

activity 10

Seed dispersal



Age 8-12



Time

Activity - 30 minutes

Materials

Seed suggestions: *Dandelion*, *Cleaver*, *Sunflower*.

Whole *Apples* and/or *Blackberries* (optional).

Electron micrographs of the seed selection.

Teacher worksheet 4.

Pupil worksheet 11.

Through these activities children can learn:

- that there are variations in seed shapes
- that these variations are important because they help the seed to reach a suitable habitat and to colonise new areas, free of competition from their own species.

Skills developed:

- observation
- classification
- discussion
- interpretation

How to begin:

- Explain that dispersal ensures that a seed moves away from its 'parent' plant so that it has room to grow. Try, during discussion, to introduce a country-to-country scale, as well as a local scale.
- Ask the children to predict different ways in which they think a seed might move away from its 'parent' plant to another place (Q1).
- Look at the seeds and the corresponding electron micrographs. Use a binocular microscope if available, or hand-held magnifiers. Ensure the examining area is well lit.
- Talk about the samples and the photographs. Encourage the children to identify possible methods of dispersal (Q2).
- Initiate a classification exercise. You may wish to use Teacher worksheet 4 and Pupil worksheet 11.

Key questions:

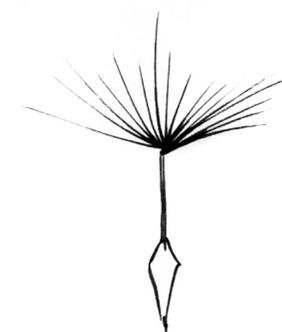
Q1. Can you think of ways in which a seed can move around?

Q2. What kinds of dispersal method do you think these seeds use?

Extension activities:

Extension activities may be achieved through any of the questions below:

- Which fabric is best for collecting hooked seeds? Devise a fair test.
- Is it true that all large plants grow from large seeds? Devise a fair test to prove or disprove your ideas.
- Do all fruits contain the same number of seeds? Examine a range of fruits to try and find out the answer. You may wish to encourage the children to use biological reference books.



Dandelion
Seed



Sycamore
Seed

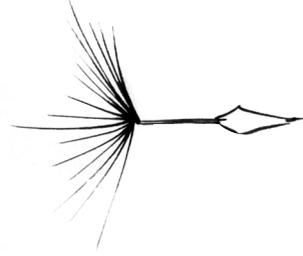
Activity 10: Teacher worksheet 4

Seed Movement

The four main ways that seeds and fruits move away from their parent plant are:

1. Wind

Small seeds often have a large surface area but little weight. Some may have parachutes like *Cotton* or wings like *Pine*. Fruits with parachutes include *Dandelion*, winged fruits include *Sycamore*.



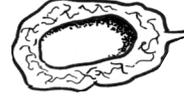
Dandelion



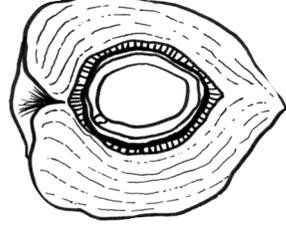
Sycamore

2. Water

Seeds and fruits have a spongy outer casing as in a *Water Lily* or a fibrous, buoyant casing as in a *Coconut**, which allows the seed or fruit to float.



Water Lily



Coconut

* Generally the *Coconuts* you can buy in a supermarket or greengrocers have had their fibrous casing removed.

3. Animals

Animals may disperse seeds and fruits by:
 i) eating the seed/fruit and passing the seed in faeces or through scattering, e.g. *Blackberries*, eaten by birds; *Alorns*, scattered by squirrels.
 ii) attachment of seed or fruit onto the animal by hooks, e.g. *Cleavers* on human clothing or on animal fur.



Blackberry



Cleaver

4. Propulsion or explosion (also called 'mechanical')

Here the construction of the plant means that it propels its seeds away from itself; it does not rely on any of the above agents. There are two main mechanisms:

- tensions created by the unequal drying of the wall of the fruit (the pericarp), e.g. the *Violet* and the *Pea*;
- turgidity of the pericarp, e.g. the *Geranium*.



Pea



Geranium

Activity 10: Pupil worksheet 11

Name _____

Seed name

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Seed coat feature
observed

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How does this feature
help dispersal?

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Type of dispersal
(choose from wind,
water, animal or
propulsion/explosion)

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