

**Curriculum intent:** Science encompasses everything that we are and allows us to make sense of the world around us. Science at The Hart School is more than just a core subject. We believe an outstanding science education should develop students' curiosity, scientific knowledge to question the world in which we live, enable critical-thinking and encourage students to become socially aware global citizens.



Our Science faculty has planned an inspiring, inclusive, and diverse curriculum that is designed to engage and enthuse students with the real-life applications of the subject whilst promoting ambition and aspirations for their future.

In an ever-changing world, in which STEAM subjects are at the forefront of advancements for the future, we want to prepare our students for this by not only looking at the knowledge of the subject, but also the methods, processing skills and applications associated with it. This ensures that our students are scientifically literate, able to evaluate what they see in the news and the world around them and make informed decisions that will affect their future lives and the planet.

	Autumn 1		Autumn 2		Spring 1	Spring 2	Summer 1	Summer 2	
<b>Core Course Topic:</b> These topics are taught in small bitesize chunks and revisited regularly.	Chapter 1: Conditions for life on Earth	Chapter 2: Conservation of biodiversity	Assessment 1	Chapter 3: Life processes in the biosphere	Chapter 4: The atmosphere	Chapter 5: The hydrosphere	Chapter 6: The lithosphere	Chapter 7: Biogeochemical cycles	Chapter 8: Soil
<b>Additional support links:</b> Here are links to additional resources which will help your child	<a href="#">See revision resources on teams</a>			<a href="#">See revision resources on teams</a>					
<b>Knowledge:</b> Included here is the specific knowledge your child will learn in detail	<p><b>The living environment:</b> The emphasis should be placed on the interaction of living organisms with each other and their abiotic environment, and how an understanding of this can inform decisions that lead to sustainable human activities. Students must apply their understanding of these interactions in a wide range of contexts throughout this area.</p>				<p><b>The physical environment:</b> The emphasis should be placed on understanding how anthropogenic activities are interconnected with physical processes, to formulate management strategies and plan sustainable activities. Supplies of renewable physical resources may be maintained by the control of activities that may cause over-exploitation and by protecting the processes that aid their production. Supplies of non-renewable physical resources may be extended by controlling exploitation and developing improved technologies to harness them.</p>				
<b>Skills:</b> Included here is the specific skills your child will learn in detail	<p>How the main conditions, which allowed early life to develop and survive on planet Earth, came about                      How the presence of life on Earth has brought about environmental change                      How historical conditions for life were monitored in the past and how these methods have been developed over time                      The importance of the conservation of biodiversity                      Knowledge of how decisions over habitat conservation can be made to protect those species that have not yet been investigated                      Ecosystem services and their interaction with each other                      How humans influence biodiversity, with examples in a range of different context                      Setting conservation priorities                      Legislation/protocols                      Captive breeding and release programmes (CBR)                      Habitat conservation                      The importance of ecological monitoring in conservation planning                      The development of new technologies for ecological monitoring                      How adaptation to the environment affects species' habitat requirements and influences conservation decision-making                      Terminology to describe the roles of living organisms in their habitats and their interactions with the physical environment                      The control of ecological succession in conserving plagioclimax habitats                      How population control and the management of desired and undesired species affects the conservation of biodiversity</p>				<p>How atmospheric energy processes involving ultra violet (UV), infrared (IR) and visible light in the stratosphere and troposphere affect life-support systems                      Global climate change: how interconnected natural systems cause environmental change                      Ozone depletion                      assess the reliability of using proxy data to monitor climate change.                      assess uncertainties over predictions of sea ice loss, changes in atmospheric temperature and sea level rise.                      construct graphs on changes in factors related to climate change: land ice volume, sea ice area, atmospheric CO2 concentration.                      assess degrees of uncertainty of data collected on climate change and predictions of changes that will occur in the future.                      The impact of unsustainable exploitation                      Increasing sustainability by economical use and the exploitation of new sources                      Factors affecting mine viability                      Control of the environmental impacts of mineral exploitation                      Strategies to secure future mineral supplies                      The importance of biogeochemical cycles for living organisms                      The carbon cycle including human influences                      The phosphorus cycle including human influences                      How human activities affect soil fertility                      Causes of soil degradation and erosion                      Soil management strategies to increase sustainability</p>				

Assessment 2 - As level mock papers (2 papers)