

Household Equipment

Presented By :

Ms. Sushma Batra

Associate Professor

S. M. Patel College Of Home Science.

Vallabh Vidyanagar

Equipments

- Appliances which help you in doing household work are known as equipment.
- Two types of equipment.
- **(a) Electrical:** Look around your home and try to identify some equipment which need electricity to work.
- These are items like toaster, mixer, immersion rod, iron, refrigerator, washing machine, geyser, etc. which cannot work without electricity.
- **(b) Non-electrical:** There is another category of equipment which does not need electricity to run. This category consists of kitchen utensils and tools, sewing machine, cooking stove, solar cooker etc.

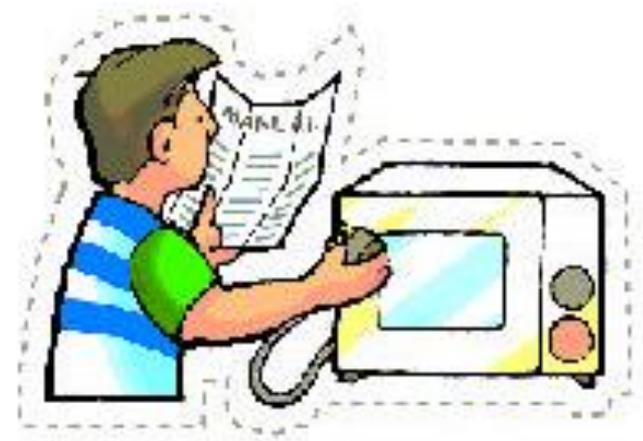
Importance Of Equipments

- Saves time and energy
- Improves the efficiency of work
- Reduce the drudgery of home makers
- Makes the life comfortable and convenient
- Helps in improving quality of life
- Reduce work of home makers and allows to enjoy leisure time
- Helps in serving variety of food

General Safety Guidelines

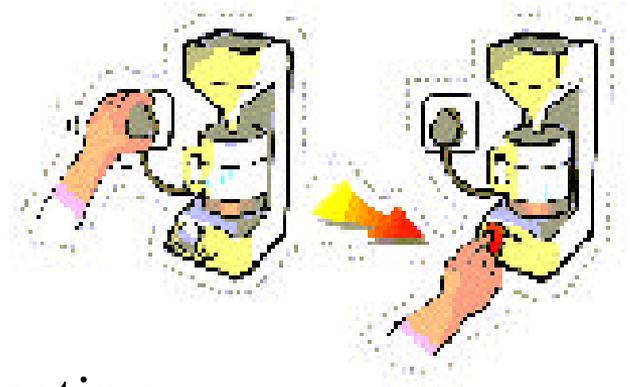
- Use electrical appliances with safe 3-pin plugs (except those not supplied through socket outlets).
- Arrange registered electrical workers to install electrical appliances not supplied through socket outlets.
- Adhere to operating procedures and safety precautions stated in user manuals.
- Check electrical appliances, including their plugs and flexible cords, for any damage before use.
- Replace plugs by qualified persons only.
- Buy appliances with guarantee card stamped by the dealer.

Keep all appliances away from heat, water and moisture



- Do not use any electrical appliance if its safety or proper operation is in doubt, and have it inspected by qualified persons.
- Switch on an electrical appliance only after plugging it into a socket outlet. Otherwise, sparks occurring at the plug may cause fire hazard.

- Never use electric wires as cloth lines.
- Always disconnect appliance after use.
- Allow sufficient space for ventilation to prevent electrical appliances from overheating.



- Keep children away from operating electrical appliances.
- Thoroughly clean all household equipment after every use with due precautions.
- Wipe the outside surface of an equipment to prevent deposits of dust and grease.

- Avoid placing the flexible cord of an electrical appliance close to any hot object (e.g. a cooking range).
- Do not use any inflammable substance near any operating electrical appliance.
- Do not wear synthetic clothes while working in the kitchen. Nylon catches fire easily, melt and sticks to the skin causing very deep burns.
- Do not allow water to seep into an electrical appliance to avoid danger.
- Avoid using portable electrical appliances (e.g. hairdryers, electric heaters, etc.) in bathrooms.
- Avoid touching any electrical appliances, socket outlets or switches if hands are wet.



