



16

HOUSEHOLD EQUIPMENT

You must be using a lot of equipments in your home to help you in doing your day-to-day jobs. These equipments help you not only to save your time and energy, but also to do your work more efficiently. You may use some of them for recreational purposes like a television and a music system. You may find that some of them remain in good working condition while others may require frequent repairs and replacements.

What do you do under such circumstances? Can you avoid these frequent trips to the market? Can you tell how? Yes, you can avoid these trips through proper selection, care and maintenance of these equipments. The market provides a wide range of equipments in terms of cost, quality, design, material used, etc. You also find standization marks and a guarantee on some of these equipments. What kind of knowledge do you need about these equipments? How can you select them properly? How can you take care of them? You will find answers to these and other similar questions in this lessons.



OBJECTIVES

After reading this lesson you will be able to:

- define the term 'equipment' and classify the common household equipments;
- describe the factors affecting the selection of household equipments;
- explain the points to be kept in mind for correct use of household equipments;
- enumerate the methods for proper care and maintenance of equipment;
- provide guidelines for conservation of fuel, electricity and water while using household equipments.



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16.1 CLASSIFICATION OF EQUIPMENTS

All of us do our work in two ways - some of us work with our hands, and some others take help of certain things. These things help us to do our work in a better way.

Any thing that aids you in doing work is known as an equipment.

Some of these equipments need electricity to operate and some do not. Hence, we can say we have two types of equipments:

- Electrical and
- Non-electrical

(i) **Electrical:** Look around your home and try to identify some equipments which need electricity to work. Which are those items? Yes, you are right! These are items like toaster, mixie, immersion rod, iron, refrigerator, washing machine, geyser, etc. which can work only with electricity.



Fig. 16.1: Electrical Equipment



Fig. 16.2: Non-electrical equipment

(ii) **Non-electrical:** There is another category of equipments which do not need electricity to run. This category consists of kitchen utensils and tools, sewing machine, cooking stove, solar cooker, etc. These are manually operated. Some times, we can think of using



a non-electrical equipment instead of an electrical equipment eg. instead of a refrigerator which works with electricity, we can make use of a “Grameen Sheetal” which can help to keep our food cool.

The “grameen sheetal” consists of a small cupboard made of wire-mesh. This is kept covered with a jute cloth (taat) on all sides except the front. The ends of the jute cloth dip into bowls of water and hence remain wet constantly.

Thus, we use a number of things in the home to do our work. These things are called equipments. We use them to save our time and energy and also to increase our efficiency.

Efficient use of equipments includes their correct selection, operation and care, so that the homemaker can perform **maximum amount of work with minimum effort, in the shortest possible time.**

16.2 SELECTION OF HOUSEHOLD EQUIPMENTS

You have studied the classification of equipments that are generally used at home. You are also aware that these equipments have a variety of features and are available in different models, at different prices.

So, when you go to the market to buy any equipment, you should know the points to consider while making your selection. The criteria for selection of one equipment varies from another. Let us discuss them in detail here.

1. **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.
2. **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.

3. **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



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easy to clean as compared to a toaster fixed with a non-removable tray at the bottom.

4. **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? Yes, you are right.

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.

Standardized Products:
Those products which meet minimum standards of safety, durability and performance.

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. Such equipment are also not safe to use since they can hurt you while using.

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.

Guarantee : A promise for the efficient performance of an equipment.

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.

5. **Cost:** Whenever you go to the market, what is the first thing that you want to know? Yes, it is the cost of the item.

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 ice-creams, 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.



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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.

- 6. **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!



INTEXT QUESTION 16.1

- 1. Fill in the blanks
 - (a) Equipments are classified as _____ and _____.
 - (b) Efficient use of equipment includes their correct selection, _____ and _____.
 - (c) _____ is a promise for efficient performance of an equipment.
 - (d) The foremost criteria for the selection of an equipment is _____ based.
 - (e) An equipment that can perform a number of function is generally more _____.
 - (f) Good after-sales service ensures easy _____ and _____.
- 2. State which of the following statements are true (T) or false (F). Justify your answer.
 - a) Only electrical equipments are labour saving.
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 - b) Non-electrical equipments are manually operated.
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 - c) Standardized products ensure safety and durability.
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- d) An ISI mark is given to all electrical equipments.
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- e) Expensive equipments fulfill family needs more than inexpensive ones.
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Activity 16.1 : Visit an electronic and electrical goods shop and find out the following details of a refrigerator and television. Record the following details:

<i>Details</i>	<i>Refrigerator</i>	<i>Television</i>
- brands and models (size and features)		
- cost		
- after-sales service		
- guarantee		

16.3 CORRECT USE OF HOUSEHOLD EQUIPMENTS

The use of an equipment is, no doubt, beneficial for everyone in terms of the time, labour and energy that are saved but at the same time, there are a few precautions everyone must observe while using it. This will ensure you a long trouble - free service from that equipment.

