



MODULE 1

A class collage

TIME

2 hours 45 min
Some advance preparation/homework

MATERIALS

Cardboard
Paper
Autumn leaves
Scotch tape/glue
Photocopies of sheet A1

SKILLS

Observation
Aesthetic skills
Group work

KEYWORDS

Herbarium
Season
Leaf fall
Adaptation

CROSS-CURRICULAR ACTIVITY

Art
Environmental education

Overview

The children arrange dried autumn leaves into a 'herbarium' to form an aesthetic composition.

Aims

To develop the skills of drying plants for a herbarium.

To investigate and acquire knowledge about the morphological characteristics of the leaves; shape, structure and colour.

To understand leaf fall in relation to adaptations of plants and their response to seasonal change.

To begin to appreciate the large diversity of plant life.

To use art to develop a positive attitude towards nature.

Teaching sequence

Pre-lesson preparation (about 2 weeks before the lesson):

1. Explain how an herbarium is made (see Teachers' Notes)
2. The children are given the task of collecting autumn leaves, drying and pressing them at home and bringing them to the class.

During the lesson

3. Explain to the children that they are going to make one whole class picture. If you have a large class, it may be necessary for groups of children to prepare elements of the collage that can later be joined together in one large picture.
4. The children are given the cardboard (or sheets of paper) on which to arrange the leaves in their own aesthetic way. Encourage them to think of their own environmental topic for the composition.
5. The children discuss the overall 'story board' for the picture, develop guidelines for the overall appearance of the picture and discuss any issues or changes.
6. The children should think about the shape, texture and colour of the leaves while arranging them and reflect on how best to use their particular forms.
7. Ask them to consider and discuss which leaves come from which trees and how they can recognise these trees.
8. Once the 'collage' has been completed, laminate it and frame it in some way (if possible) to make a classroom 'wall hanging'.
9. Distribute activity sheets A1 (two sheets).
10. The children should discuss the concept cartoon and work in small groups to answer the questions on the sheet, using any evidence from their leaf collection or tree observation.



Teachers' notes

This lesson is an interesting way to begin the school year, focusing on whole class collaboration. The task is a relatively simple one that uses art as stimulation for botanical observation.

Plant drying and pressing, i.e. the formation of materials for 'a herbarium', is a method by which different parts of the plants (leaves, flowers, stems and fruits etc.) can be preserved indefinitely for observation and research at any time of the year. For a botanic garden or natural history collection, a herbarium is like a large library of plants that can be used as a reference point to compare and contrast specimens in order to identify them.

To make their own 'mini' herbarium of leaf types, the children will need several sheets of newspaper. Children should press their leaves between sheets of newspaper – and label each sheet with leaf names if they know them. Pile the newspaper sheets containing the leaf specimens on top of one another, separating each, if possible, with either blotting paper or extra sheets of empty newspaper (for absorbency) and also with sheets of corrugated cardboard if available. (The cardboard is not essential but helps the drying process by allowing air to circulate easily in between the specimens).

Place a sheet of hardboard or very stiff cardboard at the top and bottom of the pile of sheets and compress the pile with books or bricks, or put elastic bands or an adjustable band around the pile. You can also use clean kitchen roll and an old telephone directory. Open the telephone directory and lay a piece of kitchen roll onto the open page. Place the leaves face down on the kitchen roll and place another piece of kitchen roll on top of the leaf. Close the book. Put something heavy on top of the phone directory for about 10 days.

