KS3 Science- information for teachers

2014 National Curriculum links:

BIOLOGY

Reproduction:

'Reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms'.

Photosynthesis:

'The reactants in, and products of, photosynthesis, and a word summary for Photosynthesis'. 'The adaptations of leaves for photosynthesis'.

CHEMISTRY

Chemical reactions:

'Representing chemical reactions using formulae and using equations'.

Activities

1) Mother Shipton's Cave Tree Trail (to use as students walk through the park)

* Students distinguish different types of trees from their trunks

*They measure the circumference of each trunk to work out which tree is the oldest

*Also note features of the trees such as height, leaves and sun exposure

*Fact included linking to the average figure for tree growth in England per year

*Students think about the different factors which affect tree growth and complete the true or false questions

*Evergreen, deciduous, conifer and broadleaf trees explained

*Students complete a graph (of their choosing) looking at their quantitative data from their trunk measuring. Questions analysing their data posed

2) Powerpoint presentation

The presentation should be used as a follow-on activity back in the classroom as students:

- ✓ Revisit trees spotted
- ✓ Name plants and different parts of plants

- ✓ Look at reproduction of plants
- ✓ Discuss flowering and non-flowering plants
- ✓ Look at parts of a flower and then identify the different parts using real flowers
- ✓ Look at pollination, fertilisation, seed dispersal and germination using BBC Learning Zone videos
- ✓ Discuss and answer key question about each
- ✓ Test themselves through BBC quiz
- ✓ Look at photosynthesis- watch video and answer key questions about the process
- ✓ Complete the sheet filling in key vocabulary and the chemical equation
- ✓ Test for starch and therefore the presence of photosynthesis in leaves
- ✓ Look at and learn photosynthesis rap!

<u>Resources needed</u>

- *Pencils*
- *Rubbers*
- *Measuring tape*
- *Flowers to dissect and identify parts of*
- *Photosynthesis sheet to complete*
- *Equipment for starch investigation*