

## Scheme of Work - Progression

Science

Year 8 / 5ème

Period 1	<p><b>Light and vision</b></p> <ul style="list-style-type: none"> <li>• What is light : Introduction of the module</li> <li>• Heated materials produce light</li> <li>• White light is made of many colors</li> <li>• Subtractive and additive color</li> </ul> <p><b>From light source to eye</b></p> <ul style="list-style-type: none"> <li>• Light, a traveling wave : linear propagation of light and shadow</li> <li>• Reflection, refraction</li> <li>• Mirages and optical illusions</li> </ul> <p><b>The eye, a sensor of radiation</b></p> <ul style="list-style-type: none"> <li>• Structure and parts of an eye</li> <li>• Retina, blind spot and pupillary reflex</li> <li>• Optical illusions</li> </ul>
<b>Autumn – Mid-Term Holiday</b>	
Period 2	<p><b>Matter and Materials</b></p> <p><b>Mixtures</b></p> <ul style="list-style-type: none"> <li>• States of matter</li> <li>• Changing states of matter</li> <li>• Solubility and miscibility</li> <li>• Factors influencing solubility</li> </ul> <p><b>Foams and Emulsions</b></p> <ul style="list-style-type: none"> <li>• Mixing 2 non-miscible liquids</li> <li>• Microscopic study of an emulsion</li> <li>• Microscopic study of colloids</li> </ul> <p><b>Mechanical properties of Matter</b></p> <ul style="list-style-type: none"> <li>• Materials and properties</li> <li>• Elasticity and plasticity</li> <li>• Allotropy/nanoscope structure</li> <li>• Natural and artificial polymers</li> </ul>
<b>Winter Holiday</b>	
Period 3	<p><b>Matter and Materials</b></p> <p><b>Bridge Design and Building</b></p> <ul style="list-style-type: none"> <li>• Bridges and the external mechanical forces and deformation on them</li> <li>• Forces, materials, loads and shapes</li> <li>• Research various construction materials to determine their strengths, weaknesses and applications</li> </ul> <p><b>Designing and building a bridge</b></p> <ul style="list-style-type: none"> <li>• Students experience the engineering design process : identify, investigate, imagine, plan, create, test, improve and communicate</li> </ul> <p><b>Discovering Electricity</b></p> <ul style="list-style-type: none"> <li>• Static electricity</li> <li>• Setting charges in motion : current</li> <li>• Detecting the presence and magnitude of electric charge</li> </ul> <p><b>The basics of electrical circuits</b></p> <ul style="list-style-type: none"> <li>• Handling electricity safely</li> <li>• Drawing diagrams</li> <li>• Electrical circuits : series and parallel</li> </ul>
<b>Winter – Mid-Term Holiday</b>	
Period 4	<p><b>Evolution of Earth and Life</b></p> <p><b>If these rocks could speak</b></p> <ul style="list-style-type: none"> <li>• If possible : Field trip</li> <li>• Planning the field trip : What can we find there ? How do we identify clues from the past ? Collecting samples in the field</li> <li>• Geological work</li> <li>• Learning about key processes : Identifying, researching and interpreting samples using various techniques and keys, making observations and inferences</li> <li>• Creating a visual display/presentation including the analysis and deductions of geological processes: weathering, erosion and sedimentation</li> <li>• Fossil and sand formation</li> <li>• Rock types and formation</li> </ul> <p><b>Active Earth</b></p> <ul style="list-style-type: none"> <li>• Theorise on how geological features were formed, such as folded faults, folds and unconformities</li> <li>• Mapping earthquake zones and volcanic activity to find patterns and make inferences about plate boundaries</li> </ul>
<b>Spring Holiday</b>	
Period 5	<p><b>Active Earth</b></p> <ul style="list-style-type: none"> <li>• Identify continental boundaries puzzle and fossil evidence as evidence for continental drift</li> <li>• Modelling convection currents and the layers of the spherical earth</li> </ul> <p><b>Linking Life and Earth</b></p> <ul style="list-style-type: none"> <li>• Research and visual display : key Earth and Life events to encompass the scale and visualization of deep time and how Earth affects life and vice versa</li> <li>• Research and describe environmental adaptations in camelids to recognise the evidence of divergent evolution in camels</li> <li>• Speciation</li> <li>• Observation of skulls to create a dichotomous key and identify links between species</li> <li>• The story of Darwin the explorer : evidence for his theory of evolution</li> <li>• Conflicting theories in science</li> </ul>