- Switch off electrical appliances when nobody is at home.
- Never push naked wires into socket to operate a gadget, this could be highly dangerous.
- Check to see that proper fuses are installed in the main electric supply board so that there is very little chance of a fire due to an electrical short circuit. A fuse cuts off supply of electricity to the equipment the moment anything goes wrong.
- Use a mini-circuit breaker (MCB) for your electrical connections. A MCB cuts off electric supply when there is an extra load or there is a short circuit or when the voltage increases suddenly.
- Arrange electrical installations to be maintained regularly to ensure safety.



Equipments - Toaster

- The toaster is a equipment used to toast bread in order to make it crisp. It has two slots which can hold two or four slices of bread. The electrical element produces the heat needed to make the bread hot and crisp.
- **Construction:** Like irons, toasters too may be automatic or non-automatic. The automatic models have a heat regulator which can be set at the desired temperature. At that temperature, the bread slices are released automatically and pop out of the toaster.
- In the nonautomatic types have to release the slices by pressing a knob.
- The main advantage of the automatic model is that you are free to do something else after putting in the bread slices as you don't have to watch over them constantly.
- There is no fear of their burning



Precautions

- The appliance is intended for toasting bread only. Do not put any other ingredient in toaster.
- Do not use a fork to remove the toast. Because you may get an electric shock since the coils are not insulated.
- Do not place the bread with filling in the toaster. Because the filling will melt and catch fire.
- Do not drop or shake it to remove the crumbs, slide the crumb tray and empty it.
- Before cleaning, disconnect the toaster from the electric supply and let it cool down.
- Never immerse the appliance in water.
- Do not put the dust cover on toaster when the appliance is switched on.

Sandwich Maker

The sandwich maker is a very versatile kitchen gadget with many uses other than just grilled cheese sandwiches. It can also cook pancakes, omelets, pastries and more. The maker quickly heats up and cooks most meals in about 3 minutes.



- Make sure the sandwich maker is fully heated before you start cooking to ensure a nice evenly browned result.
- Butter the outside of the bread if you want it crunchier.
- Always clean after it comes to room temperature.
- Do not immerse the sandwich maker in water; just wipe out the cooking wells with a damp cloth. A toothpick is helpful in removing any food particles around the hinged lid area.
- Never clean it with sharp edge of knife or any other object.
- Never wound the cord around it when it is hot.

Mixer /Food Processor

- The mixer grinder is an equipment which saves a lot of our time and labour.
- The mixer has two basic functions:



a) Dry grinding – this is to do dry grinding of masalas, coffee seeds, cereals like dalia etc.

b) Wet grinding – this operation needs some amount of liquid like making chutneys, milk shakes, lassi, masala paste etc.

- **Construction:** Mixer consists of a base which holds the motor and controls, a glass, plastic or steel food container that fits on the base and a cover for the container. Inside of the container, there are many sharp steel blades. Most models available today have many advanced functions of a food processor like kneading atta, slicing, shredding, mincing, chopping, etc. The cost of a mixie or food processor varies with the number of attachments and functions.

Precautions

- Use the mixer with three-pin plug and at the correct wattage and voltage as indicated to avoid overheating of the motor.
- While the food should be enough to cover the blades, it should not fill more than $\frac{3}{4}$ of the bowl/jar; the motor will be strained and may burn out.
- Use crushed ice instead of whole pieces. As big pieces may break the blades.
- For longer life of the mixer, do not run the motor continuously for long periods. Always give break after some time, and increase or decrease the speed gradually.
- For removing sticky food clean by adding warm water, some detergent and turning on the blender.
- To prevent injury, rotating part of a food processor must be fixed securely. Ensure that the container lid is closed and secured before switching on.
- Do not try to rotate the cutter by hand it will cut your fingers.
- Unplug the power supply while replacing a rotating part. Use the safety manual for more instructions.

Microwave Oven

- A magnetron in the oven produces microwaves which reflect off the metal floor, walls and ceiling and pass through the turntable and appropriate cookware to the food.
- Microwaves are attracted to and absorbed by fat, sugar and water molecules in the food, causing them to move, producing friction and heat which cooks the food.



