KS3 Links to National Curriculum

<u>Science</u>

| BBG teaching session (→) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| Working scientifically (all years) | * | * | * | * | * | | |
| Biology | | | | | | | |
| The functions of the cell wall, cell membrane, cytoplasm, | | | | | * | | |
| nucleus, vacuole, mitochondria and chloroplasts | | | | | | | |
| Content of a healthy human diet: carbohydrates, lipids (fats | | | | | * | | |
| and oils), proteins, vitamins, minerals, dietary fibre and water, | | | | | | | |
| and why each is needed | | | | | | | |
| Plants making carbohydrates in their leaves by photosynthesis | | * | * | * | * | | |
| and gaining mineral nutrients and water from the soil via their | | | | | | | |
| roots | | | | | | | |
| Reproduction in plants, including flower structure, wind and | | * | * | * | * | | |
| insect pollination, fertilisation, seed and fruit formation and | | | | | | | |
| dispersal, including quantitative investigation of some | | | | | | | |
| dispersal mechanisms | | | | | | | |
| The reactants in, and products of, photosynthesis, and a word | | | | | * | | |
| summary for photosynthesis | | - | | | | | |
| The dependence of almost all life on Earth on the ability of | | * | * | * | * | | |
| photosynthetic organisms, such as plants and algae, to use | | | | | | | |
| sunlight in photosynthesis to build organic molecules that are | | | | | | | |
| an essential energy store and to maintain levels of oxygen and | | | | | | | |
| carbon dioxide in the atmosphere | | | | | | | |
| The adaptations of leaves for photosynthesis | | * | * | * | * | | |
| A word summary for aerobic respiration | | | | | * | | |
| The interdependence of organisms in an ecosystem, including | * | * | * | * | * | | |
| food webs and insect pollinated crops | | | | | | | |
| The importance of plant reproduction through insect | * | * | * | * | * | | |
| pollination in human food security | | | | | | | |

| How organisms affect, and are affected by, their environment, | * | * | * | * | * | | |
|---|---|---|---|---|---|---|---|
| including the accumulation of toxic materials | | | | | | | |
| Heredity as the process by which genetic information is | * | * | * | * | * | | |
| transmitted from one generation to the next | | | | | | - | - |
| Differences between species | * | * | * | * | * | * | * |
| The variation between individuals within a species being | * | * | * | * | * | * | * |
| continuous or discontinuous, to include measurement and | | | | | | | |
| graphical representation of variation | | | | | | | |
| The variation between species and between individuals of the | * | * | * | * | * | | |
| same species means some organisms compete more | | | | | | | |
| successfully, which can drive natural selection | | | | | | | |
| Changes in the environment may leave individuals within a | * | * | * | * | * | | |
| species, and some entire species, less well adapted to | | | | | | | |
| compete successfully and reproduce, which in turn may lead | | | | | | | |
| to extinction | | | | | | | |
| The importance of maintaining biodiversity and the use of | * | * | * | * | * | | |
| gene banks to preserve hereditary material | | | | | | | |
| Chemistry | | | | | | | |
| Differences between atoms, elements and compounds | | | | | * | | |
| Chemical symbols and formulae for elements and compounds | | | | | * | | |
| Conservation of mass changes of state and chemical reactions | | | | | * | | |
| Chemical reactions as the rearrangement of atoms | | | | | * | | |
| Representing chemical reactions using formulae and using | | | | | * | | |
| equations | | | | | | | |
| Earth as a source of limited resources and the efficacy of | * | * | * | * | * | * | |
| recycling | | | | | | | |
| The carbon cycle | * | * | * | * | * | | |
| The composition of the atmosphere | | * | * | * | * | | |
| The production of carbon dioxide by human activity and the | * | * | * | * | * | | |
| impact on climate | | | | | | | |
| Physics | | | | | | | |
| The seasons and the Earth's tilt, day length at different times | * | * | * | * | * | | |
| of year in different hemispheres | | 1 | | | | | |

<u>Geography</u>

| BBG teaching session (→) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| Extend their locational knowledge and deepen their spatial | * | * | * | * | * | | * |
| awareness of the world's countries using maps of the world | | | | | | | |
| to focus on Africa, Russia, Asia (including China and India), | | | | | | | |
| and the Middle East, focusing on their environmental | | | | | | | |
| regions, including polar and hot deserts, key physical and | | | | | | | |
| human characteristics, countries and major cities | | | | | | | |
| Understand geographical similarities, differences and links | * | * | * | * | * | | * |
| between places through the study of human and physical | | | | | | | |
| geography of a region within Africa, and of a region within | | | | | | | |
| Asia | | | | | | | |
| Understand, through the use of detailed place-based | * | * | * | * | * | | * |
| exemplars at a variety of scales, the key processes in physical | | | | | | | |
| geography relating to: geological timescales and plate | | | | | | | |
| tectonics; rocks, weathering and soils; weather and climate, | | | | | | | |
| including the change in climate from the Ice Age to the | | | | | | | |
| present; and glaciation, hydrology and coasts | | | | | | | |
| Understand, through the use of detailed place-based | * | * | * | * | * | | * |
| exemplars at a variety of scales, the key processes in human | | | | | | | |
| geography relating to: population and urbanization; | | | | | | | |
| international development; economic activity in the primary, | | | | | | | |
| secondary, tertiary and quaternary sectors; and the use of | | | | | | | |
| natural resources | | | | | | | |
| Understand how human and physical process interact to | * | * | * | * | * | | * |
| influence, and change landscapes, environments and the | | | | | | | |
| climate; and how human activity relies on effective | | | | | | | |
| functioning of natural systems | | | | | | | |
| Build on their knowledge of globes, maps and atlases and | * | * | * | * | * | | * |
| apply and develop this knowledge routinely in the classroom | | | | | | | |
| and in the field | | | | | | | |
| Use fieldwork in contrasting locations to collect, analyse and | * | * | * | * | * | | * |
| draw conclusions from geographical data, using multiple | | | | | | | |
| sources of increasingly complex information | | | | | | | |

