There are two forms of braiding, tubular and flat. Braid is a narrow fabric used for trimming. Some braided fabrics are cords, elastics, rick-rack braids.

Activities

1. Collect samples of fabrics which are
   - (a) felted
   - (b) fused
   - (c) knitted
   - (d) braided
   - (e) woven
   - (f) crocheted
2. Examine them carefully to see the different methods of construction.
3. See if you can identify
   - (a) the plain weave and variations of the plain weave.
   - (b) the twill weave and variations of the twill weave.
   - (c) satin and sateen weaves.
   - (d) warp and weft knitted fabrics.

Your teacher will assist in the arrangement of these with the necessary notes, in your project book.

Summary

WE HAVE LEARNT THAT:

- There are two ways of combing fibres to produce fabrics.
  - (a) fibres- fabrics
  - (b) fibres - yarns - fabrics
- Only fibres - fabrics are called non-woven fabrics.
- Yams may be single, plied or cabled.
- Plied yarns are strong and are used to make regular fabrics.
- Fabrics may be made in simple or compound structures.
- Woven fabrics have two sets of yarns interlaced at right angles to each other. Warp yarns are parallel to the selvedge along the length of the fabric. Weft yarns are across the width of the fabric from selvedge to selvedge.
- Cords, elastic and shoelaces are some examples of braided fabrics.
- There are 3 basic weaves.
- Knitting and crochet were originally leisure activities for ladies.
- Knitting is done with two or more needles using a continuous length of yarn.
- Crochet is worked with a hook using a continuous length of yarn.

17. Sewing Techniques

By the end of this chapter you should know:

- what factors to consider when choosing fabrics.
- different width of fabrics and their uses
- how to prepare fabrics for sewing
- how to use a tape measure
- methods of transferring pattern markings onto fabrics
- how to cut fabrics
- the different groups of stitches and their uses.

Choosing fabrics

In the previous chapters we learnt about the types and sources of fibres and methods used for constructing fibres into fabrics. Now that we have some knowledge of the structures of fab1ics available, it is necessary for begin**nears** to know what factors should be taken into consideration when choosing fabrics.

THE ARTICLES TO BE MADE

Is it a dress, shirt, pants, suit, bed sheet, soft toy or curtain? Available in the stores are fabrics specially made for each of these. They can be obtained in a variety of colours, designs, textures, weights and widths. Thin lightweight fabrics are often on rolls, medium/heavy weight fabrics are generally folded then wrapped round flat pieces of board. The most commonly available fabric widths are 90 cm (36. in), 115 cm (45 in.), 140 cm (54 in.) and 150 cm (60. in.).

Below is a table of fabric widths and their uses.

FABRIC WIDTHS		USES
Imperial	Metric	
36 in.	90m	Dress
45 in.	115m	Dress
48 in.	122m	Furnishing
54 in.	140m	Suiting
56 in.	142m	Furnishing
60in.	150m	Dress and Furnishing
68 in.	172m	Furnishing
72 in.	182m	Suiting and Furnishing

THE CAPABILITY OF THE PERSON

The fabric chosen should be within the worker 's ability to handle. Beginners should choose fabrics which, while being pleasing to the eye, are easy to handle. It can be most discouraging to the keen but inexperienced worker to have to wrestle with difficult fabrics, for example, those which fray easily, are limp, and easily creased.

Knowledge of how to deal with different fabrics can only be obtained from experience. This can be acquired gradually with skill in managing simple fabrics achieved first. Cotton or a blend of cotton/polyester, of at least 50/50 combination is recommended for the beginner. Blends with a higher percentage of synthetic fibres and many of the one hundred percent man-made fabrics are very springy and therefore more difficult to handle.

FABRIC TEXTURES



Fig. 17.1 Samples of fabric textures

The feel and behaviour of a fabric will determine its suitability for the article or garment to be constructed. Each fabric has certain characteristics of the fibre which determine its performance. It is important that the nature of the fabric is fully understood so as to use it successfully.

Some fabrics pleat, gather and hang better than others. So, care must be taken not to buy crisp fabrics for soft draped effects; napped fabrics for a style requiring tucks; springy ones for fully gathered styles.

THE DESIGN ON THE FABRIC

For the beginners a plain woven or all over designed fabric is the best suitable. Checks, plaids, stripes and diagonal prints should be avoided these require extra time and skill for cutting out, preparing and sewing this can be very discouraging to any one learning to sew.

USE **AVOID**



Fig.17.2 Industrial and textile materials

INDIVIDUAL PREFERENCES

We all have favorite colours and like to wear them. Our choice of colour is made on the basis of our **hair** and **skin** colouring.

Individuals also use fabrics to enhance and disguise figure features. A slim person may buy a slightly bulkier fabric than a heavier person. Teenagers can choose fabrics that have larger prints than those for toddlers. A short and plump person may make use of vertical stripes while the person who is tall and slim may use horizontal stripes.

THE OCCASION

Is the fabric right for the occasion? Some fabrics are definitely dressy or formal. These include silk, satin, velveteen, brocades and metallic fabrics. Cotton, many synthetic and blends, on the other hand, are good all-purpose fabrics.

The climate or season in which the garment is to be worn should also be considered. Warm fabrics, such as wool, are for cold climates and cotton for hot climates.

CARE

When choosing fabrics, consider after-care just as much as when buying a ready-made garment or article. If a fabric requires dry cleaning or hand washing, it will cost more in terms of time and money. A garment to be worn often must be made of machine washable fabric.

If the garment/article design requires two pieces of fabric, it is important that they should both be dye-fast, washable at the same temperature, or that both may be dry-cleanable.

FABRIC DEFECTS

Look for faults and damage when buying fabrics. A fabric should be evenly dyed. Plaids or other designs that are printed on the fabric must be neat and unblurred. Check carefully for these defects which are marked with strings, threads, and tape on selvedges for easy identification. Some fabric stores make an allowance on the length in compensation, but the consumer should insist on a faultless length.

THE COST

Fabrics come in a wide range of prices. As such, it is not advisable to buy the most expensive or the cheapest fabric to make your first article/ garment. A cheap fabric may be hard to cut, unravels the minute you cut it, slippery to handle wrinkles easily and/or is difficult to sew.

