Age 8-12

Materials
Seed suggestions: Dandelion, Cleaver, Sunflower.
Whole Apples and/or Blackberries (optional).
Electron micrographs of the seed selection.
Teacher worksheet 4.
Pupil worksheet 11.

Time
Activity - 30 minutes

Seed dispersal

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).
• Ask the children to 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.
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.

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.

   * 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; Acorns, scattered by squirrels.
   ii) attachment of seed or fruit onto the animal by hooks, e.g. Cleavers on human clothing or on animal fur.

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:
   i) tensions created by the unequal drying of the wall of the fruit (the pericarp), e.g. the Violet and the Pea;
   ii) turgidity of the pericarp, e.g. the Geranium.
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<th>Seed name</th>
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<tbody>
<tr>
<td>Seed coat feature observed</td>
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<td>How does this feature help dispersal?</td>
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<tr>
<td>Type of dispersal (choose from wind, water, animal or propulsion/explosion)</td>
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