


| <p style="text-align: center;">Introducing green plants KS3 RHS Wisley lesson plan</p> <p>QCA: ‘How science works’ – control of variables, use of data loggers, recording, concluding and evaluating. ‘Organisms, their behaviour and the environment’ – different organisms being found in different habitats because of differences in environmental factors.</p> <p>Every Child Matters: <i>Stay Safe</i> 2.3; 2.4 <i>Enjoy & achieve</i> 3:6 <i>Make a positive contribution</i> 4.2; 4.3; 4.4</p> | | |  |
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| <i>Learning Objectives</i> | <i>Structure</i> | <i>Plenary</i> | |
| <p>Students should learn:</p> <ul style="list-style-type: none"> to observe that different habitats (woodland, tropical and arid) support different plants. to measure some environmental factors e.g. <i>light intensity, humidity and air temperature</i> in four different habitats using data logging equipment. to describe adaptations of plants in three different habitats. to link the types of plants found with different habitats with environmental factors found in those habitats. | <p>Introduction Introduction to photosynthesis, the requirements for photosynthesis, photosynthesis word equation.</p> <p>Activities 1. Using data loggers, collect data on light intensity, air temperature and relative humidity from the teaching garden, woodland, the tropical and temperate arid areas of the garden and glasshouse. Download data onto laptops and manipulate data to create graphs. Discussion of the main environmental factors in each of the four areas and how these affect the rate of photosynthesis.</p> <p>2. Visit the glasshouse and discuss how plants in the tropical and arid environments are adapted to photosynthesise efficiently. Use worksheet ‘Photosynthesis around the world’ as a guide.</p> <p>3. Visit the Root Zone to find out how roots are adapted to absorb water and how we use roots in our everyday lives e.g. medicines, spices.</p> | <p>Review physical features of the habitats studied. Describe adaptations of plants to those habitats. Pick out appropriate adaptations and explain their significance.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Resources: Laptops Data loggers PowerPoint introduction Data recording sheets Worksheets ‘Photosynthesis around the World’</p> </div> | |

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| <p>Assessment questions</p> <p>Name some physical features in the environment (surroundings)</p> <p>What could be key environmental factors in a named environment (tropical, desert)?</p> <p>What are the factors that influence photosynthesis?</p> <p>How are plants adapted in a named environment (woodland, tropical or arid)?</p> | <p>Key vocabulary: Habitat, environment, tropical, temperate, arid, environmental factors, temperature, light intensity, humidity, photosynthesis, adaptation to environment</p> <p>Differentiation:</p> <p>All students can state which factors are needed for photosynthesis. State which may be the most important factor in the teaching garden, woodland, tropical and desert environments which would slow the speed of photosynthesis. Be able to give some adaptations of plants to a particular habitat studied. Use data loggers to measure light, temperature and humidity.</p> <p>Most students can write a word equation for photosynthesis. Give the key factor in the habitats studied which could reduce the rate of photosynthesis. Link adaptations of plants in the habitats studied to some of the physical factors present. Produce bar charts from the data collected.</p> <p>Some students can understand the concept of limiting factors for photosynthesis and state the key limiting factor in the environments studied. Pick out appropriate adaptations and explain their significance. Discuss the significance of the data collected and comment on the reliability of the data.</p> | <p>Links with ICT: Use of data loggers Processing information</p> |
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