Prices should be noted and reasons for difference in cost appreciated. For instance, two cotton fabrics which appear very similar in weave, colour, design and weight may show considerable differences in price. On investigation, it may be found that one has a special finish, such as 'drip-dry' or 'crease-resistant', while the other has none, or they may be of different widths.

It is a good principle always to buy the best fabric that can be afforded and to remember that a good cotton is preferable to a more glamorous, but shoddy rayon of the same price.

Activities

1. Collect fabric cuttings/samples (larger pieces will be best) and keep them in a 'bit bag'. These samples will assist you in gaining knowledge and understanding of the various types of fabrics.
2. Attempt to group the fabric samples into those suitable for dress, suiting and furnishing.
3. Study the fabric cuttings for texture and pattern design. Paste in your Clothing Project Book a 2-inch square sample of each of the following designs :-
   (a) woven
   (b) printed
   (c) one-way
4. Study fabric cuttings for 'feel' and behaviour.
   (a) Feel the weight and compare one with another.
   (b) Hold the fabric cutting in your hand, crush it, open your hands, see if it creases, and if does, does it recover? Does it feel hard or soft?
   (c) Try to stretch it -pull and see if there is little or no 'give' at all.

Preparation of fabric

Ironing

Some fabrics become creased when they are folded. Ironing is the first stage in the preparation of fabric. This is done basically to remove creases, and ensures the fabric lies flat on the cutting/working table.



Fig. 17.3 Ironing fabric

Iron the fabric on the wrong side to smooth away creases. A steam iron can be used for cotton and cotton blends, but for wool and wool mixtures use a damp muslin and dry iron. Make sure your ironing is evenly done over the entire length of fabric, keeping the movement of the iron with the lengthwise grain of the fabric. Press out the folded line, if there is one.

Straightening

Several methods are used to straighten fabrics. At this stage we will discuss those used for straightening woven fabrics Fig. 17.4.

- Cut approximately 2.5 c m/inch into the selvedge, with scissors as seen. Pick up one or more weft threads with a pin. Take hold of the thread and pull gently, slipping the material along

the thread, with the other hand. Cut along the line shown by the pulled thread, as far as it is visible.



Fig. 17.4 Straightening fabric

Should the thread break, continue cutting along the line it has made until the end can be picked up again. Repeat the pulling and cutting sequence until you reach the other selvedge. Fold the fabric in half lengthwise and check if the cut edge is level. If the cut edge does not meet correctly, you will then need to straighten the grain.

To straighten the grain, pin the cut edges and the selvedges. Wrinkles will form on

the fabric. Iron the fabric along the lengthwise grain with a steam iron, avoiding the fold and pressing out the wrinkles. If necessary, repeat this along the crosswise grain.

- If the material is ribbed, checked or woven (not print) with a pattern use this as a guide for cutting from one selvedge to the other. Check the material to see if it will tear approximately 2.5 cm/ 1 inch from the end snip into one selvedge with scissors. Tear sharply to opposite side then cut the selvedge. If the fabric tears easily, repeat the tearing process at other end.

(**Note:** Linen fabrics should not be torn on the crosswise (weft) threads.)

- Napped or pile fabric should be cut on a thread. Unravel threads on the weft edge until one thread can be pulled off the whole width of the fabric.

Measuring

Measuring is a means of estimating the amount of fabric needed for the garment or article to be constructed. Measuring is also necessary to ensure correct fit and finish of the article/ garment. The equipment used for measuring have been identified and discussed. The tape measure is the most frequently used from the list of measuring equipment. Following is a table of sewing measurements which students usually find difficulty in locating on the tape measure. Some of these measurements have been identified on the tape measure for further clarification.

Measurement equivalents are more useful than exact conversion.

Imperial	Metric
$\frac{1}{16}$ in	2 mm
$\frac{1}{8}$ in	3 mm
$\frac{1}{4}$ in	6 mm
$\frac{3}{8}$ in	10 mm
$\frac{1}{2}$ in	13 mm
$\frac{5}{8}$ in	15 mm
$\frac{3}{4}$ in	20 mm
$\frac{7}{8}$ in	22 mm
1 in	25 mm - 2.5 cm
1 $\frac{1}{4}$ in	32 mm - 3.2 cm
1 $\frac{1}{2}$ in	38 mm - 3.8 cm
1 $\frac{3}{4}$ in	45 mm - 4.5 cm
2 in	50 mm - 5.0 cm

Fig.17.5 Section of tape measure, showing metric and imperial measures

Marking

In Chapter 13, we identified the equipment for marking and their uses. When preparing fabric, use these pieces of equipment to mark cutting and stitching lines and apply designs onto fabric.



(a)



(b)



(c)

Fig. 17.6: Marking of fabric

If the tracing wheel and dressmaker's carbon or tailor's chalk or pencil is used, care must be taken to ensure that no marking is visible on the right side of the garment/article when completed. If pins are used, use the right size for the fabric texture. Coarse pins used to mark a fine fabric will leave holes in the fabric. Be sure to use dressmaker's steel pins with sharp points, as other pins bend easily. Sizes range from 2.5 cm 4.5cm (1 in- 1 ¾ in). Short pins are best for use on paper and thin fabrics and longer ones for heavier and thicker fabrics.

Cutting

Use very sharp shears — do not use pinking shears- these are for neatening. Cut away from yourself to avoid accidents. Keep the fabric as flat as possible, placing one hand flat on the fabric while cutting do not lift the fabric or the shape of the pattern will be distorted. Cut along straight edges with long, smooth even strokes using the whole length of the blades.



Fig. 17.7: Cutting of fabric

Use the points of the shears to cut corners, curves and small details. Keep the bottom of the shears touching the table, while cutting.

Activities

1. Using fabric cuttings from your 'bit bag', prepare a sample of each stage in the straightening of woven fabric, using the drawn thread method. Mount the samples in your Clothing Project Book.
2. Sketch a fruit or vegetable on a piece of paper.
3. Cut out the pattern.
4. Using a plain piece of fabric, pin and cut out the fruit or vegetable, using the information provided on the cutting out of fabric.
4. Paste the cut-out pattern into your Clothing project book.