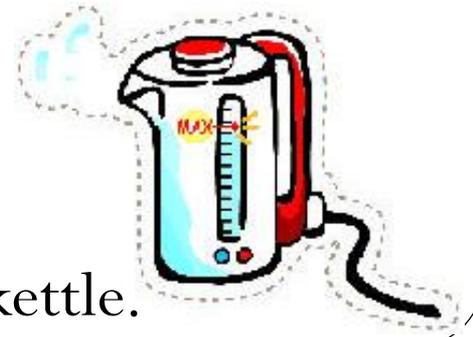
Precautions

- Do not lean on or allow children to swing on the oven door.
- Do not operate oven when it is empty.
- The turntable must be in place and correct side up when oven is in use. Do not use if turntable is chipped or broken.
- Baby bottles and baby food jars should not be heated in oven.
- Clothes, flowers, fruit, herbs, wood, gourds, paper, including brown paper bags and newspaper, should not be dried in oven.
- Do not use the oven for canning, sterilizing or deep frying.
- Use gloves when removing containers from oven.
- Do not cover or block any openings on the microwave oven.
- Remove the plastic wrapping from food before cooking.
- If smoke is observed, switch off or disconnect the oven.

- Do not cook or reheat whole eggs inside the shell. Steam buildup in whole eggs may cause them to burst.
- Improper use of the grounding plug can result in a risk of electric shock..
- DO NOT pop popcorn, except in a microwave approved popcorn popper or commercial package designed especially for microwaves.
- DO NOT use newspaper or other printed paper in the oven. If you experiment, put a Fire could result.
- DO NOT deep fry in the oven. Microwavable utensils are not suitable and it is difficult to maintain appropriate deep frying temperatures.
- Test dinnerware or cookware before using. Some dishes (melamine, Centura," etc.) absorb microwave energy, becoming too hot to handle and slowing cooking times. Remove wire ties from paper or plastic bags before placing bag in oven. Cooking in metal containers can damage the oven.
- Do not use cookware and dinnerware with gold or silver trim.

Electric Kettles/Water Pots

- Make sure that electric kettles operate on a stable surface and that their flexible cords are properly tucked away.
- Do not expose the connector socket of an electric kettle to water.
- Do not fill water beyond the maximum level stated by the manufacturer.
- Stop using an electric kettle if the connector of its flexible cord shows signs of overheating.
- Avoid leaving an operating electric kettle unattended, and unplug it after use.
- Unplug electric kettles before cleaning and do not immerse them in water.
- Dry your hands before plugging in/out an electric kettle.



Electric Rice Cookers

- Do not connect other appliances to the socket outlet supplying an electric cooking appliance.
- Place electric cooking appliances on a stable surface.
- Stop using an electrical appliance if the connector of its flexible cord shows signs of overheating
- Do not leave operating electrical cooking appliances unattended.
- Unplug electric cooking appliances before cleaning and do not immerse them in water.
- Ensure that the bottom of the rice pan is dry before it is put into the rice cooker.
- Never leave rice spoon in the pan when using **Keep Warm** feature.
- Do not use keep warm feature to reheat cooked rice.
- Always close the lid after each serving to prevent rice from discoloring and drying.