Can you say why it is necessary to take precautions? Because if we are careless, serious accidents can occur which can even endanger our life.

Here are some points which you must keep in mind while using any equipment.

- Read the instructions given with the equipment and follow them strictly.
- See that the wire and plugs of all electrical equipment are in proper order and there is no leakage of electricity. Remove the plug before cleaning an equipment to cut off the power supply.
- Keep all electrical equipment away from water taps. Do not wash these equipments with water unless the instructions say so.

Can you tell why? Yes, it can give you a shock.



16.4 CARE AND MAINTENANCE

While it is important to select good quality equipments it is equally important to take proper care of these equipments for trouble free and long service. Some simple care and maintenance measures will help you to achieve this.

These are listed below.

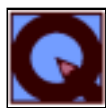
- Do not touch any electrical equipment with wet hands or feet.
- If you get even a light electric shock from any equipment, do not use it again until it has been repaired.
- When you plug in the electrical equipment, see that its wire does not come in your way when you walk. Can you tell why? Yes, you may trip over it and fall. Make sure that the plug is tightly fixed in the socket and the wire is securely tightened with a 3-pin plug.
- 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. You can also 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.
- Do not wear synthetic clothes while working in the kitchen. Why is it important to ensure this? Nylon catches fire easily, melt and sticks to the skin causing very deep burns.
- Use pans with bakelite or wooden handles. In case there are no handles, use a napkin or tongs to remove them from the stove or chullah. Never use your own dupatta or sari pallu for this purpose.
- 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.
- For a kerosene stove, fill the tank upto about $\frac{2}{3}$ rd level of the oil tank to avoid bursting of the tank. Do not refill kerosene oil in a cooking stove or a generator while they are on.
- Immediately replace the cracked rubber tube of a LPG stove and the worn-out, cut or exposed wires of electric equipment. The gasket of a pressure cooker also needs to be replaced if it becomes loose or hard.
- Turn off the knob of a LPG cylinder whenever it is not in use to prevent leakage of gas.
- Carefully store equipment with sharp blades or edges so that their sharp ends do not cause any injury. For example, a knife should be stored vertically with its blade pointing down wards. When you pick up the knife for use, your hand will touch the handle first.

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- Always keep the vent pipe of a pressure cooker unclogged and clean to ensure smooth flow of steam. Do not try to remove the weight from a pressure cooker till the pressure comes down. Wait for the hissing sound of steam to stop before opening the pressure cooker lid.
- While using non-stick utensils, do not use metal spoons or ladles for stirring as this can damage the non-stick coating. For the same reason, do not use a hard scrubber to clean these utensils after use.
- To ensure smooth running of a sewing machine keep it clean and oil its parts regularly.
- While using a microwave oven do not use metal containers, use only microwave oven proof containers. Follow instructions carefully before every use.

**INTEXT QUESTIONS 16.2**

Fill in the blanks by using the most suitable words from the list given below.

Wire, microwave oven, synthetic, plug, MCB/fuse, accidents, vent pipe, warm.

1. Careless use of household equipments can cause serious _____.
2. Before cleaning an electrical equipments the _____ should be removed from the switch board.
3. A _____ fixed on the electrical main point cuts off the power supply by breaking the circuit.
4. _____ clothes should not be worn while working in the kitchen.
5. The _____ of a pressure cooker should be kept unclogged and clean to allow steam to pass freely.
6. Metal containers should not be used while cooking in a _____.

16.5 CONSERVATION OF FUEL, ELECTRICITY AND WATER

So far you have learnt how to select household equipment and their use. Now, you need to know about conserving important resources like electricity, fuel and water as their supply is very limited. We need to conserve them to ensure that they are not exhausted and are available in the future too. We can also save money in this manner. Let us find out how we can do it.

- **Fuel**

You need to conserve fuel like gas, kerosene oil or wood used at home. How can you do this?