Basic stitches

Stitches are to fabric as nails are to wood. As such, it is necessary to know stitches, their uses and the general rules for working them.

General rules for working stitches by hand

- Select the correct stitch for the work to be done.
- Choose a needle which is suited to both fabric and thread. Heavy fabrics need thicker needles. Thin fabrics need fine needles. Natural fabric - natural thread, synthetic fabric– synthetic thread.
- Fasten on and off securely.
- Wear a thimble, especially when sewing firm fabrics to protect the finger tip from being pierced. It also helps to make stitches regular.
- Work one stitch at a time to prevent the thread from knotting and to help ensure straight stitching. If the stitch is incorrectly worked, it is easier to unpick one stitch instead of several stitches.
- A void pulling stitches too tight as this causes puckering.
- When threading the needle for sewing, it should be threaded with the end left on the reel and this used as the shorter of the two lengths of thread. In this way, the thread will be used in the same direction as that in which it has been twisted; it will be less likely to knot or fray.

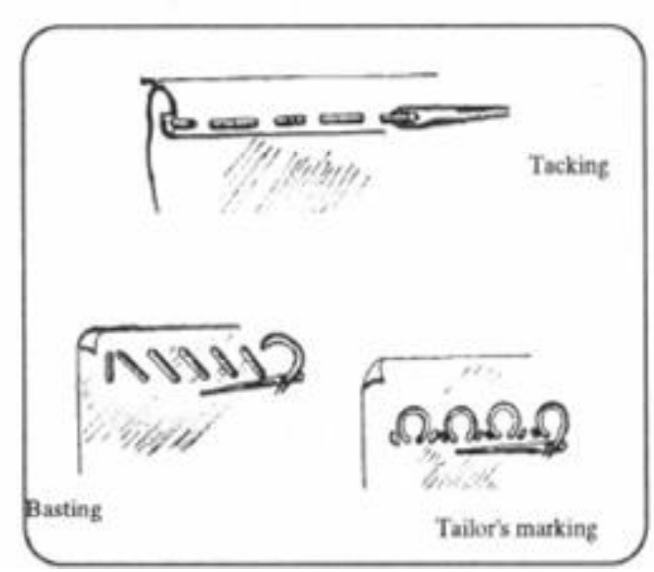
GENERAL RULES FOR WORKING STITCHES BY MACHINE

Choose the right type of thread and the right type of needle; change the needle, if necessary. A sharp-point needle is recommended for sewing woven fabrics, a ball-point for knits and a wedge-point for leathers and vinyls.

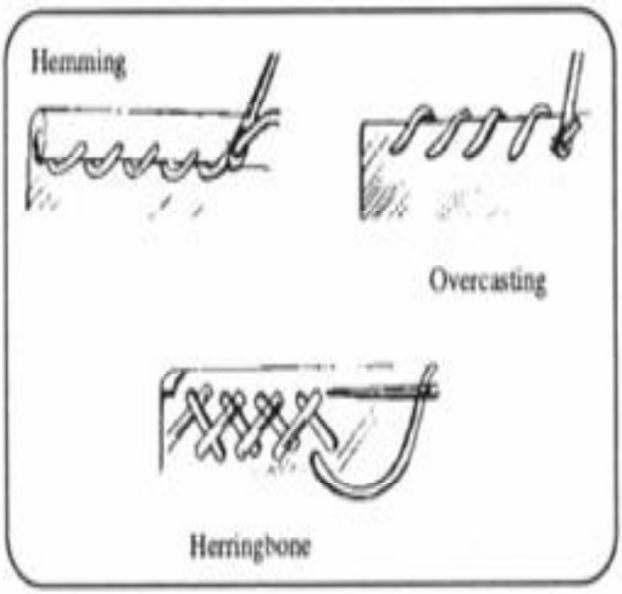
Classification of stitches

Stitches can be divided into two groups - Temporary and Permanent

1. Temporary Group

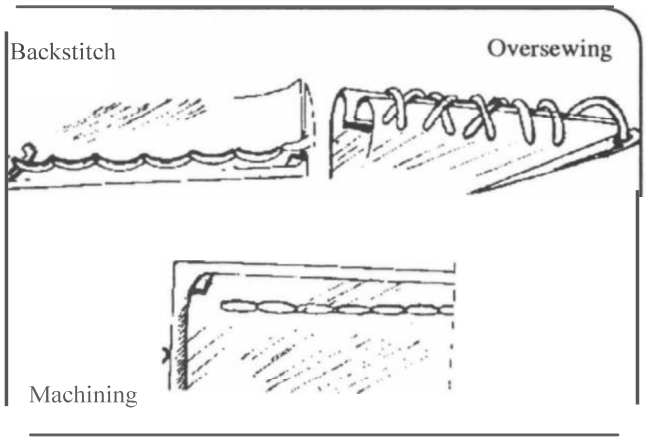


- Neatening

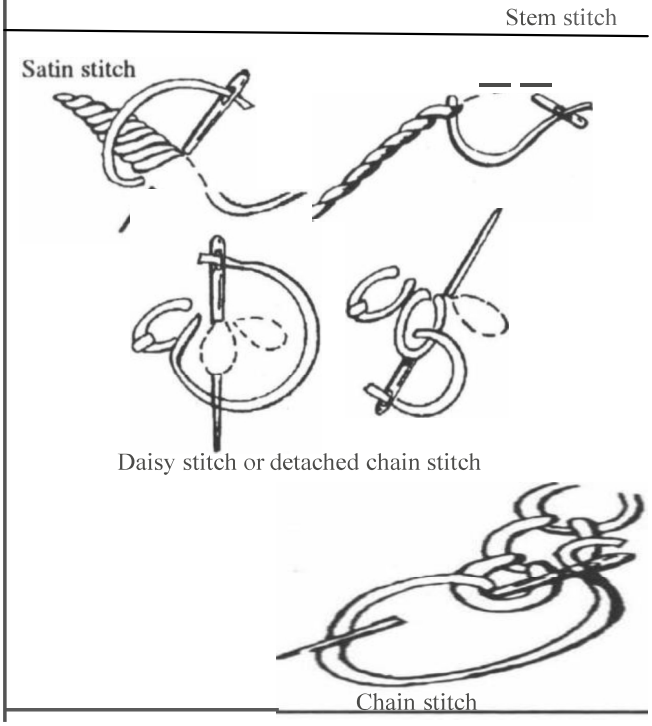


2. Permanent Group

- **Joining**



- **Decorative**



Temporary stitches

Temporary stitches are used to keep layers of fabric together temporarily after pinning. They are removed after the permanent stitch is worked. Use a cheap and contrasting thread so as to make it easy to remove.

