

# SEED DISPERSAL



# Seed Dispersal

Reproduction in plants — getting the seeds dispersed

- 🌱 Flowering plants have different adaptations to enable their seeds to be dispersed as far away as possible.
- 🌱 The different methods of seed dispersal are...
  - 🔴 by wind
  - 🔴 by animals
  - 🔴 by water
  - 🔴 by explosion

# At a glance...

## Adaptations for reproduction

plants

seed dispersal

by wind



by water



by animals



by Explosion



## Dispersal by Wind



dandelion

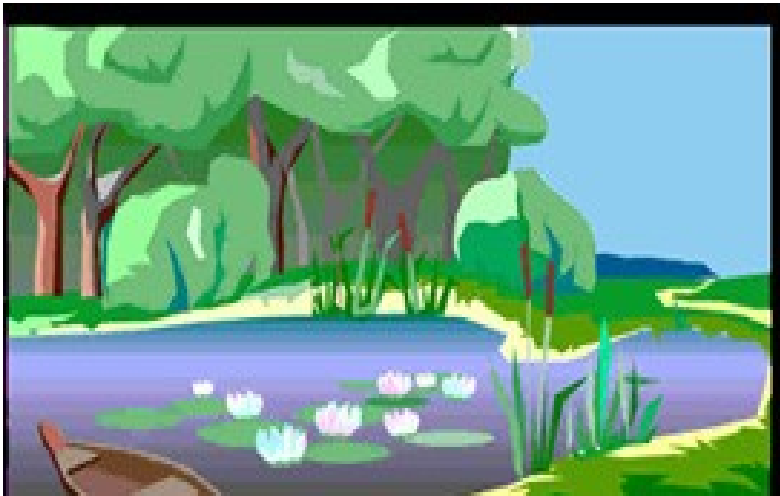


Orchid

- Some seeds are carried to a new place by the wind. These seeds are very light.
- The seeds of the orchid are almost as fine as dust.
- Many have hairy growths which act like little parachutes and carry the seeds far away from the parent plant.
- The seeds of the dandelion are carried by the wind.

# Dispersal by Water

- Water lily and the coconut palm are carried by water.
- Coconuts can travel for thousands of kilometres across seas and oceans.
- The original coconut palms on South Sea islands grew from fruits which were carried there from the mainland by ocean currents.





# Dispersal by Animals



- The animal eats the fruit but only the juicy part is digested.
- The stones and pips pass through the animal's digestive system and are excreted to form new plants. This can be far away from the parent plant.
- Blackberry, cherry and apple seeds are dispersed in this way.
- Birds also like to eat fruit and they help to disperse seeds to other areas through their droppings.
- Squirrels collect nuts like acorns and bury them for winter food, but they often forget where they have buried them and these grow into new trees.
- Some fruits like that of the burdock plant have seeds with hooks.
- These catch on the fur of animals and are carried away.



# Dispersal by Explosion

- Some plants have pods that explode when ripe and shoot out the seeds.
- Lupins, gorse and broom scatter their seeds in this way.
- Pea and bean plants also keep their seeds in a pod. When the seeds are ripe and the pod has dried, the pod bursts open and the peas and beans are scattered.



# Natural Resources

- Natural resources : Natural resources are the resources available in a nature like air, water, sunlight, soil, minerals, forests, wild life etc.
- Natural resources are of two main types.
  - renewable
    - Renewable natural resources :- are the resources which can be replenished in a short period of time like air, water, sunlight, forests etc.
  - non renewable natural resources
    - ii) Non renewable natural resources :- are the resources which cannot be replenished in a short period of time like minerals (coal, petroleum, natural gas, metals etc.) because they take millions of years to be formed.
- Human activities produce a lot of waste materials which are thrown away into the environment. These wastes cause pollution of natural resources like air, water and soil.
- There are mainly four types of pollution
  - Air Pollution
  - Water Pollution
  - Land Pollution
  - Noise Pollution





# Types of Pollution



Air Pollution



Water Pollution



Noise Pollution



Land Pollution

# The Three R's to save the environment

- The three R's to save the environment are Reduce, Recycle and Reuse.
  - Reduce :- means using less of natural resources and avoiding wastage of natural resources.
  - Recycle :- means the materials like paper, plastic, glass, metals etc. used for making things can again be used for making new things instead of synthesizing or extracting new paper, plastic, glass or metals.
  - Reuse :- means using things again and again like the plastic bottles in which we buy jams, pickles etc can be again used for storing things in the kitchen.

# Conservation of forests

- Forests can be conserved by
- Afforestation – planting of more trees
- Preventing or reducing deforestation
- By setting up wildlife sanctuaries, national parks, biosphere reserves etc.
- Undertaking social forestry programs like Van Mahotsav, Chipko movement for planting and protecting trees on a large scale.



# Conservation of wildlife

- Preserving the natural habitats of animals
- Banning poaching of animals
- Protecting endangered species of animals.
- Setting up of wildlife sanctuaries, national parks, biosphere reserves etc.







# Conservation of Water



- Water is a basic necessity for all living things. We use water for our daily needs, for agriculture, transportation, construction of buildings, roads, dams etc.
- Water is a natural habitat for aquatic organisms. Human activities are affecting the availability of water and causing pollution of water bodies.
- Dams : Advantages of dams :- i) Irrigation of crops. ii) Producing electricity. iii) Supplying water to towns and cities. iv) To control floods. Disadvantages of dams:- i) Social problems :- It displaces a large number of people who have to be rehabilitated. ii) Economic problems :- It is expensive and uses a huge amount of public money. iii) Environmental problems :- It causes deforestation and loss of biodiversity.



# Germination of Seed