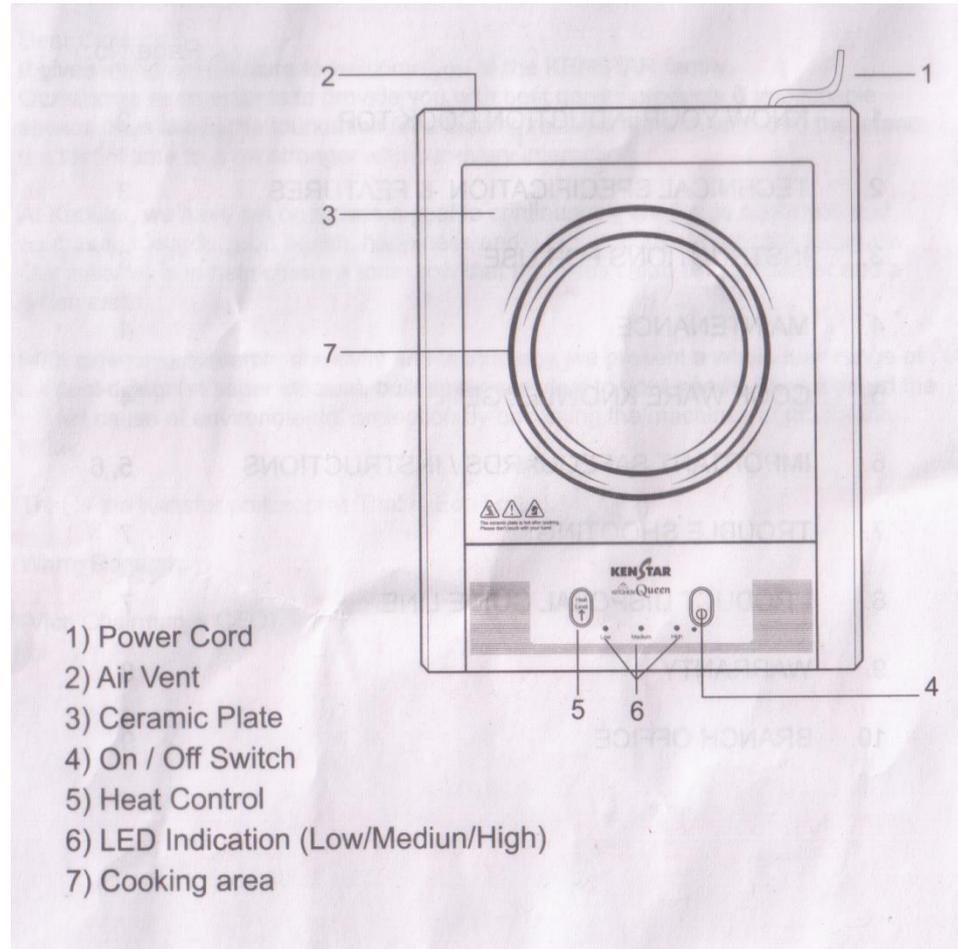


Induction Cooktop



- An induction cooker is faster and more energy-efficient than a traditional electric cooking surface.
- It allows instant control of cooking energy similar to gas burners.
- Other cooking methods use flames or red-hot heating elements; induction heating heats only the pot. Because the surface of the cook top is heated only by contact with the vessel.
- The induction effect does not directly heat the air around the vessel, resulting in further energy efficiencies.
- Induction cookers are safer to use than conventional cookers because there are no open flames. The surface below the cooking vessel is no hotter than the vessel; only the pan generates heat.
- Induction cookers are easy to clean because the cooking surface is flat and smooth.

Induction Cooktop



Precautions

- Do not wash or immerse cooktop in water. Clean the body and control panel with a damp cloth after it cools.
- Do not use this unit on metal platform, carpet or tablecloth.
- During the use it should be placed 10 cms. From its sides and back to the wall.
- Never use it on a gas stove.
- If power cord is damaged, it must be replaced by qualified person.
- During heating, never put paper, aluminum foil or cloth on ceramic plate for heating to avoid accident.
- Always use the flat cookware to increase the efficiency.
- Never use the induction cooker without food.
- After using, unplug the unit to avoid damage to electronic elements.

Refrigerator

- What happens when you leave cooked food lying just like that. The food gets spoiled.
- It spoils because germs like fungus and bacteria cause food spoilage. These germs which cause food spoilage can not live at low temperature.
- The refrigerator (called a 'fridge' by most people) is equipment which uses electricity to keep the temperature inside the box lower than the atmosphere outside.
- Food kept at such a low temperature thus does not spoil for a long time. The refrigerator also serves the purpose of giving us cold water and ice in summer.
- By preserving food in the refrigerator, one can delay the growth of bacteria, keep food items fresh and thus save time and energy of the homemaker in meal preparation.