- **Even and long and short tacking -**are used to hold seams in position for stitching.
- **Diagonal tacking –**is used to hold layers of fabric firmly together within an area. It keeps the fabric flat where a row of tacking could cause a ridge.
- **Tailor's tacking-** is used for transferring markings from a paper pattern unto double layers of fabric. Use it to mark seam lines, darts, tucks and other construction symbols.

Permanent stitches

Permanent stitches are used for different purposes and should last throughout the life of the garment.

- **Joining stitches-** are used to join two or more pieces of fabric together. Thread matching the fabric type and colour must always be used.
- **Neatening stitches -** are used for securing hems and turnings and for preventing raw edges from fraying. Thread matching the fabric type and colour must be used.
- **Decorative stitches-** are used to give and/or add a colourful finish to a garment or article. Some neatening stitches such as loop stitch and herring boning can also be used as decorative stitches. Matching or contrasting threads may be used.

Activities

1. List the brand names of natural and synthetic threads available in your country.
2. Paste six (6) different types of hand sewing needles in your Clothing Project Book and state the use of each.
3. Name and sketch ten (10) decorative stitches.

Summary

WE HAVE LEARNT THAT:

The factors to consider when choosing fabrics are:

- the article to be made
- the capability of the person using the fabric
- fabric texture
- design on the fabric
- individual preference
- the occasion
- cost
- care.

Fabrics are available in different widths which suggest their end uses.

to prepare fabrics for sewing we must :

- iron to remove creases.
- straighten end.
- measure required amounts.
- transfer pattern markings.
- cut out, using sharp cutting shears.

- Stitches may be temporary or permanent; the names suggest their uses.
- Temporary stitches are: tacking, basting, tailor's marking.
- Permanent stitches are: joining-backstitch, machining, oversewing.
- Neatening stitches are: hemming, zigzag stitching, overcasting, and herringboning.

-Some decorative stitches are: stem stitch, satin stitch, chainstitch, laisy daisy.

18. Design & Color

Creating your own design

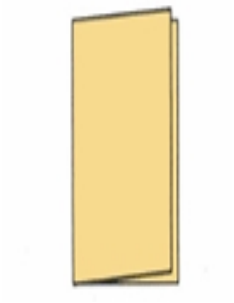
In this chapter we will look at simple ways of creating designs for embroidery and other decorative projects.

By the end of this chapter you should know:

- how to create simple designs for decorative projects
- to explore your environment for ideas for design and colour
- basic colour principles
- equipment and threads used for embroidery
- basic groups of embroidery stitches
- how to work basic embroidery stitches
- how to do applique work.

Designing with paper

Collect pieces of coloured or plain paper. Cut them in squares or circles. Fold each piece in six or eight. Cut shapes along the folded edges as shown in Fig.18 .2.



(a)

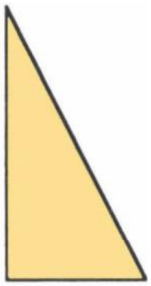


Fig 18.1: Folding paper

(a)





(b)

Fig. 18.2 Opening fold after cutting paper

Have fun folding and cutting. Cut as many designs as possible. Compile designs in

(b)

scrapbook for use later. Cut paper designs may be used on tray cloths, pillowcases, towels, table napkins and matching tablecloths, embroidered pictures.

Designing with lines and shapes

Collect all the odd bits and pieces found around the home. e.g. safety pins, clothes pegs, scissors, different sizes of keys and padlocks, designs on grill work of doors, windows, gates, fences. Use each of these and arrange in different ways to form designs. Combine two or more shapes or shapes and lines to form designs.

BASIC SHAPE

Basic shape repeated to form designs.

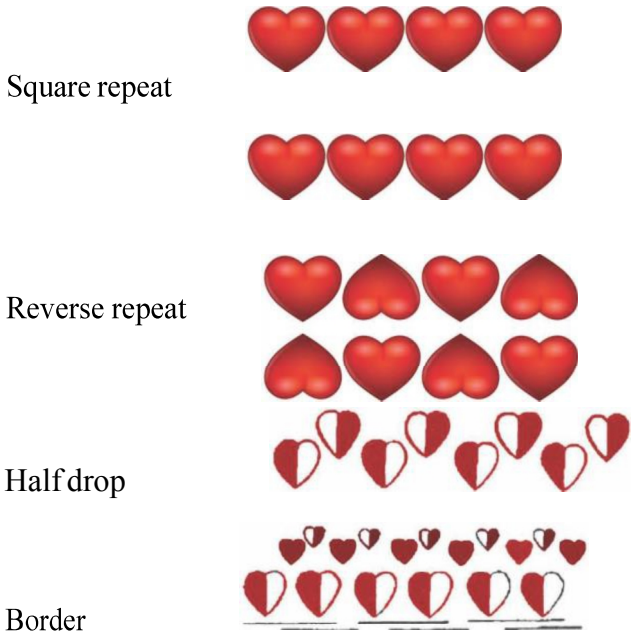


Fig.18.3 Designing with shapes and lines

Teachers of art can be asked for assistance in arrangements of shapes to achieve correct proportions of line, form and balance, essential elements in a design.

Designing from nature

Explore the environment- look at plants, flowers, fruits, sunrise, sunset and other interesting scenes. Collect clippings of these from books or magazines.

Example of ideas from nature.



Fig. 18.4 Designing from nature

Practice drawing them, noting details

Art teachers can also assist in drawing techniques here. Designs can be created in many ways other than the ones introduced in this chapter. It is hoped that these ideas will stimulate interest and encourage creativity as we explore our environment. Some of us might be skilled in the art of drawing and find designing from nature more exciting. Others, who are not gifted with that skill, can create interesting original designs, utilising other techniques. All of these can be developed with practice.