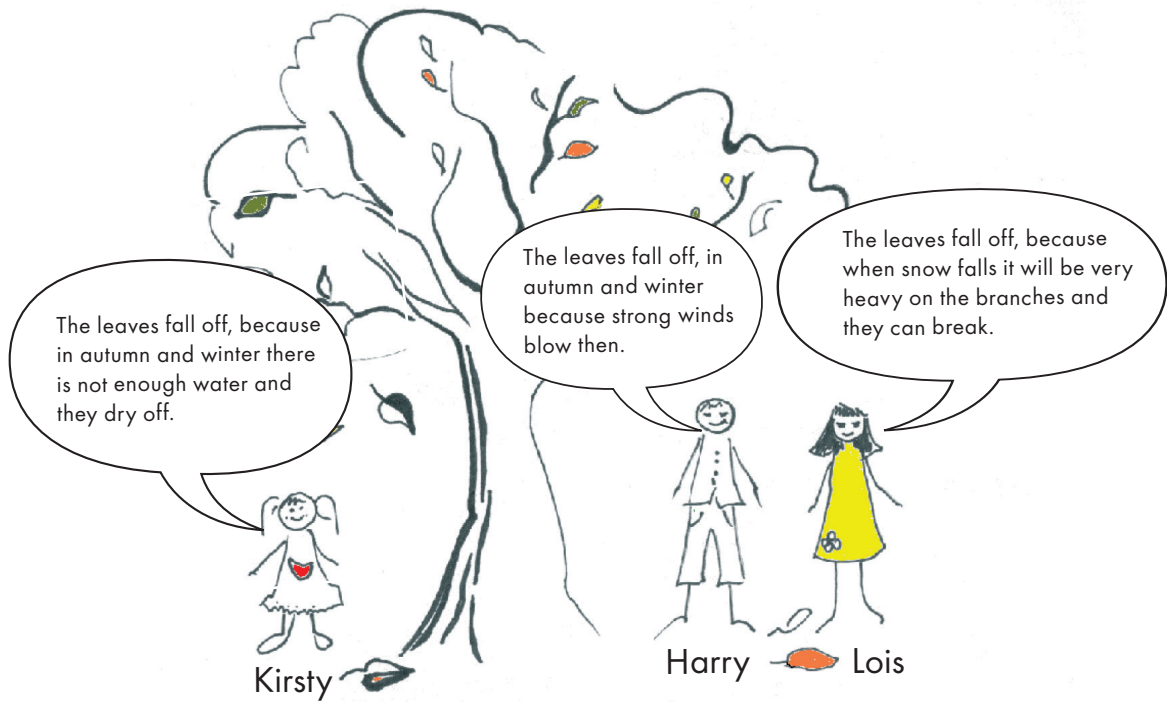
There is a comic storyboard version of how to make a herbarium of seaweed at:
http://www.botany.hawaii.edu/BOT201/Algae/how_to_make_your_own_algal_herba.htm

Keen children can be encouraged to press different leaves and flowers in the same way, making sure that they label each plant preserved. Please explain to children that they should only pick and press common plants or cultivated species that are readily available. They should not pick wild flowers without proper guidance as they may pick something rare. (See Conservation topic).

Leaf fall is seasonal. Encourage children to observe leaves falling from trees in autumn. Water evaporates from the leaves and in autumn and winter the soil freezes so that plants cannot take up sufficient quantities of water. Leaves dry up and fall which decreases the area from which water can evaporate. Scarce water is directed to the buds. In this way the trees protect themselves from excessive loss of moisture. Leaf fall is an important adaptation of deciduous trees and shrubs. It enables them to live through the cold period of the year.

This lesson can be used as the basis for teaching the differences between deciduous and evergreen trees. Teachers can also explain the difference between simple and compound leaves in deciduous species. Compound leaves are made up of several leaf-like parts (usually called leaflets) which are attached to a common stem. They can take a number of forms, e.g. palmate (hand-like) as in horse chestnut or pinnate (feather-like) – as in ash, sycamore or walnut.

Concept Cartoon - Leaf fall



What do you think?

I think that is right, because

Other reasons for the leaf fall are:

In small groups discuss these questions and record your ideas.

You could use these sentence starters

I think that

It seems to me that

I think it is because

What happens to some trees in winter?

Why do you think this happens?

Why do you think leaves do not fall off all trees until autumn?

What else have you observed?



Today I learned