

Plants and how they grow

➔ *Teacher Guidance*

Introduction

Activities 1 to 6 in this series of activities let children investigate different aspects of plant growth and the requirements for successful growth of young plants. Note that there is some progression through the series, with the later activities being more complex or demanding than the earlier ones. The activities incorporate different ways of making observations, presenting results and carrying out evaluations, including suggestions for the use of ICT. Three games (activities 7, 8 and 9) are useful to help reinforce learning or as end-of-topic activities. 'Design a seed packet' gives opportunities for cross-curricular links as well as being a suitable end-of-topic activity. The 'Seeds and chaffinches' activity helps the children to appreciate why, even though large numbers of seeds are produced by a plant, only a few are likely to germinate in the natural environment.

Activity 1: Do plants need soil to grow?

Resources and preparation for the activity

For the class, you will need the following:

- five clear film pots*
- small plastic teaspoon*
- labels*
- range of materials that might be suggested by the children, such as: soil, sand, paper, compost, cotton wool*
- seeds (such as radish)*

The activity

Discuss with the children the different types of medium that we use for sowing seeds. Ask if they think seeds would germinate if put in a pot with water only. Let them make a prediction as to which materials the seeds will germinate in and how to make this a fair test.

- Place the same 'amount' of material in each pot. One pot can be left without any material. Discuss with the children what they mean by 'amount' (weight, volume, depth?).
- Wet the material in each pot and then pour off any excess water.
- Add two seeds to each pot and then put the lid on the pot to keep the material moist.
- Leave for one week then observe the results. (All of the seeds should have germinated, but some seedlings may look better than others.)
- Record their results on the worksheet. This can be increased to an A3 page to give more space for children to write and draw in the boxes. Word files are provided on the SAPS website.

A Pupil Sheet is given on page 21.

Remember – you can use the Planning Plant (page 3) to help guide children in your class through the investigation. For this activity, you may wish to use only part of the planner and to do the planning as a class activity.

Curriculum links

National Curriculum (Sc2)	KS2: 3a
QCA guidelines – Scheme of work	Unit 3B
Scottish ISE 5-14 framework/attainment targets	LT-D2.5

Do plants need soil to grow?

We will need _____

What we will do

We will put a small amount of _____ at the bottom of the pot, add _____ and _____ and put it in the light. We will

leave our seeds for a week. It will be fair because we will keep these things the same:

1 _____ 2 _____ 3 _____ 4 _____

and only change _____

What we put in the pot	What might happen	What did happen
paper		
compost		
sand		
cotton wool		
nothing		

What we found out _____