Consider colour

Colour plays a very important part in our lives. Just think what the world would be like if everything were colourless. In the absence of colour, our environment will be drab and meaningless. Imagine no beautiful blue skies, multi-coloured flowers, gay clothing and all the things we take for granted.

Having created designs, it is now necessary for us to reproduce them in attractive forms and colour so that they will be pleasing to the eye. When they are pleasing to look at, we say they are beautiful. It is important that we enjoy some beautiful things in life. Beauty makes us cheerful and happy. Nature has provided quite a few beautiful experiences which can contribute to our happiness. Happiness helps to create healthy minds and bodies.

Colour in nature

Look around at our natural beauties. The rainbow, birds, flowers and fruits in a variety of colours, leaves trees of different shades and tones. Nature has provided us with lots of ideas for colour. Issac Newton discovered and explained how we see these colours as a result of light. If we are not skilled in combining colours successfully, we can spend some time observing nature- note the different hues, tones, tints and shades. It will be useful to have some colouring material in order to copy the exact colours from nature. The colour arrangement in a small area can provide enough ideas for the correct choice of colours for threads, fabric pieces and other colour schemes for designs.

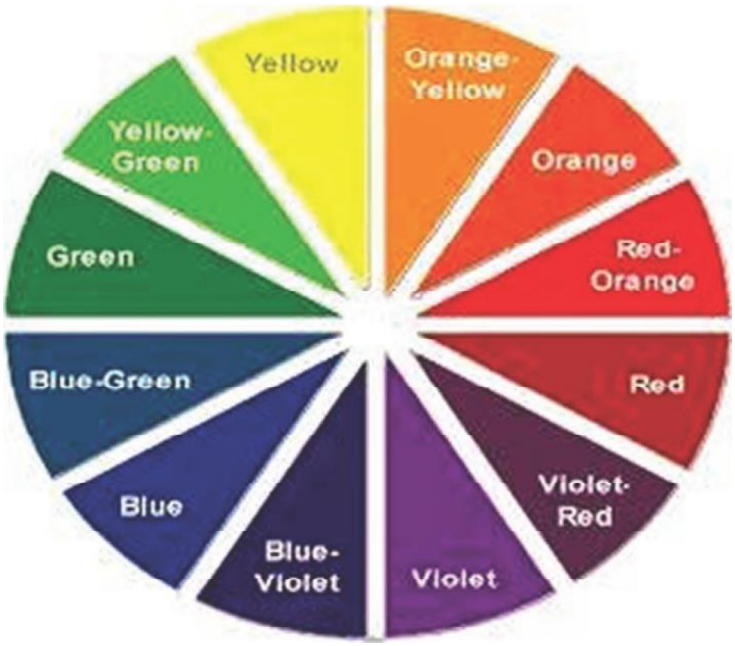


Fig.18.5 Colour wheel

Colour in art

The artist uses pigments to express colour. These colours are really imitations of the ones seen in nature. The only true colours are those of the spectrum as seen in a rainbow. The colour wheel or circle is a simple method used in art to explain colour.

A blend of two adjacent colours will produce Secondary colours.

Red	+	yellow	=	orange
yellow	+	blue	=	green

blue + red = violet

These colours are called hues.

The lightness or darkness of a colour is referred to as its **tone.**

When the hue is mixed with black it produces a **shade** of that hue. When it is mixed with white a tint of the hue is produced. Greyed colours are produced when black and white are added to hues. This explains why we see different "shades" or "colours", as we would normally say, of a particular fabric in stores.

Ifwe are to use these colours successfully in our design, we will have to learn which colours will form good blends or contrasts.

Our art lessons will provide exercises which can help in developing these skills.

Embroidery

History of embroidery

Embroidery is one of the oldest forms of fabric decoration. As early as the Lake Dwellers, simple embroidery work was done. About 10,000 years ago garments from ancient Egypt, Greece and Rome had embroidered borders. Ancient India and Persia developed delicate designs in rich colour. At the beginning of the 5th century A.D vestment and church hangings were lavishly embroidered.

In the 13th century, France so prized skilled embroidery that men and women had to serve an apprenticeship of eight years, before earning craft recognition. When the Pilgrims and other English colonists came to America they brought samples from their homeland, and later developed their own embroidery designs. An embroidery machine was invented around 1828, and as a result commercial production of handmade embroidery largely declined blue

Today there are over three hundred (300) different embroidery stitches. This may seen alarming at first but when it is realised that the art of embroidering with the needle began as early as the Lake Dwellers and spread and developed throughout the world, then it is not surprising that there is so large a collection.

Both hand and machine embroidery are still acceptable means of fabric decoration but because of the emphasis on mass production, machine embroidery is more often used. It is used to decorate table and bed linens, church vestments, women's and children's clothing; to monogram towels, handkerchiefs, shirts and blouses and to make sleeve insignia such as those used by the armed forces.

Embroidery thread and equipment

EMBROIDERYTHREADS

Embroidery threads are available in a wide range of weights and colours. The most common threads are made from cotton and wool but pure silk, linen, synthetic and metallic threads can also be used. Some threads are tightly twisted and cannot be divided, while others are made up of several strands which can be separated to give a finer thread. The strands can be put together to give different weight and colour combinations. Some threads are not colour fast hence, if the embroidered article is to be washed ensure colour fast threads are used. Anchor, Pearl and J.P Coats are popular brand names of cotton embroidery threads.

EMBROIDERY HOOP

Both hand and machine embroidery will be more successful, if the fabric is held taut in an embroidery hoop. It is not only easier to handle but the stitches will be more regular and distortion of the fabric will be kept to a minimum. If the embroidery is to be worked over a large area, then the hoop can be easily moved along the fabric after a portion of the stitching has been worked.

NEEDLES

Crewel and Chenille needles are recommended for hand embroidery, as they have larger eyes than ordinary needles to accommodate a thicker thread. Crewel needles are medium length and suitable for working with fine and medium weight fabrics. Chenille needles are longer and thicker and have larger eyes than crewel needles which make them suitable for use with heavier threads and fabrics.

SCISSORS

These should be sharp with pointed blades to permit easy trimming away of the excess fabric in cut work, as well as for snipping the threads.