Precautions

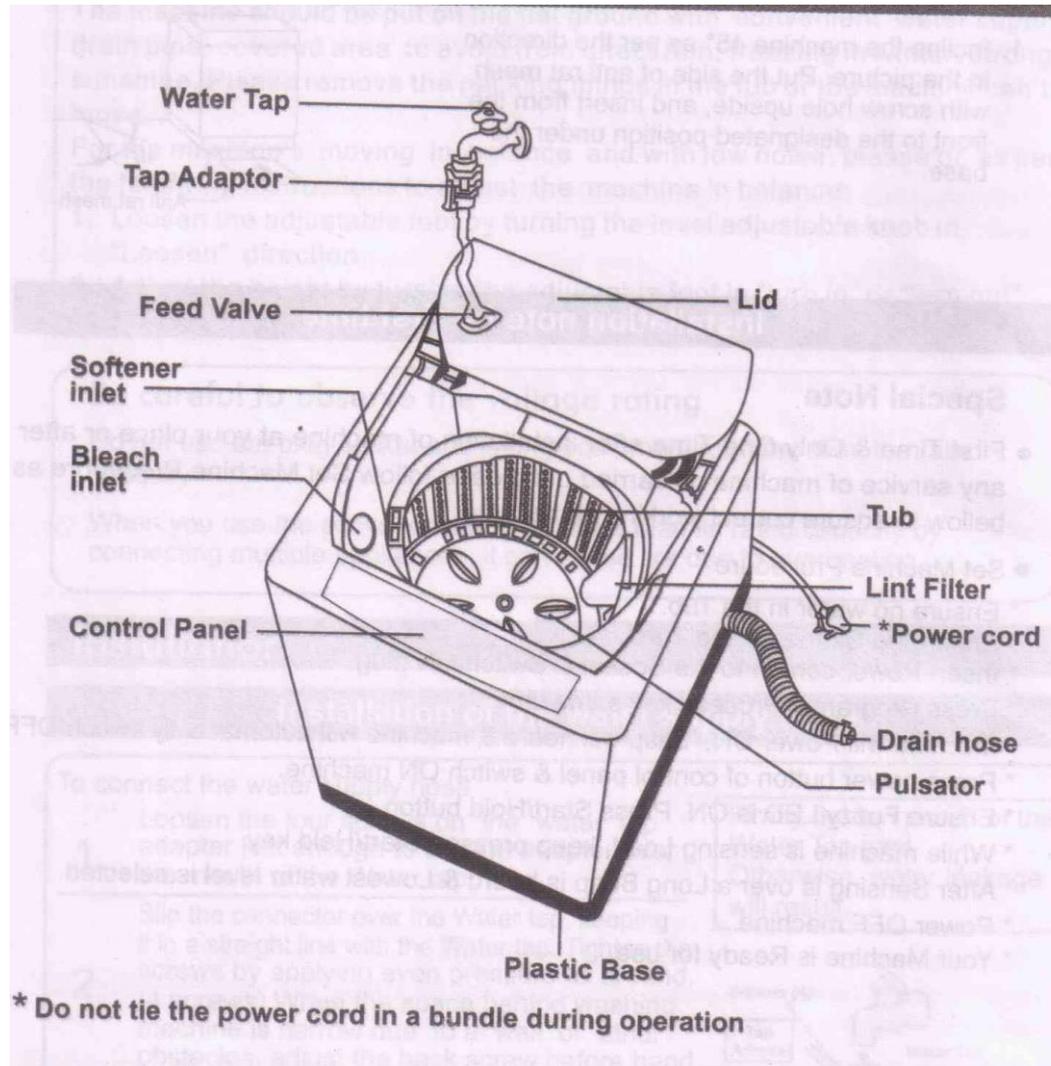
- Do not open the refrigerator door too often. Because opening the door raises the temperature inside and the refrigerator becomes less efficient.
- Leave some space at the back and sides for free circulation of air over the condenser coils at the back.
- Never place the hot food inside the refrigerator as this raises its temperature and decreases its efficiency.
- Defrost the freezer compartment periodically to remove the ice over the tubes. This is not needed in the frost free models available today.
- Disconnect the plug before cleaning the refrigerator with soap and water, to avoid getting an electric shock.
- Keep the refrigerator clean and dry.
- Clean the food spilled inside immediately and keep the shelves and walls free from moisture.
- Empty the ice trays and wash before new ice is frozen.

Washing Machine

- Always properly sort your laundry, including separating light-colored clothing from dark and heavy clothing from light clothing.
- Remove any pins, buttons or change from clothing to keep these items from scratching the tub.
- Load the laundry, and close the tub. Add the detergent into the detergent dispenser and fabric softener into the fabric softener dispenser. Turn the washing machine power on, and select a drying cycle and an option. Press "Start/Pause" to start the washing machine.



Washing machine



Care and Maintenance

- Have a regular cleaning schedule for your machine. Rinse it once monthly at the highest water fill setting, highest temperature and longest cycle time to clean without using detergents.
- Avoid product, which is abrasive or contain baking soda, as it reduce the life of your machine.
- Ensure that machine is standing in a balanced manner on the floor without any movement during the washing .
- Schedule regular maintenance with the local service team to ensure that machine is kept in good condition.
- Don't leave the water source on when the machine is not going to be in use for a prolonged period.



