BIOLOGY

PLANT FORCE

Brief summary of activity:

In this simulation the user has to cultivate an unknown plant by deciding on the amount of food and light to give the plant over a period of 20 weeks. At the end of each week the user is able to see what effect their choices have made to the growth of the plant.

Specific Curriculum Area:

Year 9 - Unit 9D: Plants for food, Section 11: a. What is the perfect environment for growing plants? Section 12: b. What is the perfect environment for growing plants?

Assessment method:

The pupil could manually record the decisions made on paper. A printed screenshot would also show a graph depicting the outcome of the completed 20 week period.

Differentiation:

There is no obvious area of differentiation within this puzzle. The pre-activity tutorial explains what is expected of the pupil.

Learning objectives:

Children should learn: about environmental factors that influence plant growth; to consider the advantages and disadvantages of a controlled environment for growing crops; to apply knowledge and understanding about plant growth; to solve a problem that different approaches to crop production contribute to sustainable development.

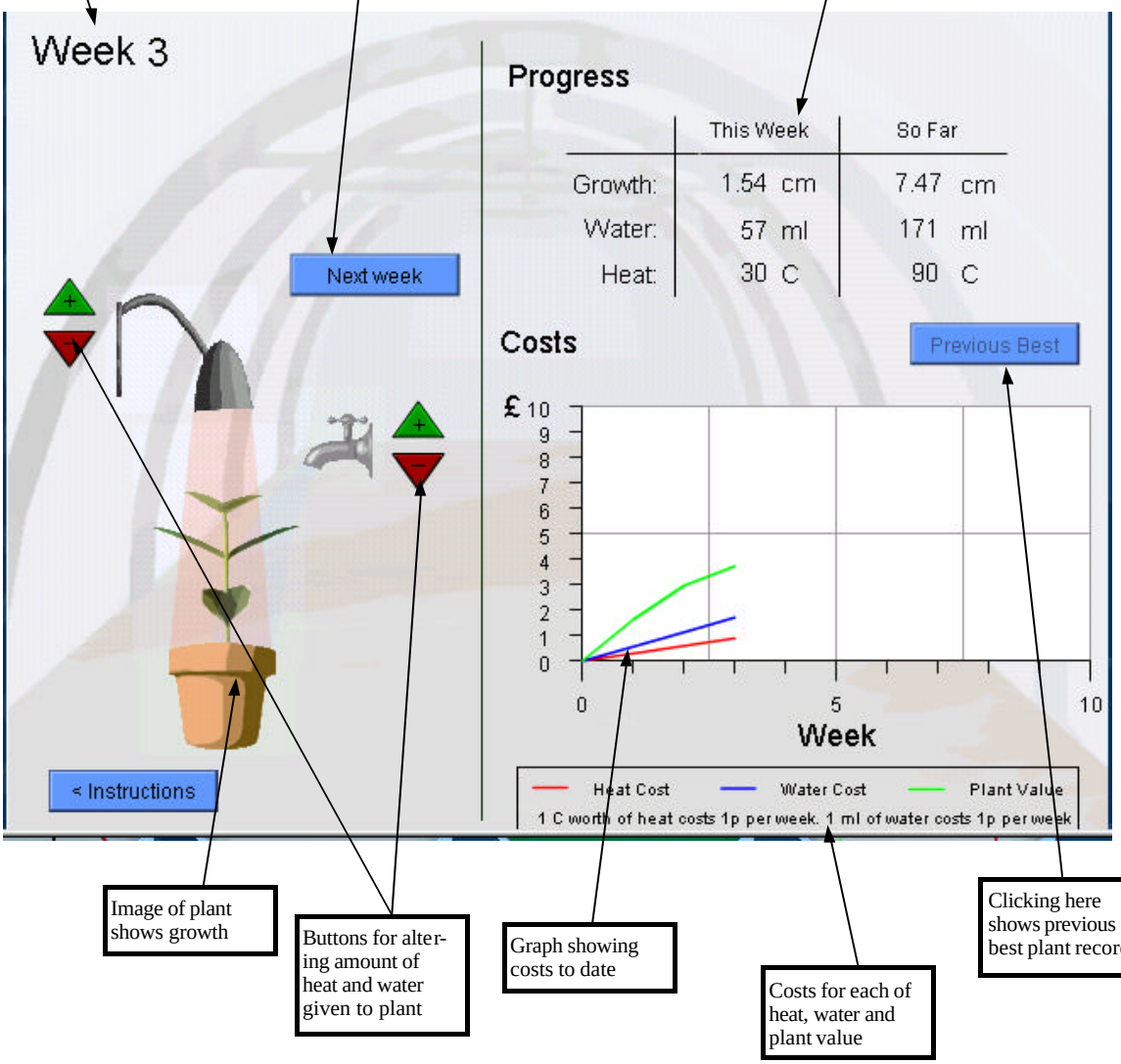
Use of Activity in a lesson:

This task could be set as a homework activity, assuming Internet access is possible. Alternatively, the teacher could demonstrate the task to the class (via an Interactive Whiteboard) and the pupils could then repeat the first level as shown by the teacher, thereafter trying levels on their own.

Hints and tips for teachers:

1. Tell pupils not to get frustrated if they do not succeed until having had many attempts—encourage trial and error.
2. Visually, there is a lot to take in with this task. Pupils who are experiencing problems should initially ignore the graph which shows the costs of the plant growth.

URL:



Troubleshooting:

Other links:

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci09d/09dq6a
http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci09d/09dq6b