

SEED DISPERSAL



What does seed dispersal mean?

Seed dispersal is when seeds are **transported** from the plant to another area in order to grow.

Why do you think plants decide to spread their



If a **mother** plant and a **young**, growing plant are in the same place, they will **compete** for water, sunlight and carbon dioxide. The baby plant is much weaker and therefore will (in most cases) not receive enough and die.



**With your partner
can you think of any
ways in which seeds
might travel from
one place to
another?**

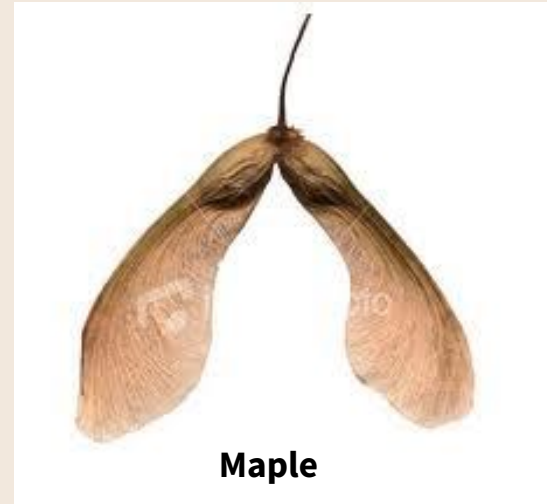
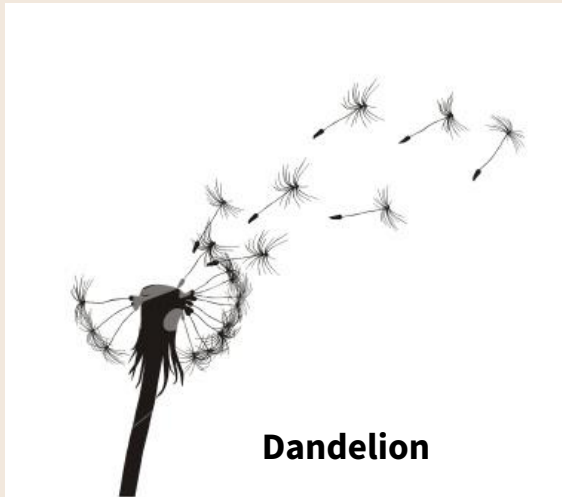
We call these
**methods of seed
dispersal.**



WIND DISPERSAL

Plants may produce fruits with flight mechanisms, like *parachutes*, *wings*, etc.

They float or flutter in the wind to new locations.



WIND DISPERSAL

Some plants, such as the **dandelion**, have seeds that act as parachutes, which are carried away by the wind.

- Seeds must be very light to float in the wind or it will just drop to the floor.
- Some of the seeds are so small that they look like dust.
- Examples of these very small seeds are orchid and poppy seeds.



WIND DISPERSAL

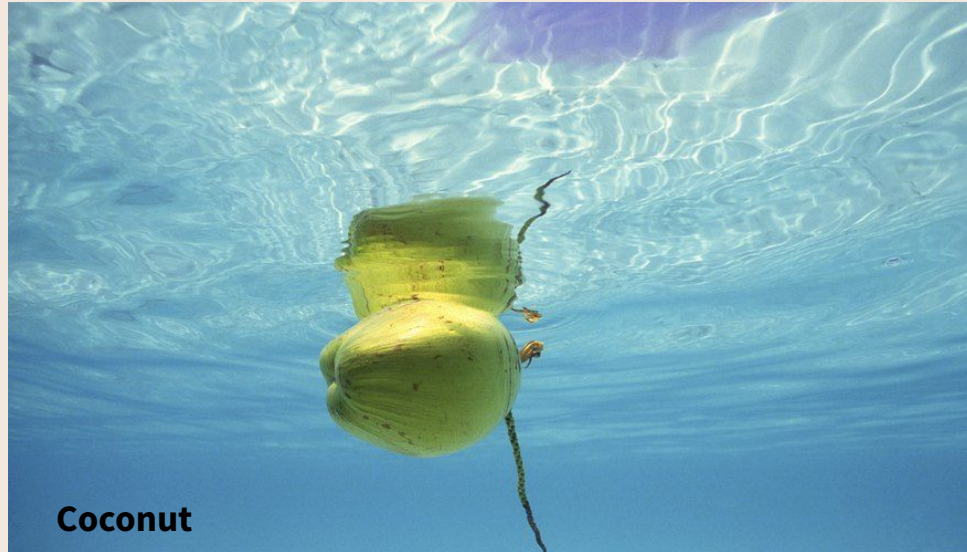
Maple fruits are **winged**, two seeded pods

- They spin like helicopters as they fall from the tree, providing a **longer time for dispersal by wind** which allows them to travel **further distances** away from the mother plant.



