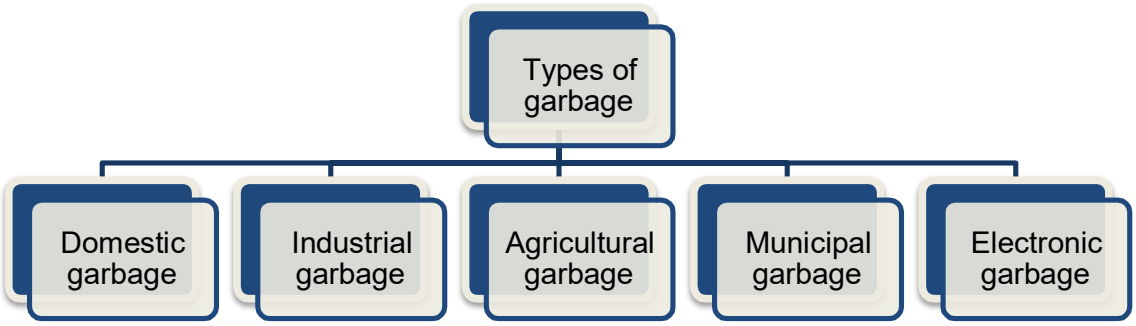
SCIENCE

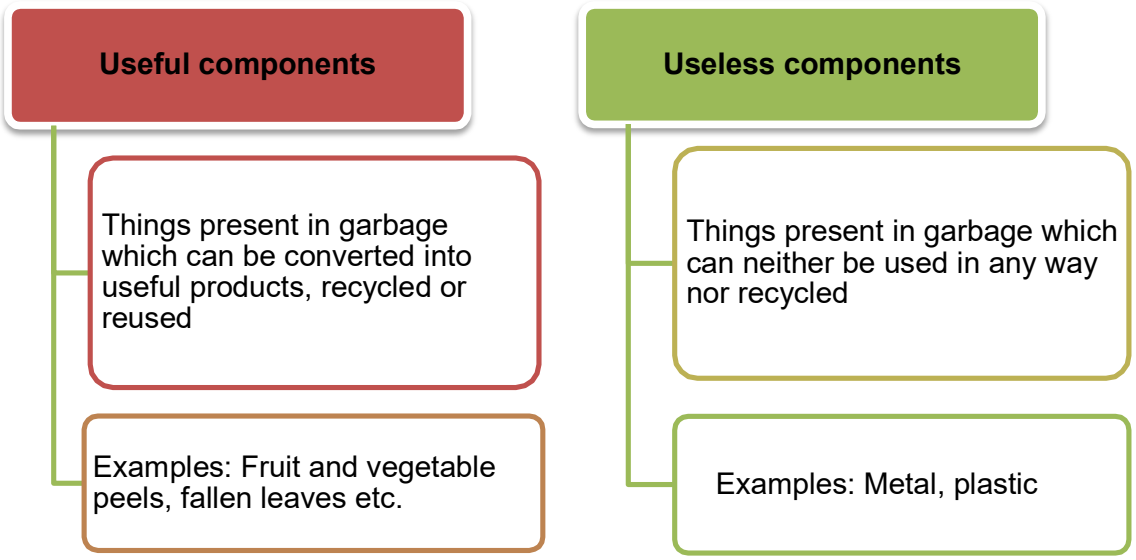
Garbage In, Garbage Out

Garbage

- The household waste or rubbish produced in our day-to-day life is called**garbage**.
- Garbage includes spoilt food, vegetable peels, leaves, wood, grass, paper, leather, cotton, cattle dung, metals, fibre, paper, rubberetc.