**Notes**

Follow the simple tips given below:-

- Clean the burner of your stove (gas/pressure/wick) regularly.
- Before cooking, allow frozen food to come to room temperature, as it will use less fuel to get cooked.
- Soak pulses, dals and rice for sometime before cooking.
- Always use a pressure cooker instead of an open pan as it will use less fuel. Try to cook as many things (eg. rice, dal, vegetables etc.) as possible at one time in the pressure cooker, using the separators.
- If you are using the pressure cooker, lower the flame after the pressure is built in the cooker ie. after the first whistle.
- Cover the pan while cooking.
- Allow hot food to come to room temperature before storing in the refrigerator.
- Use solar cookers for cooking to save fuel.



Activity 16.2: Soak 250 gms of dal and then pressure cook. Also cook the same kind of dal without soaking. Compare the time taken for cooking soaked dal with the time take for cooking unsoaked dal.

- **Electricity**

You know that light is very important for all of us to see things properly. Lighting is available naturally, i.e., through sun and artificially by the use of electric bulbs/tubes. Electricity is a form of energy. This is used in the home in two ways:

- (1) To produce heat or light - using iron, toaster, immersion rod, light bulbs, etc.
- (2) To produce movement by means of a motor ie. for running equipments like fans, coolers, refrigerators, mixer, grinder, etc.

We have to pay for the electricity used, which is becoming very expensive now-a-days. So you have to be very careful while using electricity at home. You can conserve electricity by following very simple steps:

- Avoid frequent opening of the refrigerator door. Plan all your activities to keep and take out things from the refrigerator at the same time.
- Switch off all the lights and fans when you leave a room.
- Use a low wattage tube light for general lighting in your bathroom, toilet, garden, etc.
- Minimise the use of geyser, washing machine, mixer-grinder, etc.
- Keep your electrical appliances in good working condition. If any part is defective, get it repaired immediately.



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- Increase the use of solar lantern, cooker and water heater to save electricity.
- Use tube lights and CFLs (compact fluorescent lights) instead of incandescent bulbs.

The modern home has equipments like televisions, telephones (landlines and cellphones), computers, fax machines and answering machines, music systems etc. We should use them discretely, avoid their misuse to reduce their running costs. For example, keeping the televisions on throughout the day will increase the electricity bill. We should also ensure that they do not create noise pollution and disturb others.



Activity 16.3 : Try and follow the tips given here for conserving electricity at home for a month, and

- (1) Compare the electricity bill for this month with the earlier months.
- (2) Think of similar methods for saving your resources and find out the savings you made in each case.

● **Water**

Everyone is familiar with the water shortage these days. It is very essential that not a single drop of water be wasted. Do you know how you can do this?

Yes, there are a number of ways by which water can be conserved. Look at the illustration given below. It clearly indicates the amount of water each activity consumes.



Fig. 16.3



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Given below are some of the methods for conserving water:

- Water used for washing clothes can be used for cleaning and mopping floors in house especially the staircase and verandah.
- Water used for washings fruits and vegetables can be used for watering plants in the garden.
- Bathing from water filled in a bucket consumes less water as compared to a shower bath.
- Take water in a vessel for washing fruits and vegetables rather than washing them under running water.
- While brushing your teeth or washing face take water in a mug, rather than using a running tap.
- Use a bucket and mug for watering the plants and washing your car instead of using a pipe.
- While filling the water cooler, do stand there, otherwise the water will overflow.

Can you think of more such ideas? Try all those ideas and if they work in reducing water wastage, share them with your friends and neighbours.



Activity 16.4 : Calculate the total quantity of water your family needs in a day. Another day, while washing clothes, do not throw away the water. Collect it. Use it for mopping the house and cleaning the car. Think of alternative methods for which you can utilize the water. Try to estimate the amount of water you will save if you do this for a week, and for a month.



INTEXT QUESTIONS 14.3

(1) What do you understand by conservation of electricity at home? Explain with examples.

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(2) State four points you would keep in mind for conserving fuel at home.

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(3) Write 'True' and 'False' for the statements given below.

Give reasons for your answer

(a) A stove burner does not require regular cleaning.

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(b) Repeated whistles of pressure cooker kept on high flame indicates fast cooking.

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(c) Tube lights and CFLs consume less electricity.

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(d) Keep the tap running while brushing.

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(e) While cooking food in a pan, do not put the lid on the vessel.

