

CHEMISTRY

DOYLE'S SOIL

Brief summary of activity:

The user has to measure the pH of a soil sample and decide whether or not to add Lime in order to provide the best conditions for a specific plant to grow.

Specific Curriculum Area:

Year 9 — Unit 9G: Environmental chemistry, Section 1: How are soils different from each other?

Assessment method:

The pupil could keep a paper-based log of their decisions throughout the task. Printed screenshots could be also used to show the end of the task.

Differentiation:

There is no obvious area of differentiation within this task.

Learning objectives:

Children should learn: that different soils have different characteristics, including pH ranges, and that this affects the plants that grow in them; to locate information about plants and preferred soil types in secondary sources; to use knowledge about acids, alkalis and neutralisation to suggest ways of reducing the acidity of soils.

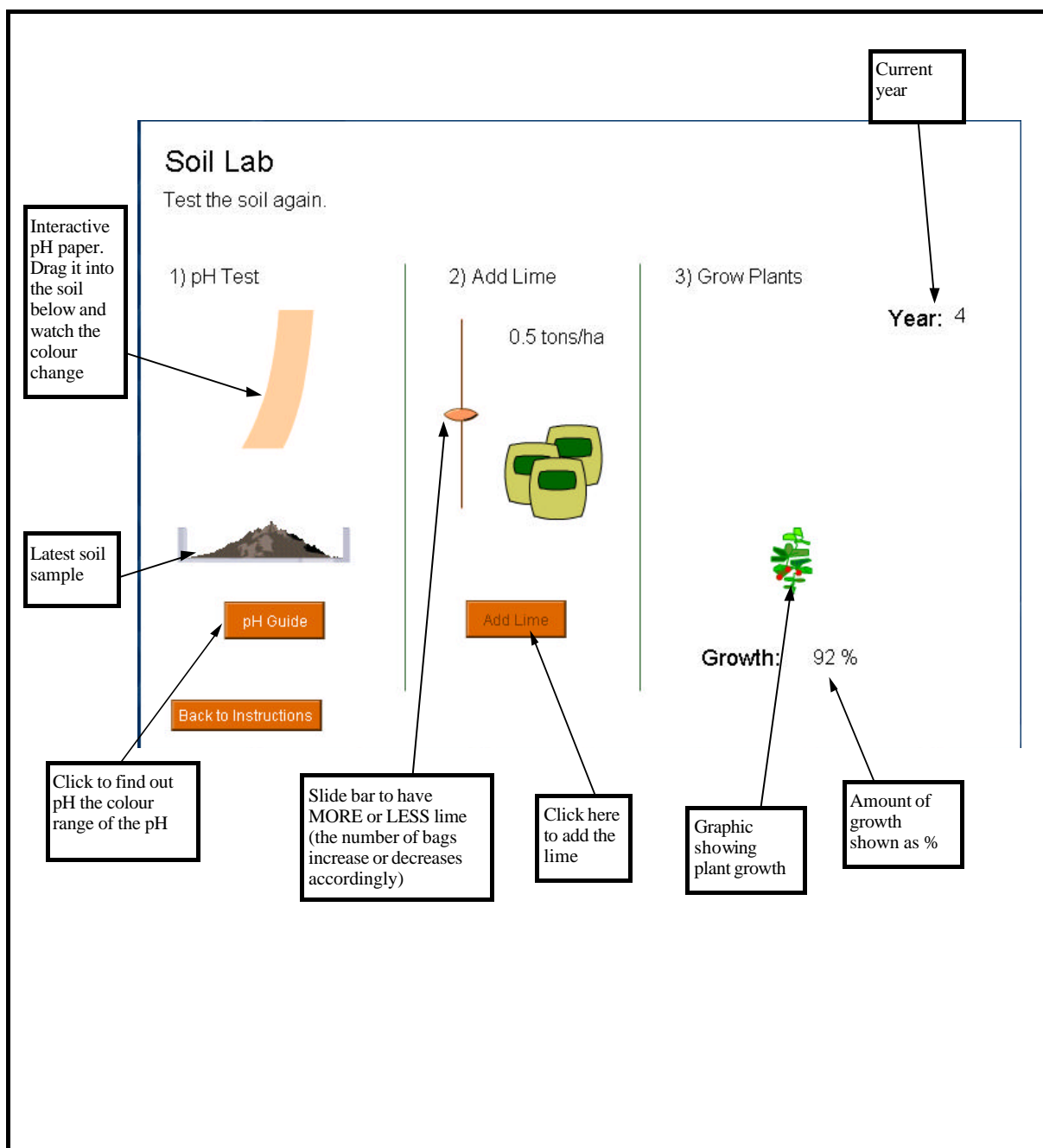
Use of Activity in a lesson:

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).

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. Use the pop-up pH guide to help determine the pH of the soil, rather than a 'real' pH guide as, for this task, the former is more accurate.

URL:



Troubleshooting:

If you do not know the pH of the soil, drag the pH paper into the soil sample.

Use the pH guide to help find out what the colour change is indicating.

Other links:

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci09g/09gq1