Care and Maintenance

- Don't keep hard objects like nails, coins, toys etc in the pockets when the clothes are being loaded.
- Never touch laundry with hands during spin cycle until the tub has completely stopped spinning.
- Do not place flammable substances near the machine.
- Do not use plug socket and wiring equipment more than their capacity, it can cause fire due to overheating.
- Always check the hose connection by turning on water tap before washing.
- Do not wash and spin waterproof garments like raincoats, jackets etc, items may be damaged or machine starts vibrating.
- Be sure to close the lid properly.

Iron

- It helps us to press our clothes and give them a good shine.
- **Construction :** An electric iron is one of the most useful appliances in our homes for ironing clothes. The heat supplied to the ironing surface or sole plate is used for ironing. The lower surface of the sole plate is smooth so that it moves easily over the fabric.
- Iron may be automatic or non-automatic. The automatic iron has a thermostatic control which switches the iron off after a certain temperature, set by us when we switch on the iron. This helps to raise or lower the temperature according to the cloth to be ironed e.g. cotton can take high temperature, whereas polyester and silk low.
- The advantage of an automatic iron is that it is safer than the non-automatic type as it cannot overheat and thus burn the clothes being pressed. The main disadvantage is that it costs more than the non-automatic type.

Precautions

- Keep the bottom of the iron clean and shining.
- A clean iron moves easily over the clothes and iron them properly. If needed, wipe the bottom with a damp cloth only, iron with an unclean bottom will Leave marks on the cloth.
- Do not leave the iron on the cloth when the switch is still on for a very long time. This will burn the cloth.
- Do not touch the iron with hand to see if it is hot. Because you can get an electric shock. Wait for the neon indicator-lamp to light up before starting ironing.
- Use a three-pin plug to connect the iron to the mains. This ensures proper earthing of the equipment. Ensure that the cord is cotton wrapped and properly insulated.



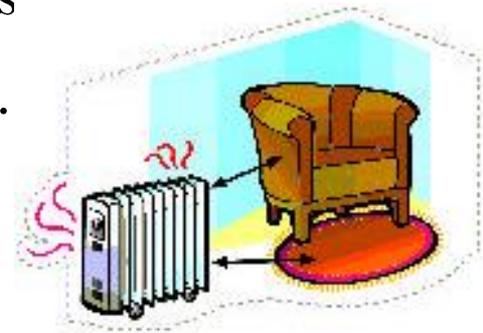
Electric Heaters

In cold climates heaters are used to create warmth.

- Do not connect other appliances to the socket outlet supplying an electric heater.
- Do not place electric heaters near blankets, clothes, curtains, rugs, sofas, etc. to avoid the risk of fire.
- Do not insert spoon or such thing through grill when heater is on.
- Avoid using electric heaters in bathrooms
- Do not use heater in totally closed room.
- Do not keep room heater on a wooden surface for a longer time.

Ensure proper earthing.

- Keep children away from operating electric heaters.



Room Coolers

- Do not connect other appliances to the socket outlet supplying a room cooler/dehumidifier.
- Clean air filters regularly to ensure effective performance.
- Do not switch on a room cooler within 3 minutes after switching it off.
- Do not allow the laundry to drip on a dehumidifier.
- Avoid obstructing the air inlets and outlets of a room cooler/dehumidifier.
- Maintain room coolers/dehumidifiers regularly by qualified persons.



Fans

- Install or place fans at locations where there is sufficient space for free movement.
- The metal guard around the blade should be designed to prevent accidental damage to fingers.
- Place fans on a stable surface.
- Avoid placing fans close to curtains, loose papers, clothing, etc.
- Keep children away from operating fans.
- Stop using a fan if abnormal operating conditions occur such as not starting smoothly, being too noisy or having signs of overheating.
- Arrange for repairs by qualified persons.
- Clean fans regularly. Unplug fans before cleaning and prevent the internal parts from contact with water.



Electric Water Heaters

- Employ only registered electrical contractors/licensed plumbers for the installation and alteration of electric water heaters.
- Ensure that unvented thermal storage type electric water heaters are installed with safety devices such as thermostat, thermal cut-out, and temperature and pressure relief valves.
- Switch off electric water heaters after use.
- Arrange to have electric water heaters inspected and maintained regularly by qualified persons.
- Switch off an electric water heater immediately if steam is emitting abnormally from the shower or any vent outlets.
- Arrange for repairs by qualified persons.



