



Attainment Band	<p style="text-align: center;"><b>Earth &amp; Universe</b> <b>Knowledge and Understanding</b></p>
<b>Yellow/Yellow +</b>	<ul style="list-style-type: none"> <li>● Explain how the movement of tectonic plates and volcanoes change the Earth's surface</li> <li>● Explain that slow cooling causes large crystals and fast cooling causes small crystals</li> <li>● Explain how rocks turn into sediments</li> <li>● Explain why the properties of some metamorphic rocks make them suitable for different uses</li> <li>● Explain how the properties of each rock type link to the processes in the rock cycle</li> <li>● Analyse the motion of objects in gravitational fields</li> <li>● Relate ideas about the Sun, stars and galaxies to evidence visible from the Earth</li> <li>● Explain what would happen if the Earth's axis was tilted by a different amount</li> <li>● Explain how the parallax method can be used to measure distance to some stars; explain the implications of an object being light years away</li> <li>● Explain why the atmosphere has changed in terms of oxygen and carbon dioxide proportions</li> <li>● Define 'carbon footprint' and analyse the carbon footprint of different scenarios</li> <li>● Explain new technologies that help in reducing air pollution, and analyse their impact</li> <li>● Identify that the greenhouse effect is natural and that the impact of human activity on it is still debated</li> <li>● Analyse the impact of a development on the environment and justify decisions regarding it</li> <li>● Evaluate the effects of mining metals</li> <li>● Compare the efficiency of recycling glass, paper, aluminium and plastic</li> </ul>
<b>Blue</b>	<ul style="list-style-type: none"> <li>● Describe the characteristics of each layer of the Earth</li> <li>● Explain the relationship between volcano shape, magma pH/ viscosity and rock formation</li> <li>● Describe what a fossil is and explain why these are found in sedimentary rocks</li> <li>● Describe the properties of metamorphic rocks and link this to the way that they are formed</li> <li>● Explain the processes involved in the rock cycle using scientific language</li> <li>● Use the concept of gravity to explain how the Sun, Earth and Moon move in relation to each other</li> <li>● Describe the relationship between the Sun, other stars and galaxies</li> <li>● Explain changes to days and seasons in different hemispheres</li> <li>● Describe how light years can be used to measure distance</li> <li>● Describe how the percentages of different gases in the atmosphere have changed over time</li> <li>● Explain how each of the stages in the carbon cycle affects the amount of carbon in the atmosphere</li> <li>● Explain how air pollution damages the atmosphere and suggest how we can reduce the effects</li> <li>● Explain how global warming affects different ecosystems</li> <li>● Explain how human activities affect the Earth's resources; describe examples, such as overfishing or open-cast mining</li> <li>● Explain what is meant by metal 'extraction' and metal 'ore'</li> <li>● Explain how factors such as cost, pollution, energy needs etc. limit the efficiency of recycling schemes</li> </ul>



<b>Green</b>	<ul style="list-style-type: none"><li>● Describe the structure of the Earth and recall that the Earth's surface is constantly changing</li><li>● Describe how igneous rocks are formed from molten magma and lava and give examples</li><li>● Describe sedimentation in layers; name and describe three examples of sedimentary rocks</li><li>● Describe how metamorphic rocks are formed and give examples</li><li>● Describe simply how rocks can be changed from one type to another</li><li>● Describe how the Sun, Earth and Moon move in relation to each other</li><li>● Describe the differences between the Sun, other stars and galaxies</li><li>● Describe the implications of the Earth being tilted on its axis</li><li>● Explain the need for a large unit of astronomical distance</li><li>● Identify the percentages of the different gases that make up the atmosphere</li><li>● Use the carbon cycle to describe ways in which carbon enters and leaves the atmosphere</li><li>● Describe sources of air pollution that affect the atmosphere</li><li>● Define global warming and describe how it warms up the atmosphere</li><li>● Name some natural resources (such as wood, rocks, air, water) that the Earth provides and classify them as renewable or non-renewable</li><li>● Identify different ways of extracting metals</li><li>● Name some materials that can be recycled and describe the benefits</li></ul>
<b>White</b>	<ul style="list-style-type: none"><li>● Some of the above elements have been achieved.</li></ul>