Science For All Case Study

Growing Plants

Ravenshall Special School, Dewsbury

Background

How do you evidence progress in science for pupils with Special Educational Needs?

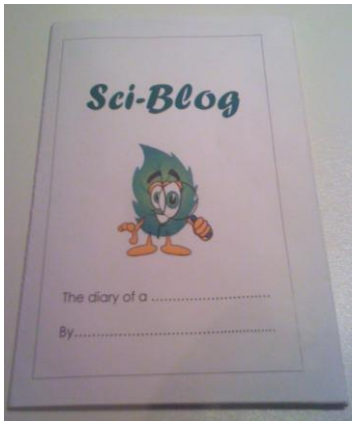
A question we find ourselves asking regularly at Ravenshall. We are a larger than average special school which caters for pupils with learning difficulties, many of whom have complex learning needs. In September 2009, Ravenshall School took on a thematic approach for teaching KS3, taken from the Global Dimension documentation.

One of the topics this year has been 'planetearth.com' and we wanted to concentrate on germination of different plants. Classes have also been looking at climate change, the earth's composition, sustainability, how things grow, what our planet needs, recycling, etc. We have a very good selection of horticulture resources within school; however, we wanted to take more of a scientific approach into the growth of plants.

Implementation

What did we do?

Our pupils also have a wide range of abilities, therefore, we needed to create a resource which would be easily differentiated and would evidence progress over a half term (roughly 6 weeks). We also needed to find plants that would grow quickly in order to keep the attention of our pupils. We began recording germination results with the pupils in the form of a photo diary. This would then provide us with images showing changes in the plants week to week.



We created '***Sci-Blog*** – ***The Diary of a*** .....', which is a small booklet in which pupils can stick week by week photos and comments about the growth of their plant. Some pupils could also answer questions in the booklet and even give detailed measurements. This blog is folded up in a way that it can also be opened up into a long strip, so that the pupils can see how much the plant has changed from initial planting throughout the germination process.

Results

How did it go?

Two groups of pupils, differentiated by ability, studied how different plants grow, with a focus on germination. One class observed cloves of garlic developing roots in water. This group were able to take photos, make comments and take measurements on how much the cloves of garlic had grown each day.

Another class focused on sprouting potatoes. Most of the pupils in the group were operating in the p levels, and communication skills are poor. Pupils used observational skills to identify areas where the potato sprouted. They had drawn some pictures of what the sprouting potato looked like and added these into their blogs. They talked about the use of potatoes in the UK and decided they were important because they are nice to eat in different forms (chips, mash, crisps, Sunday dinner, etc). Pupils were interested in comparing the growth of their own potato, with those of others.

Primary classes have taken a different approach to this topic. They watched different types of vegetables grow until they were ready for harvesting. The vegetables were then used in conjunction with a literacy topic, the Stone Soup book. They made their own soup using the vegetables they had grown.




Pupils have enjoyed their science projects through kinaesthetic activities and the resources and blogs helped to identify changes in growing plants within our school environment. These real life scenarios, such as growing vegetables, and observing the germination process has challenged them in different ways and provoked many questions.

Further developments

In the future we hope to develop a talking diary using video cameras, which will record the reactions of lower ability pupils to the changes in plant growth. More able pupils will be able to make further comments and raise questions about germination.

Practical tips

1. Garlic cloves were broken off a garlic bulb bought for food. Each clove was suspended in a jar of water by inserting a long pin through the clove and resting each end of the pin on the rim of the jar.
2. Potatoes were placed in egg cartons to stop them rolling over.
3. We experimented with growing root vegetables in lengths of drainpipe. This is ‘work in progress’.