Components of Garbage

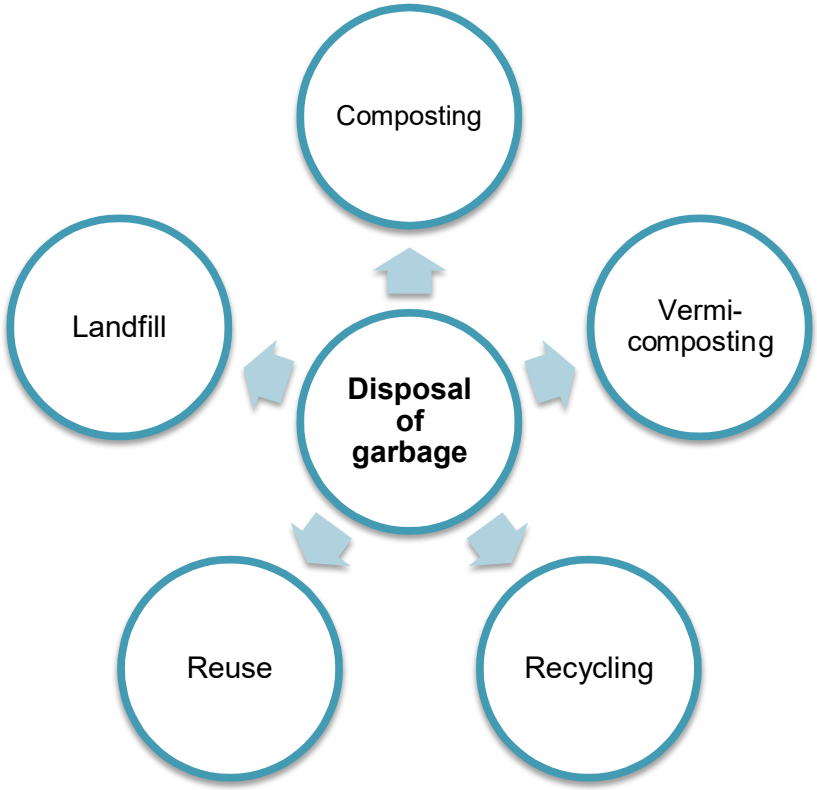


Biodegradable and Non-biodegradable Wastes

Biodegradable Wastes	Non-biodegradable wastes
•These wastes can be brokendown into non-poisonous substances by the action of microorganisms such as bacteria andearthworms. •Examples: Spoilt food, vegetable peels, tea leaves, wood, grass, paper, leather, cotton, cattledung etc	•These wastes cannot be broken down into harmless substancesby any biologicalprocesses. •Examples: Glass bottles, metal cans, polythene bags, synthetic fibres, radioactive wastes,plastics and pesticides likeDDT

Disposal of Garbage

- Disposal of garbage means to get rid ofgarbage.



Methods of Disposal of Garbage

Composting

- The rotting and conversion of organic waste into manure is known as composting. The product formed after composting is calledcompost.
- Household garbage such as fruit and vegetable peels, egg shells, waste food, tea leaves as well as farmland wastes such as dried leaves, husk and parts of crop plants from fields after harvesting can all be converted into usefulcompost.
- The use of compost improves the fertility of the soil as it provides nutrients to thesoil.
- Dry composting toilets are a hygienic and cost-effective solution to dispose of humanwastes.
- A major drawback of composting is that due to lack of adequate knowledge most people do not segregate wastes in their homes which hampers the process ofcomposting.

Vermicomposting

- The method which involves the use of worms to decompose wastes is called**vermicomposting**.
- The product formed after vermicomposting is called**vermicompost**.
- Earthworms can degrade or decompose wastes such as domestic waste, cow dung, coconut thresh etc. in a fewdays.
- The manure generated through vermicomposting is highly nutritious and useful for good growth of garden plants and even for agriculturalpurposes.
- Making vermicompost is quitecheap.
- Vermicompost is a natural manure which does not harm thesoil.
- Vermicomposting is a very valuable technique for converting solid waste into useful compost or manure.

Recycling

- Separation of waste materials from refuse and then reprocessing them for reuse is known as reclamation of waste orrecycling.
- Most waste materials such as scrap metals, paper, rubber, synthetics, glass and plastic can be reused.
- Waste paper is sent to paper mills where it is repulped and reprocessed to form new paperagain.
- Waste materials such as glass can be crushed, remelted and made into newcontainers.

Reuse

- Reuse means not to throw old goods away, but to use the same goods again andagain.
- The demand for new goods is reduced due toreuse.
- Forexample:
  - Plastic jars of jams, pickles, oils, ghee etc. can be reused for storing salt, spices, sugaretc.
  - A diary can be made from old invitationcards.

Landfill

- Large-scale disposal of solid waste is carried out by putting the waste in low areas of the ground and then covering it with earth. This is called alandfill.
- Landfill is one of the traditional methods used to dispose of hazardous waste and is mainly practised in urbanareas.
- Landfill uses a large amount of land and very often produces a foulsmell.
- If wastes such as batteries etc. are dumped in a landfill, then toxic substances percolate into the earth and pollute thegroundwater.

Plastics - Boon or Curse?

- Plastic is an organicpolymer.
- A large number of items such as bags, bottles, toys, buckets, combs, water pipes as well as parts of radios, television sets, automobiles, refrigerators etc. which we use in our day-to-day life are made of plastic.

Problems due to Excessive Use of Plastics

Some kinds of plastics can be recycled, but not all.

All types of plastics emit harmful gases on heating or burning which can cause health problems and even cancer in humans.

Plastic bags thrown carelessly on roads can enter the drains and the sewer system, choking them and causing floods during heavy rains.

Low-quality plastic does not decompose easily and persists in the environment for a longer period of time.

Stray animals looking for food end up swallowing plastic bags containing food. This can result in death of the animal.

Efforts to Minimise the Use of Plastics

- Avoid storing eatables in plastic bags.
- Ensure that plastic bags given to us by shopkeepers have not been used earlier for some otherpurpose.
- Never dispose of garbage in plastic bags and throw them away.
- Reuse plastic bags whenever possible. Make use of paper, cloth or jute bags for shopping.
- Do not throw plastic bags all over the place after use.
- Do not burn plastic bags or plastic items.

- **Bioplastics** are a form of plastic which are made from renewable biomass sources such as plants like potatoes, corn starch, pea starch, vegetable oils or other agricultural products owing to the action of certainmicroorganisms.

Some of the Ways to Reduce the Generation of Garbage

- Disposal of kitchen garbage by vermicomposting to obtain high-quality manure for plants.
- Making full use of paper by writing on both sides.
- Used newspapers, magazines and notebooks should be recycled.
- Usage of cloth, jute or paper bags for shopping instead of plastic bags.
- Recycle old and useless objects made of glass and metals and plastics.