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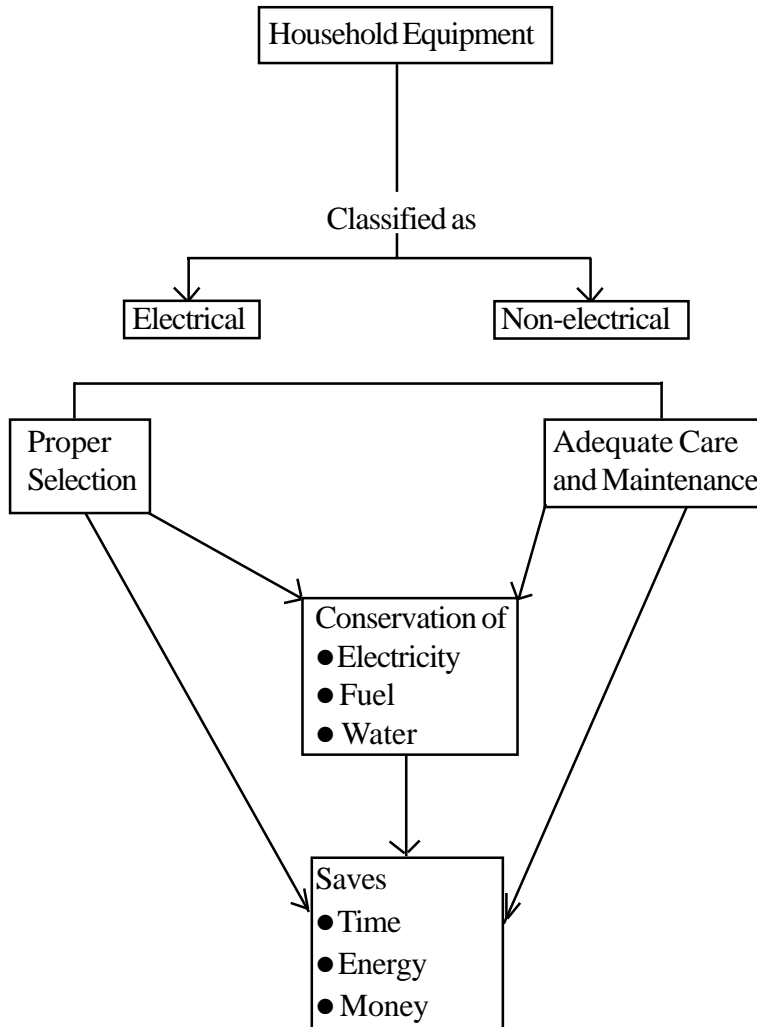
(f) Washing a car with water collected in a bucket saves water.

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WHAT YOU HAVE LEARNT

In order to make it easier for you to remember, here are the main points of the lesson:



TERMINAL EXERCISE

1. Define the term “labour saving device”.
2. State the points you will keep in mind while using electrical equipments at home.
3. What is “grameen sheetal”? Discuss its utility.
4. List five factors to be kept in mind while selecting household equipments.



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5. State four guidelines for proper care and maintenance of household equipments.
6. Which of the following actions are unsafe and why?
 - a) Wearing nylon clothes while working in the kitchen.
 - b) Refilling oil in the stove or generator while it is still on.
 - c) Using a cracked tube to connect the gas cylinder to the gas stove.
 - d) Using nylon scrubbers to clean non-stick pans.
 - e) Forcing the steam out of a pressure cooker by lifting its weight.
 - f) Removing the plug before touching the electrical equipments.
 - g) Operating electrical equipments with wet hands.



ANSWERS TO INTEXT QUESTIONS

16.1

1.
 - a) electrical, non-electrical
 - b) operation, care
 - c) Guarantee
 - d) Need
 - e) Expensive
 - f) Repair, replacements.
2. a) F b) T c) T d) T e) F

16.2

1. Accidents 2. Plug 3. MCB/fuse 4. Synthetic
5. Vent pipe 5. Microwave oven.

16.3

1. Refer to text
2. Refer to text
3. a) F b) F c) T d) F
e) F f) T

ANSWERS TO TERMINAL EXERCISE

Refer to text for 1-5

6. Unsafe actions: (a) (b) (c) (d) (e) f) (g)
(For reasons refers to text)

*For more information log on to
[http://dbs.extension.iastate.edu/answers/projects/answerline/questions/Household Equipment.html](http://dbs.extension.iastate.edu/answers/projects/answerline/questions/Household_Equipment.html).*