Transferring and tracing designs

TRANSFERS

There are two types of commercial transfers single impression and the multi print. The single impression can be used only once, while the multi-print can give as many as eight impressions. Place the transfer in the position where the embroidery is to be worked, face downwards on the fabric. Heat the iron to the temperature required and press over the transfer for a few seconds, to release the ink.

TRACING

This method is used for transferring designs from paper to fabric. It is done with the use of tracing paper and pencil. Place the tracing paper face downwards on the fabric, then place the drawing or tracing of the design on top. Draw over all lines with a sharp pointed pencil.

General Rules for Working Embroidery

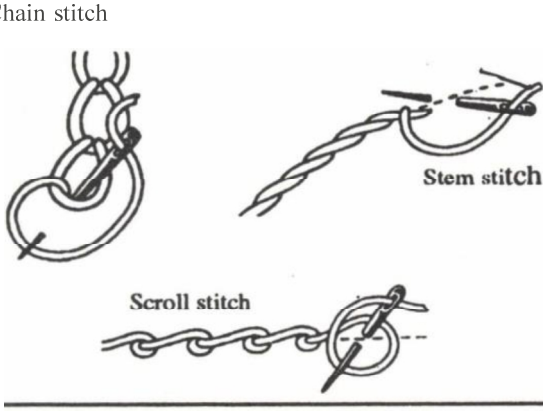
Only well-made garments or articles should he embroidered.

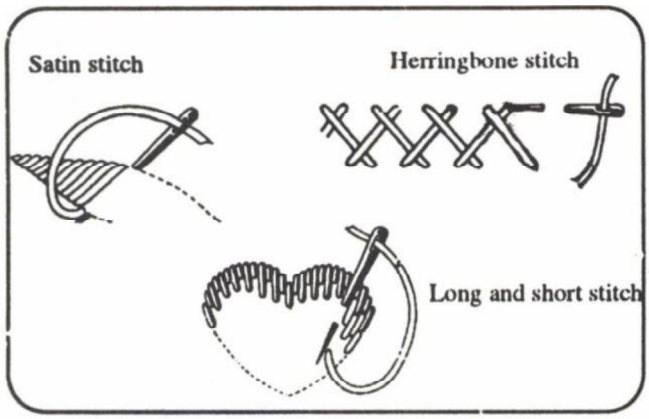
- The design must he suitable for the fabric and article/garment.
- Never work elaborate designs on poor quality fabrics.
- Always use colour fast threads if the article garment must be laundered. The design must also be able to withstand laundering.
- The wrong side of the decoration must be as neat as the right side. No thread ends should be visible after starting, joining and finishing.
- The decoration must in no way weaken the life of the garment/article.

General washing instructions

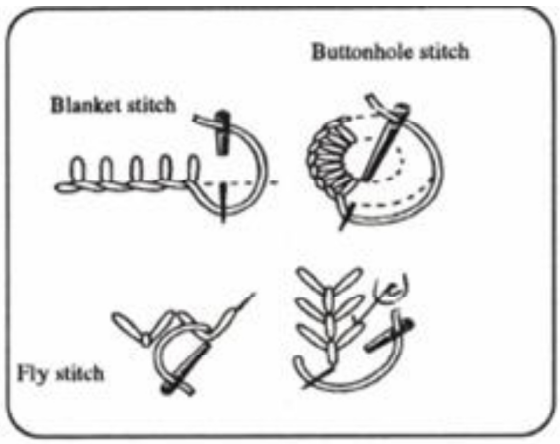
- Use warm water and pure soap powder.
- Wash by squeezing gently.
- Rinse thoroughly.
- Squeeze by hand and leave to half dry.
- Iron on the wrong side while still damp.

(a) Outline stitches





(b) Flat stitches



(c)Looped stitches

Fig.18.6Embroidery stitches

EMBROIDERY STITCHES

Embroidery stitches are grouped according to their structure thus, making it easier for one to choose the correct stitch for the work to be done.

The names of some groups are:

Experimenting with stitches

Knowledge of design and colour, two topics already discussed can now be fully utilized to produce interesting fabric finishes using

embroidery stitches. Each embroidery stitch can be a design in itself and can be varied to produce many pleasing results. Once you have acquired the skill of working embroidery stitches successfully then experiment with them. Here are some simple methods you can use.

- Change the size of the thread, instead of using two strands, use three or more.
- Create a border design by repeating the stitch in rows.
- Vary the length and width of the same stitch to produce pattern.
- Combine stitches from different groups to create interesting designs.



Fig. 18.7 Embroidered articles

Experimenting with fabric ends

The technique of using fabric ends to decorate garments and home furnishings is known as applique or applied worked. Motif cut from one piece of fabric is stitched on to a background fabric to produce a decorative effect.

Making an applique picture or panel can be quite exciting. A variety of fabrics can be used bearing in mind the pattern and texture of fabric which often suggest the object being embroidered. The weight and fibre content of the applied fabrics should also match the background fabric, especially if the item is to be washed.

- It is better to cut the shapes in paper first and arrange them until a pleasing effect is obtained.
- Once this is achieved, cut and arrange fabric ends on to the background fabric.
- Stitch in place around the edges. The stitching can be decorative and hand worked or stitched by machine.
- further embroidery work can be done by adding lines and solid pieces until the picture or design is completed.
- do not confine embroidery to lines around the edges of shapes, rather let it be part of the design, linking pieces together and emphasising others to create a harmonious whole, not just a series of isolated shaped outlined with decorative stitches.

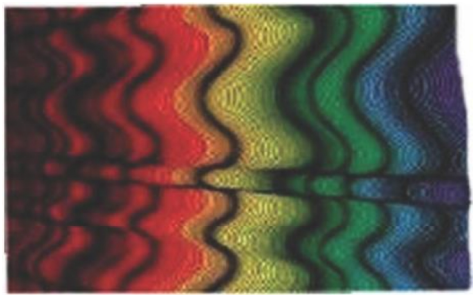


Fig.18.8: Example of applique work.

Summary

WE HAVE LEARNT THAT:

The ways of creating designs are:

- by folding paper and cutting shapes on the edges of folds.
- building up designs from simple shapes.
- sketching from Nature.