WATER DISPERSAL

Plants near water produce fruits that are woody or contain air pockets that float on water to other locations.

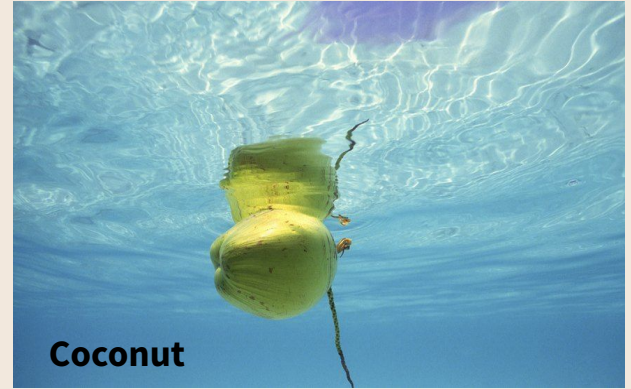


Coconut

WATER DISPERSAL

Fruits/seeds fall from the plant, into the water and could be carried for long distances.

Example: Palm tree which drops its seeds, called **coconuts**, into the sea/ocean with powerful currents taking their seeds across continents.



WATER DISPERSAL

The **water lily** is another plant that uses this method

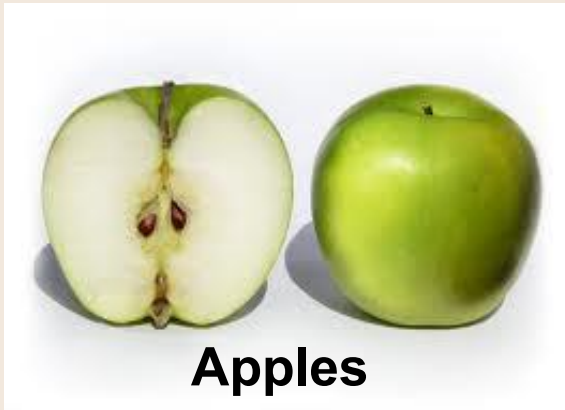
- Its fruits eventually sinking to the bottom and grow root at the floor of ponds.



Water Lily

ANIMAL DISPERSAL

Plants may produce **fleshy fruits** which animals **eat**.
The seeds pass through **undigested** and are deposited
in feces elsewhere.



ANIMAL DISPERSAL

Plants may produce fruits that have **burrs** (hooks) which stick to animals' **coats** and are carried away.



Thistle



ANIMAL DISPERSAL

The **acorn** is the fruit of the oak tree. It contains a single **seed** enclosed in a tough shell.

- Too heavy for wind dispersal
- Spherical shape = fall from trees and roll.



Jays and squirrels scatter acorns → plant acorns in a variety of locations where it is possible for them to take root and grow.

ANIMAL DISPERSAL



BURSTING (MECHANICAL) DISPERSAL

Some fruits can **explode** when ripe and shoot out their seeds.

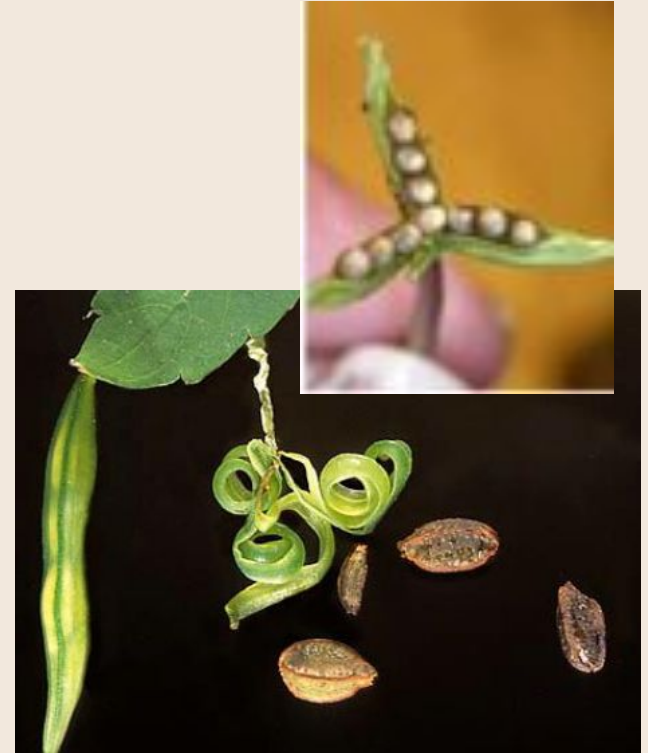
Pea pods often use this ‘**mechanical**’ dispersal.



