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| <b>SUBJECT:</b> SCIENCE   | <b>TEACHERS:</b> Miss L. Assari, Mrs K. Chaytor, Ms S. Murray, Mrs E. Dias, Ms T. Nicholas, Mrs K. Patel, Mr M. Whelehan  | <b>HOD:</b> Mrs A. Phillips   |
| <b>UNIT TITLES</b>  | <b>LEARNING OBJECTIVES</b>  | <b>ASSESSMENT ASSIGNMENTS</b>   |
| <b>Sound and Light</b> <ul style="list-style-type: none"> <li>– Sound as Energy</li> <li>– Pitch, Loudness, How Sound Travels</li> <li>– The Ear and Hearing</li> <li>– Light as Energy</li> <li>– How Light Travels</li> <li>– Reflection, Refraction, Dispersion of White Light</li> </ul>  | <ul style="list-style-type: none"> <li>• Understand that sound and light travel as different types of waves</li> <li>• Understand the characteristics of light and sound waves</li> <li>• To be able to explain how sound is detected by the ear</li> <li>• Types of energy</li> </ul>  | <ul style="list-style-type: none"> <li>• End of topic test</li> <li>• Written investigation of light and sound in theatre</li> </ul>                      |
| <b>Atoms</b> <ul style="list-style-type: none"> <li>– Elements, Classification of Elements, Metals, Non-metals</li> <li>– Making Compounds and Mixtures</li> <li>– Word Equations</li> </ul>  | <ul style="list-style-type: none"> <li>• To be able to define what an element is</li> <li>• To be able to identify metals and non-metals</li> <li>• To understand the difference between mixtures and compounds</li> <li>• To be able to understand simple work equations</li> <li>• Conservation of mass in chemical reactions</li> </ul>  | <ul style="list-style-type: none"> <li>• End of topic test</li> <li>• Written assessment based on practical demonstration of burning magnesium</li> </ul> |
| <b>Rocks</b> <ul style="list-style-type: none"> <li>– Igneous, Sedimentary and Metamorphic Rocks</li> <li>– Rock Cycle</li> <li>– Weathering of Rocks</li> </ul>  | <ul style="list-style-type: none"> <li>• Understand the differences and formation of the three classes of rocks</li> <li>• Understand how rocks can be turned from one type to another</li> </ul>   | <ul style="list-style-type: none"> <li>• End of topic test</li> <li>• Creative writing assessment on the rock cycle</li> </ul>                            |
| <b>Heat</b> <ul style="list-style-type: none"> <li>– Heat and Temperature</li> <li>– Energy Transfer (Conduction. Convection and Radiation)</li> <li>– Change State</li> <li>– Kinetic Theory of Changing State</li> </ul>  | <ul style="list-style-type: none"> <li>• Burning fuels</li> <li>• To understand the difference between heat and temperature</li> <li>• To be able to describe the three different methods of energy transfer</li> <li>• To be able to explain in terms of particles what is happening when state changes occur</li> </ul>   | <ul style="list-style-type: none"> <li>• End of topic test</li> <li>• Practical assessment on cooling curves</li> </ul>                                   |
| <b>Magnets</b> <ul style="list-style-type: none"> <li>– Special Properties of Magnets</li> <li>– Electromagnets:</li> <li>– Uses of Electromagnets</li> </ul>   | <ul style="list-style-type: none"> <li>• To be able to make permanent magnets and electromagnets</li> <li>• To know uses of both types of magnets</li> </ul>  | <ul style="list-style-type: none"> <li>• Written assessment on electromagnets</li> </ul>  |
| <b>Microbes</b> <ul style="list-style-type: none"> <li>– Micro-organisms: Useful and Not So Useful</li> <li>– Spread of Diseases</li> <li>– Methods of Preventing Diseases – Inoculation (See Citizenship Curriculum)</li> <li>– White Blood Cells</li> </ul>   | <ul style="list-style-type: none"> <li>• To understand that micro organisms can be useful as well as cause disease</li> <li>• To understand that the body has its own natural defense</li> </ul>  | <ul style="list-style-type: none"> <li>• Data analysis assessment on cholera incidence and epidemiology</li> </ul>  |
| <b>Ecology</b> <ul style="list-style-type: none"> <li>– Adaptation of Plants and Animals</li> <li>– Food Chains and Webs</li> <li>– Plants for food</li> <li>– Classification of Animals and Plants</li> <li>– Habitats and their Population</li> <li>– Food Webs</li> <li>– Predator/ Prey Relationship</li> <li>– Pyramids of Numbers and Biomass</li> <li>– Human in food webs</li> <li>– Sustainable development</li> </ul> | <ul style="list-style-type: none"> <li>• To understand how plants and animals are adapted to their natural environment</li> <li>• To be able to construct for food ins and webs</li> <li>• To understand how plants and animals can be classified</li> <li>• To be able to make and understand food webs and how they can be represented</li> <li>• To be able to understand the relationship between species in a habitat</li> </ul> | <ul style="list-style-type: none"> <li>• Investigation of river ecology</li> </ul>  |
| <b>Respiration, Food and Digestion</b> <ul style="list-style-type: none"> <li>– Food Groups</li> <li>– Balanced Diet</li> <li>– Digestion of Food</li> <li>– Enzymes</li> <li>– How Glucose is Used in Respiration</li> <li>– Blood Circulation</li> <li>– Lungs – Inhaled and Exhaled Air</li> <li>– Keeping fit</li> </ul>  | <ul style="list-style-type: none"> <li>• Understand the foods needed for a balanced diet</li> <li>• Understand how food is digested by enzymes</li> <li>• Understand how glucose is needed to produce energy</li> <li>• Understand how lungs and circulatory system are needed for respiration to occur</li> <li>• Smoking and drugs effect on respiration</li> </ul>   | <ul style="list-style-type: none"> <li>• End of topic test</li> </ul>   |
| <b>All topics</b>   | <ul style="list-style-type: none"> <li>• Consolidation of practical and theoretical knowledge and understanding developed throughout the year</li> </ul>  | <ul style="list-style-type: none"> <li>• End of Year Exam</li> </ul>  |