The two theories of colour are:

- the scientific theory which explains how we see colour only as a result of light.
- the artistic theory as represented on the Ostwald or colour circle.
- embroidery stitches are grouped according to their structure making it easier to choose the correct stitch for work to be done.

The groups of embroidery stitches are:

- outline stitches
- flat stitches
- looped stitches
- knotted stitches

That applique is another form of fabric decoration. It involves the use of fabric ends along with embroidery stitches.

Glossary

Abbreviate - to shorten.

Abrasive - substance or material used to remove dirt and stains.

Aerate - to add air to a substance.

Alkali - chemical substance, e.g, washing soda.

Allowance - extra fabric outside the seam line or within the garment.

Anaemia - a disease which results from a shortage of iron in the body.

Animal fibres - the term used to identify natural fibres obtained from animals.

Antidote - substance that neutralizes poison.

Antiperspirant - this prevents perspiration in the area to which it is applied.

Antiseptic solution - liquid that prevents the growth of germs or bacteria.

Appearance - what can be seen of the person.

Appliance - a piece of electrical equipment.

Applique - a decoration or design made separately.

Asbestos - a non-metallic mineral fibre which is non flammable. The fibre is woven into fabrics and used for ironing board covers, pot holders and for clothes which require flame proof and heatproof protection.

Athlete foot - a fungus condition encouraged by lack of ventilation.

Bacteria - tiny one-celled living things that cannot be seen with the naked eye.

Baking - the cooking of food in an enclosed space with little or no fat.

Balanced diet - a diet that provides the body with all nutrients in the right amounts.

Basting - a loose long temporary stitch made by hand or machine using contrasting coloured thread to hold layers "Of fabric in position.

Beri-beri - a disease that occurs when the body lacks tamin 3(thiamine) over a prolonged period.

Blend - a mixture of different fibres in one yam or different yams in one fabric, each providing its own characteristic to the fabric.
- to mix ingredients thoroughly.

Body language - feeling or message sent by the body.

Boiling - is the cooking of food in rapidly bubbling liquid which is later lowered to simmering point.

Bonded - two fabrics that are sealed together, back - to - back, with a bonding agent.

Braid - refers to woven or plaited flat, round or tubular narrow fabrics.

Budget - this is a plan for spending money;

Builders - substances used in soap powders to make them efficient as a detergent

Bunions - red, painful swelling at the base of the big toe, with the thickening of the skin.

Calendering - a process of passing fabrics between one or more heated rollers to produce a variety of surface effects or textures in the fabric. Some Calender finishes are moire, glazed, friction or water marked.

Calico - a plain, woven unfinished cotton fabric.

Cambric - a closely woven cotton fabric calendered to achieve a high glazed finish.

Camouflage - to disguise.

Career - way of making one's living.

Ceramic - pottery or similar material, e.g., china ware

Cloth - another term for fabric or material.

Colgan - a special complex chemical material for softening temporary hard water.

Colour fast - a special feature ensuring that colours do not noticeably change during the "normal" life of the garment. The colour should not fade in laundering or dry cleaning.

Colour scheme - a pleasing combination of complementary colours.

Combing - a process for removing all short fibres and impurities from cotton that has been carded.

Communication - imparting or exchanging information.

Conductor - substance that allows heat or electricity to pass through it easily.

Cookware - pots and pans used for cooking and baking.

Co-operation - learning how to work with each other.

Corns - a hard, thick, painful growth of skin on a toe, usually caused by wearing a tight shoe.

Count - a unit of measure used to denote the fineness or coarseness of a yarn

Crease - a folded line pressed into the fabric.

Crease resistant - a finish that minimises the tendency of fabrics to crease and helps them to shed wrinkles.

Crochet - a fabric, trimming or lace made by interlocking success sive loops or stitches with a hook or needle.

Cross-wise gain - the grain of the fabric that runs from selvedge to selvedge at right angles to the lengthwise grain.

Daily Food Guide - a simple guideline for planning nutritious meals and snacks and for judging food choices for one day.

Dandruff - tiny particles of dead skin which collect on the scalp and roots of the hair.

Dart - a stitched fold of fabric, tapering to a point at one or both ends, used to shape garments to fit the curves of the body.

Decision - making up one's mind about a specitic matter.

Denim - a twill fabric usually made from cotton. It is easily recognised by its traditional indigo-blue colour warp and gray or mottled white filling and its left hand twillface.

Deodorants - stops or covers up bad smells on body e.g. deodorant salve, liquid, spray etc.

Deportment - the way one carries him/herself.

Dermis - the true or inner skin.

Detergents - these substances which act with water to make articles clean.

Devices - tools or large pieces of equipment which are used to complete tasks quickly.

Diabetes - a disorder in which the body cannot make use of starches and sugars due to the production of insufficient insulin. As a result, more glucose is present in the blood.

Diet - the food that a person, individual family or group of people usually eats every day. It also describes special diets, e.g., low-fat diet.

Dirt - this is fixed dust attached to articles or surfaces by water.

Discharges - something that is given off or produced by wounds in skin.

Dishes - mixtures of foods prepared for eating. Some are served cooked while others are eaten raw.

Doneness - the degree or extent to which food is cooked.

Dovetailing - doing several jobs at once in a manner that allows work to be completed in the shortest time possible.

Drip-dry - a term used to describe fabrics which after washing and without wringing, are hung to drip-dry. Garments dried this way have a minimum of wrinkles and need little or no ironing.

Dust - tiny particles found on the surface which can be blown about by wind and which settle on surface.

Economist - someone who manages goods and services.

Energy - the ability to do work.

Embroidery - machine or hand stitches worked in thread on fabric for decorative effect.

Emotions - mental agitation or feelings.

Emulsion - a mixture of liquids such, as oil and water, in which very fine drops of one stay evenly scattered throughout the other.

Encourage - urging person to do more.

Environment - persons or objects around you.

Epide r mis - the outer or surface skin.

Experiences - incidents which affect you personally either through observation or contact.

Extractives - natural juices found in meat which dissolve during cooking and give meat its characteristic flavour.

Even Tacking - large stitches equally sized and spaced used for holding two or more pieces of fabric temporarily together.

Fabric - any woven, knitted, plaited, braided, felted or non-woven material made of fibres or yarns.