Vacuum Cleaner

- Used to clean the different surfaces
- Construction : main parts are

Motor

Suction fan

Dust collector

Nozzles

- Attachments - Carpet brush
- floor brush
 - upholstery brush
 - crevice nozzle
 - all purpose nozzle
 - spray jar
 - radiator brush



precautions

- Before using remove sharp objects from the floor.
- Never allow cleaner to pick up wet dirt or burning ashes, as it damages the motor.
- Do not run the blower end for more than half an hour.
- Never step on cord or allow the cleaner to run over it.
- Regular emptying of dust bag increases the efficiency of cleaner.
- Clean the brushes regularly and store properly in a bag.
- While storing cleaner wind the cord loosely around the clips.
- Keep the cleaner away from heat sources.
- Do not wash and dry cloth filter in washer and dryers.
- Always switch off before pulling out the plug.
- Service the motor regularly to increase its life.

Selection Of Household Equipments

- **Need-based:** Any equipment you purchase should fulfill your need. Do not purchase an equipment because others have it or it is cheap. For example, instead of buying a food processor with many attachments you can buy a simple mixer - grinder which will fulfill your need. This way you also save money.

Time, money and energy saving: When you are buying an item, see that it is useful to you in terms of saving your time and energy as well as your money.

- For example, a pressure cooker cooks food faster: hence you save time and you also save money because less fuel is consumed. You also save energy because it is simple to use and does not require much supervision.
- A sharp knife cuts fruits and vegetables easily hence you save your energy.
- Use of a blunt, cheap knife will not only cut the vegetables poorly, but would also be very frustrating to use.

Easy to clean:

- The equipments bought should be made of good material which is easy to wash, clean and maintain.
- For example, iron utensils are difficult to clean whereas stainless steel utensils can be cleaned very easily.
- A toaster with a removable crumb tray is easy to clean as compared to a toaster fixed with a non-removable tray at the bottom.
- **Name plate Information:**
- Each appliance of reputable manufacturer have name plate which specifies
 - Type of current
 - Manufacturers address
 - Voltage
 - Model No.
 - Wattage
 - Special direction

Safe:

- Whatever you buy must be absolutely safe to use at home. Do you know which mark of standardization is used to guarantee the safety of electrical equipment?
- ISI marked equipment is safe to use because it is properly checked and is of good quality. You must ensure that all electrical equipments that you buy carries this mark. Equipment without this certification may be cheaper but not safe to use.
- All electrical equipments should have a 3-pin plug and an insulated wire/ cord. Do not select any electrical equipment which has exposed metal parts, as electric current may be conducted through these parts and give you a shock. In the case of non-electrical equipments, see that they do not have sharp edges, loose handles and knobs.

Guarantee

- The equipment must also carry a guarantee of service. Guarantee of service means that the manufacturer takes responsibility for the working of that equipment for a specified period of time. The manufacturers of refrigerators may give a guarantee of 5 years, and manufacturers of ceiling fans may give a guarantee of 7 years. This means that for 5 and 7 years your refrigerator and fan should give you trouble free service. If any trouble appears, the manufacturer will repair it free of cost.
- It is very important for you to ensure that all equipment you buy, specially the costly equipment, should carry a guarantee of service. Ask the shopkeepers about those parts of the equipment which carry guarantee so that you are not cheated later. At the time of buying, see that the guarantee card is duly filled in and signed and stamped with the seal of the shopkeeper from whom you are buying the equipment.

Cost:

- Do comparative shopping and find the equipment available at better price.
- In addition to investment cost add operation and maintenance cost.
- While some equipments which are simple do not cost too much, there are some which have more complicated parts or attachments and are quite costly. They are expensive because they perform more functions.
- For example, a refrigerator is very costly whereas a “grameen sheetal” is much cheaper. But when used, a “grameen sheetal” will not be able to do all that a refrigerator can. You can get ice, keep food and water cool, make icecreams, preserve food, etc., in a refrigerator but not in a grameen sheetal.
- A grameen sheetal will last for a few years only whereas the refrigerator will last for many years. Hence, after seeing the advantages, provided one can afford it, one would be quite right in selecting the costlier refrigerator. This is not true in all cases.
- For example, it would not be advisable for a housewife to buy a complicated and expensive model of a sewing machine when she needs to do only simple repair work at home.

After-sales service:

- When an equipment is constantly used, it is bound to undergo wear and tear in due course of time. If you need any service, repair or replacement of parts of an equipment, then it should be conveniently available at an affordable price.
- Therefore it is necessary to make sure that after sales service is available at the local market place. An equipment with a good after-sales service is always the right choice!

Thank You