

Science Year 1: Growing Plants

Introduction

Use a computer model of growing a plant to summarise and review a unit of work on Growing Plants. Pupils will also use a computer-based writing frame to record the results of an experiment.

Skills involved

What will the children learn?

- That plants need water to grow
- That green plants need light to grow
- How to find out about what plants need in order to grow well
- That a computer can represent real situations and that these do not replace the original exactly
- That computer-based writing frames can be used to structure writing.

What prior experience do the children need?

Computer modelling is not a substitute for the real thing and it is vital that children have experience of growing real plants before they work with a computer simulation. They should have grown plants from seeds or seedlings and conducted experiments to find out what happens to them if they are deprived of light or water. The computer simulation provides a good way of consolidating this work. The writing frame can then be used to structure a write-up of the experiment.

Equipment

- Any software program which includes a plant-growing simulation, such as 2 Simple Science. Online activities which are freely accessible include the Tomato Zone at <http://www.thetomatozone.co.uk/>



- and the Manchester Museum, at <http://museum.man.ac.uk/botany/grow.htm>.



- A writing frame for a plant growing experiment (supplied)
- An interactive whiteboard or data projector (this is useful but is not essential).

The Lesson

After all the children have carried out practical work on growing real plants, use the computer simulation to review and recap. Lead a discussion on what is needed to grow a healthy plant and ask the children to describe the experiments they carried out to investigate this. Explain how the simulation works and demonstrate on a large screen, whiteboard or data projector.

Introduce the writing frame and show children how to type into each of the boxes. Ensure that the children understand what to write in each section of the frame and are aware of the word list provided and how to use it. (The writing frame may also be printed and used for paper-based work away from the computer.)

Why are we using ICT?

ICT enables pupils to explore 'What if ...?' type questions and review the work and teachers to check for understanding. ICT also supports writing through the use of a writing frame and allows work to be stored, retrieved and printed out. Although pupils also need to experience growing real plants, the computer simulation enables them to see the effects of changing variables within minutes rather than weeks.

References

QCA Schemes of Work ICT Unit 1A: An introduction to modelling; Unit 1B: Using a word bank

<http://www.standards.dfes.gov.uk/schemes2/it/?view=get>

QCA Schemes of Work Science Unit 1B: Growing plants

<http://www.standards.dfes.gov.uk/schemes2/science/?view=get>

National Curriculum Science KS1 Programme of Study: Sc2 3a Green plants: pupils should be taught to recognise that plants need light and water to grow; Programme of Study: Sc1 2g Investigative skills: communicate what happened in a variety of ways, including use of ICT

http://www.nc.uk.net/webdav/servlet/XRM?Page%2F@id=6004&Session%2F@id=D_yis3e4CTrLs7ag596Pwl&Subject%2F@id=6321

Where do we go next?

Groups of children could use the simulation on their own – each group investigating a different variable, water or light. Understanding of the effects of temperature is not necessary at this stage but is well within the reach of more able children.

Differentiating the activity

Groups for the above follow-up work will need to be carefully constructed so that less able pupils are supported in the science and ICT aspects of the work. This could involve the use of a teaching assistant or parent helper. Groups of more able children will be able to work more independently.

Reflecting on their work

Encourage children to read through their write-ups and check that they are able to describe what happened. At this stage they would not be expected to explain the result.

Encourage children to reflect on the similarities and differences between growing real plants and the computer simulation.