Facial expression - message or feeling displayed on the face.

Family - parents and children forming a household.

Family structure - way in which family is organised.

Filament - continuous length of spun fibres.

Fibres - natural or man - made substances used to form the yarns of fabrics.

Filter bed - water is filtered to remove suspended and unwanted matter including some microbes.

Flameproof - can withstand the heat of flames.

Flammable - catches afire easily.

Follicle - a tiny opening or sac, as in the skin.

Fluff - light feathery stuff.

Food - any solid or liquid which we eat or drink to provide the body with nutrients.

Foods Laboratory - a classroom fitted with kitchen equipment for student's use.

Friction - is the rubbing of two surfaces together.

Gadgets - are pieces of small equipment which are either electrically or manually operated. Some are also classified as time and labour savers, e.g., can opener, egg slicer, knife sharpener.

Gelatinize - capable of forming a gel.

Goal - is something one strives to attain.

Grain - the direction of fabric threads. The yarns running parallel to the selvedge form the lengthwise grain, the yarn running from selvedge to selvedge form the crosswise grain.

Grains - edible seeds obtained from cultivated grasses, e.g., rice, barley.

Grease solvent - liquid capable of or used to remove grease stains.

Grilling - cooking food by radiant heat over or under a smokeless fire, e.g., gas or electric grill, charcoal tire.

Grooming - a polished appearance from head to toe.

Grooming habits - the way in which you care for your person e.g. hair, nails etc.

Home economist - someone who manages the home; ensuring that all members of the family are happy, comfortable, clean, well-nourished and appropriately dressed.

Household ammonia - this is a strong alkaline grease solvent with a distinctive small.

Hygiene - the practice of cleanliness in order to maintain health and prevent diseases

Influence - power to persuade others.

Inorganic - waste which cannot decay.

Interlining - any fabric used between the main fabric and the facing of a garment to provide shape and supports.

Kitchen appliances - pieces of kitchen equipment powered by gas or electricity.

Kitchen utensils - small kitchen tools.

Laundry aids - materials which help to save time and energy in the management or clothes and household articles.

Legumes - dried peas, beans and lentils, e.g., black eye.

Malnutrition - a condition that results when the body receives either too much or too little of one or more nutrient.

Microbes - very small living organisms which consist of one cell.

Napped - fabric with a suede-like finish. Some of the fibres are brought to the surface and brushed in one direction to give a napped effect.

Non-food-items - foods that provide the body with minute quantities of nutrients.

Nutrients - chemical substances in food which the body needs to function correctly.

Nutrition - the study of food nutrients, and their effect on the body.

Obesity - a condition of excessive overweight as a result of too much fat in the body.

Off the peg - another term for ready - made garments or articles.

Organic matter - waste that are perishable or can decay.

Optical brightness - is chemical which makes materials especially, whites glow, in daylight.

Organising - the arranging of parts of one task (e.g., cooking) in a manner that would produce success.

Oven proof - can withstand heat of the oven.

Over nutrition - the condition that results when the body receives too much of one or more than one nutrient.

Personal hygiene - personal principles of health.

Personality - the distinctive characteristic of the individual.

Physical deficiencies - lack or shortage in aspect of physical being.

Pile - a fabric such as velvet or corduroy which has an extra set of yarns raised on the surface to form a rich texture.

Plaiting - is a process of interlacing strips of fabrics diagonally and lengthwise.

Plumbing - a system of water pipes and drainage pipes in a building.

Ply yarn - two or more yarns that have been twisted together.

Poaching - cooking food in hot liquid just below simmering point. It is usually used for delicate foods.

Posture - the way in which you position your body when you stand sit and walk.

Precision tools - tools designed for very accurate work.

Pre-preparation - tasks carried out before beginning a practical test, e.g., greasing pans.

Print - a general team for any fabric to which a printed pattern or design is applied after the fabric has been woven.

Priority - which comes before the other in importance.

Quality - degree of excellence.

Recipe - guide for preparing a dish

Relationship - connection between two or more persons

Resources - a supply of something that will take care of a need

Scum - impurities forming at the surface of a liquid.

Scurvy - a disease which results from a severe shortage of Vitamin C in the body.

Self-concept - how one sees him/herself.

Self-confidence - a firm trust in one's ability.

Self-esteem - to think highly of oneself.

Selvedge - a narrow, tightly woven edge on the lengthwise grain of the fabric.

Shelf life - time span within which foods should be used for best result.

Simmering - cooking food at a temperature just below boiling point

Skill - the ability to perform a job.

Soot - black powdery substance formed by burning wood.

Stain - discolouration found on fabrics or articles.

Staple foods - starchy foods which form the main part of person's diet.

Starvation - death or condition of extreme hunger.

Status - the use of clothing to identify our job, religion and other groups/ organisations to which we belong.

Steep - to soak in liquid.

S-twist - a direction of the twist in yarns from top left to bottom right resembling the long stroke of the letter S.

Suction cleaner - is a piece of equipment which is used to draw in dust and small particles of dirt.

Synthetic - a man-made fibre used for making fabrics or sewing thread.

Tarnish solvent - substance capable of or used to remove stains

Textile - is the general name for any fabric or cloth.

Texture - the quality of the surface of a garment.

Time - the duration of the interval when activities occur.

Traits - characteristics or an aspect of behaviour.

Tufts - number of feathers, threads, grass joined together in a cluster.

Under-nutrition - the condition that results when the body receives too little of one or more nutrients.

Ventilation - devices for airing a room.

Vermin - harmful or unpleasant animals and parasites.

Vogue - the prevailing fashion.

Warp - the length wise thread in woven fabric.

Weave - the method of constructing a fabric on a loom in which the weft yam is passed over and under the warp yarns with the aid of a shuttle.

Weft - the width ways thread in a woven fabric.

Width - the horizontal measurement of a piece of fabric.

Zeolite - a naturally occurring mineral found in a water softening plant and filling picks per inch in any fabric that has been woven. It is also used to mean the finish and appearance of the cloth for sale over the counter or in the finished garment state.

Z - twist - a direction of the twist in yarns from top right to bottom left resembling the long stroke of the letter Z.

Ministry of Education, Guyana

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