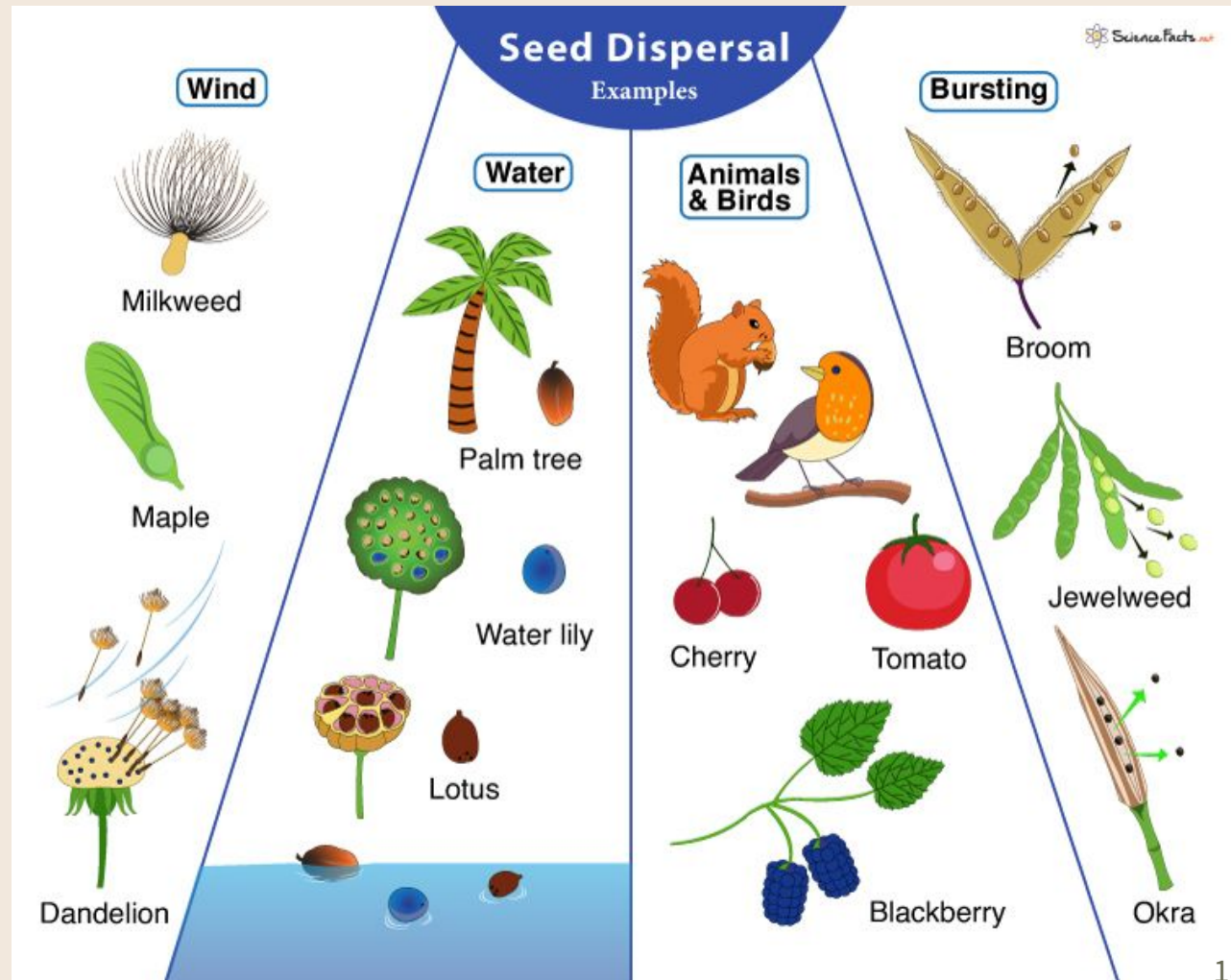
BURSTING (MECHANICAL) DISPERSAL

Pea and Bean Pods

- Keep their seeds in a pod
- When the seeds are ripe and the pod has dried, the pod bursts open.
- Peas and beans (seeds) are scattered



Examples of Seed Dispersal Methods:



Design Your Own Seeds

In groups of 3 or 4, design a seed that can be dispersed by either **wind** or **animals**.

- ❑ Use up to three materials to make their seeds.
- ❑ Must hold our seed (paperclip)

We will test your designs using two tests:

- ❑ **Wind test** - distance travelled when blown by hair dryer (wind)
- ❑ **Animal test** - stuffed animal shaken 5 times to see if it sticks

Exit Slip: Before you leave today...

- 1. What design did the winning "fruit" have?**
 - a. Why was this a particularly effective dispersal?
- 2. Imagine their own seed, predict how it will disperse, and describe how its physical characteristics make that dispersal method most likely.**