<u>English</u>

| BBG teaching session (\rightarrow) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| Understand increasingly challenging texts through: learning | * | * | * | * | * | * | * |
| new vocabulary, relating it explicitly to known vocabulary | | | | | | | |
| and understanding it with the help of context and | | | | | | | |
| dictionaries | | | | | | | |
| Understand increasingly challenging texts through: making | * | * | * | * | * | | * |
| inferences and referring to evidence in the text | | | | | | | |
| Write accurately, fluently, effectively and at length for | | * | | | * | | * |
| pleasure and information through: summarizing and | | | | | | | |
| organising material, and supporting ideas and arguments | | | | | | | |
| with any necessary factual detail | | | | | | | |
| Consolidate and build on their knowledge of grammar and | * | * | * | * | * | * | * |
| vocabulary through: drawing on new vocabulary and | | | | | | | |
| grammatical constructions from their reading and listening, | | | | | | | |
| and using these consciously in their writing and speech to | | | | | | | |
| achieve particular effects | | | | | | | |
| Consolidate and build on their knowledge of grammar and | * | * | * | * | * | * | * |
| vocabulary through: discussing reading, writing and spoken | | | | | | | |
| language with precise and confident use of linguistic and | | | | | | | |
| literary terminology | | | | | | | |
| Speak confidently and effectively, including through: using | * | * | * | * | * | * | * |
| Standard English confidently in a range of formal and | | | | | | | |
| informal contexts, including classroom discussion | | | | | | | |

Mathematics

| BBG teaching session (→) | Animal Handling | Rainforest Challenge | Gardens Tour | Glasshouse Tour | Photosynthesis, The Planet and Me | Natural Art | Japanese Challenge |
|---|--------------------|-------------------------|-----------------|--------------------|---|----------------|-----------------------|
| Select and use appropriate calculation strategies to solve increasingly complex problems | * | * | * | * | * | | * |

| Develop their mathematical knowledge, in part through | * | * | * | * | * | * |
|---|---|---|---|---|---|---|
| solving problems and evaluating the outcomes, including | | | | | | |
| multi-step problems | | | | | | |
| Select appropriate concepts, methods and techniques to | * | * | * | * | * | * |
| apply to unfamiliar and non-routine problems | | | | | | |

<u>History</u>

| BBG teaching session (→) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|--|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| Ideas, political power, industry and empire: Britain, 1745 - | | * | * | * | * | | |
| 1901 | | | | | | | |
| Challenges for Britain, Europe and the wider world 1901 to | | * | * | * | * | | |
| the present day | | | | | | | |

<u>Art & Design</u>

| BBG teaching session (→) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| To use a range of techniques and media, including painting | | | | | | * | |
| To increase their proficiency in the handling of different | | | | | | * | |
| materials | | | | | | | |
| To analyse and evaluate their own work, and that of others, | | | | | | * | |
| in order to strengthen the visual impact or applications of | | | | | | | |
| their work | | | | | | | |
| About the history of art, craft, design and architecture, | | | | | | * | |
| including periods, styles and major movements from ancient | | | | | | | |
| times up to the present day | | | | | | | |

<u>Citizenship</u>

| BBG teaching session (→) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| The roles played by pubic institutions and voluntary groups | * | * | * | * | * | * | * |
| in society, and the ways in which citizens work together to | | | | | | | |
| improve their communities, including opportunities to | | | | | | | |
| participate in school-based activities | | | | | | | |

Physical Education

| BBG teaching session (\rightarrow) | Animal | Rainforest | Gardens | Glasshouse | Photosynthesis, | Natural | Japanese |
|---|----------|------------|---------|------------|-----------------|---------|-----------|
| | Handling | Challenge | Tour | Tour | The Planet and | Art | Challenge |
| | | | | | Me | | |
| Take part in outdoor and adventurous activities which present intellectual and physical challenges and be encouraged to work in a team, building on trust and developing skills to solve problems, either individually or as a | | * | | | * | * | * |
| group | | | | | | | |



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