

# Having fun growing plants

➔ Teacher Guidance

## Introduction

The activities here are intended to be fun for the children, growing real plants and encouraging as much participation from them as possible. With regard to the curriculum, the first activity is about seeds (resulting from sexual reproduction), whereas the second activity finds ways of growing more plants from other 'bits' of plants (asexual reproduction). There are lots of opportunities here for questions from the children, to try different things and just having fun!

### Activity 1: Conkers, acorns, pips and other ideas...

This activity gives children a chance to bring their own ideas and materials and have real fun trying to grow some plants. Some 'seeds' are likely to be more successful than others, but a little exploring and watching what happens can bring its own surprises and excitement. The children may need to be patient as some things they bring in could take quite a long time before they germinate – perhaps a term or more.

For most seeds you need some simple containers (such as yoghurt pots, film pots, plastic plant pots – depending on size), and a way of keeping them warm. They can use a soil mix or just capillary matting or paper towels as a medium to start the germination process. Children should know that they need to add water and keep them moist. It may be worth trying some under a light bank.

You may wish to buy seeds of interesting plants from a garden centre, e.g. sensitive plants (*Mimosa pudica*). You can also ask the children to suggest some ideas and let them bring in the seeds, e.g. lemon and orange pips, avocado pips, acorns and conkers.

Some seeds won't grow immediately because they need a period of dormancy (such as acorns and conkers). Collect these in the autumn and put them in containers of sand (preferably tins) to keep out mice and leave them in an unsheltered place outside. Make holes in the lid and bottom to allow aeration and drainage. In about March, bring them into the warm and plant them. At the same time collect twigs (e.g. horse-chestnut) and allow these to sprout indoors (see Exploring a horse-chestnut bud, in *OSMOSIS* 17, Spring 2000)

#### Further activities

1. A day in the life of a star fruit plant (and other activities) by Karen van Oostrum – see SAPS website.
2. Create a 'bottle garden' and grow some plants in the classroom. You can use ideas shown in 'A propagator for small plants or seedlings' in *OSMOSIS* 14 (1998).

Figure 20.  
The sensitive plant (*Mimosa pudica*) – fun to grow from seed.



### Curriculum links

National Curriculum (Sc2)

KS2: 3a

QCA guidelines – Scheme of work

Unit 3B

Scottish ISE 5-14 framework/attainment targets

LT-C2.4

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## Activity 2: More ideas for growing plants

In many plants, a new plant can be grown from other parts of the plant as well as from seeds (see Background information for teachers: Comparing sexual and asexual [vegetative] reproduction).

### Activity 2a: Growing geraniums (pelargoniums) from cuttings

Geraniums (pelargoniums) are easy plants to keep and grow in the classroom. They flower from early summer to late autumn. Geraniums are easy to grow from cuttings taken from a mature plant. Three or four large mature plants can provide cuttings for 20 to 25 children, which they then plant and grow. It is usually recommended that cuttings are taken in late summer but they can be taken early in the spring term. This avoids the problem of looking after the plants through the winter. Cuttings taken in early spring should be in flower by July and are still likely to be in flower at the beginning of the autumn term.

The most important factors when growing plants from cuttings are:

- to prevent cuttings dying from lack of water due to water loss through the leaves (transpiration)
- to ensure the developing roots are in a well aerated growing medium. This allows them to have plenty of oxygen and also prevents them getting too wet and then rotting

### Resources

For each child you need the following:

- a small plastic pot (7 cm diameter). If using margarine pots or yoghurt cartons make some holes in the bottom so they can drain freely
- a large plastic spoon or small trowel
- half of a 1.5 litre lemonade bottle (cut in half across the middle) or a polythene bag large enough to enclose the pot

You also need:

- a 50 : 50 mixture of a peat-free compost and horticultural sand
- plant labels
- healthy mature geranium plants from which to take the cuttings
- a sharp knife (for use by the teacher)

### Preparing the pots

Let each child fill their pot with the soil mix, pressing it down gently. (Remember the soil needs to have plenty of air in it.) Place the pots in dishes of water until the surface becomes moist and then leave the pots to drain while the cuttings are being taken.

