



KS3 Science

Biology - Information for Teachers

National Curriculum objectives:

Working Scientifically

- Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience.
- Make predictions using scientific knowledge and understanding.
- Make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements.
- Present observations and data using appropriate methods, including tables and graphs.
- Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.

BIOLOGY: Photosynthesis

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

Activities:

1) Mother Shipton's science trail, to be used as students walk through the park:

- * Students distinguish different types of trees from their trunks.
- * They measure the circumference of the trunks of trees to determine their ages.
- * 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 learn about the process of photosynthesis and then draw a plant, labelling with the information learnt.

2) PowerPoint presentation. The presentation can be used back in the classroom as a follow-on activity as students:

- * Revisit trees spotted.
- * Look at photosynthesis - watch video and answer key questions about the process:
<https://www.twig-world.com/film/photosynthesis-1186/>
- * Complete the sheet filling in key vocabulary and the chemical equation.

Mother Shipton's

- * Test for starch and therefore the presence of photosynthesis in leaves.
- * Look at and learn photosynthesis rap! <https://www.bbc.co.uk/teach/class-clips-video/photosynthesis-rap/zm638xs>

Resources needed:

- *Pencils*
- *Rubbers*
- *Measuring tape*
- *Photosynthesis sheet to complete*
- *Equipment for starch investigation*