### Taking the cuttings

This is best done by the teacher, ideally whilst the children are watching.

- Select a healthy shoot preferably without flowers (especially if using a scented geranium)
- Remove about 5 cm of shoot cutting with a sharp knife just below a leaf joint
- Remove all except the uppermost pair of fully-developed leaves (this helps to reduce water loss through the leaves)
- As you are working, keep the cuttings moist by storing them in a wet polythene bag

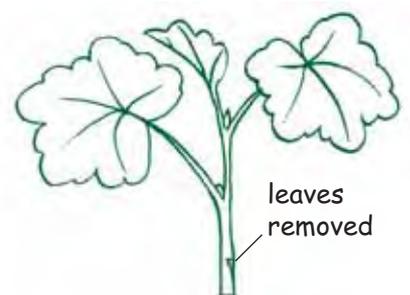


Figure 21. Taking cuttings of a geranium.

## Planting the cuttings

- Let each child push their cutting gently into the soil to just below the lowest leaf and firm it in by gently pressing on the soil around it.
- Cover the cuttings with a transparent cover. Half lemonade bottles are ideal. Polythene bags can be used but should be arranged so that they are not touching the cutting.
- Place the cuttings in a warm light place, preferably not in full sun. They do well under a light bank (see page 14).

After one week, water the pots by standing them in dishes of water. Repeat after about 10 days by which time the cuttings should have rooted and new leaves should have started to develop.

## Looking after the cuttings

Keep the plants in a place where there is plenty of light. If kept indoors, trays filled with wet gravel keep them sufficiently moist. If you wish to keep the plants out of doors, either in pots or planted into beds or hanging baskets, they need to be hardened off. As long as there is no frost, put them outside during the daytime and bring them indoors at night (or at the end of the school day). After one to two weeks, they can be left outside permanently, providing there is no risk of night-time frosts.

Plants can be kept over winter somewhere with a dry atmosphere and where the temperature does not fall below 10 °C. Water sparingly about once a week.

## Activity 2b: Growing potatoes in a bucket

### Resources

- suitable containers, such as buckets or large pots (not less than 25 cm diameter). Make sure the containers have holes in the bottom to allow for drainage.
- 'Seed' potatoes – usually available in garden centres in January and should be purchased then. Choose one of the 'first early' varieties, such as Arran Pilot. **(Note that these 'seed' potatoes are actually stem tubers, not seeds – see page 48.)** The stem tubers have buds in small depressions next to leaf scars (eyes). These are usually concentrated at one end, often known as the 'rose' end.
- compost – use a multipurpose compost, peat-free if possible (see page 42)
- trowels
- egg trays

**Sprouting the potatoes.** In January or early February place the seed potatoes on an egg tray with the rose end uppermost. Leave them under a table at room temperature to sprout. They are ready for planting when the sprouts are about 2 cm long. This takes about 4 to 5 weeks.

**Planting the potatoes.** Place some crocks or gravel in the container to help drainage and nearly fill it with moist compost. Put one potato in the container with the sprouts uppermost. Cover the potato with 2 to 3 cm of compost.

Keep the container indoors or put it in a sheltered place outside, where it is free from frost. Water it regularly (the compost needs to be just damp). As the potato grows you may need to add a bit more soil to keep the underground parts covered. Potatoes should have formed 12 to 14 weeks after planting. Carefully lift the plant and have a look. Pick off the largest potatoes and then replace the plant in the soil so that the potato plant can continue growing.

### Further activities

1. Try growing some different varieties of potato. Here are some names for you to try and find: Duke of York, Charlotte, Anya, Belle de Fontenay, King Edward, Pink Fir Apple.
2. Make a list of the different ways in which potatoes can be cooked.