STEM Curriculum

Curriculum Intent (why do we do it)	Our aim for STEM teaching is for students to have hands on opportunities to use science, technology, engineering and mathematics in practical, creative and fun ways while instilling curiosity and stimulating interest. Although STEM is taught discretely it permeates into other areas of the curriculum and learning opportunities. These four subjects support one another, so that an understanding of each benefits the understanding of the others. Combining these subjects can help students understand how they can be applied in real life. It enables students to use their prior experience when solving problems. It gives students opportunities to work collaboratively, solve problems, develop and test ideas, connect and apply their knowledge and skills to create ideas and products. The STEM curriculum gives students an opportunity to find a solution in their own unique way. It also gives students the opportunity to fail and know it is okay and that they can try again. All of these subjects are increasingly important in a changing and technologically driven world. Many careers involve one of these subjects and the STEM curriculum helps to prepare students for adult life and success in further education and employment.

Curriculum Implementation (how do we do it)	STEM is taught in Pathways 1,2 and 4. STEM is a taught as a discrete strand in Pathway 1 and 4 and they have one STEM session a week STEM is delivered under the Wider World/ Sensory Experiences strand in Pathway 2. They have a STEM focus for at least one term a year. STEM is differentiated appropriately within each class. **See curriculum plans below**

Curriculum Components (how do we break the learning down)	See Whole School Implementation Planner.

Curriculum Impact **(How do we measure how successful the curriculum is and how students' progress within it?)**	Progress is not explicitly linked to STEM but as a vehicle to enhance other areas of learning across the curriculum. Qualitative data in relation to individual students progress is recorded yearly on reports that are shared with parents and used to input into annual review meetings and EHCP's. Some student have a termly target linked to STEM as part of their personalised learning. STEM can expand breadth of knowledge and experience while consolidating learning in a different format. STEM teaching can foster careers and special interests.

Whole School Implementation Planner

Pathway One and Four

KS3

STEM		
Autumn	**Spring**	**Summer**
Year 1		
The Human body *(Links to PSHE)*	Structures and bridges	Water experiments
Year 2		
3D solids and nets *(Links to Numeracy for Life)*	Living things and their habitats *(Links to Citizenship)*	Plants and seeds *(Links to Citizenship)*
Year 3		
Materials and their properties/uses	Electricity	States of matter (Solids, liquids and gases) Floating and sinking

KS4

STEM		
Autumn	**Spring**	**Summer**
Year 1		
Cardboard creations	Plants and trees *(Links to Citizenship)*	Building a car that moves
Year 2		
Winter creations	Experiments	Earth and Space The planets and the solar system. Density of space materials

Pathway Two – Spiral curriculum

The Wider World/ Sensory Experiences		
Autumn	**Spring**	**Summer**
Year 1		
Science The Human Body **History** Black History	**Geography/MFL/RE** India: Its language, culture, food and festivals	**Science** Healthy Lifestyles **Science** Experiments with colour
Year 2		
RE **World Religions** Christianity Judaism Islam Hinduism Buddhism Sikhism **History** Black History	**Geography/MFL** Africa **AQA Accreditation (alternate years with Citizenship)** **Support/Most** 41632 AFRICAN CULTURE: EXPERIENCING A COUNTRY'S WIDER CULTURE 116126 CULTURAL EXPERIENCES **Challenge** 117371 INTRODUCTION TO AFRICAN HERITAGE	**Science** Healthy Lifestyles **Science** Experiments with water
Year 3		
History Great Fire of London World War I and II **History** Black History	**Geography** My local area United Kingdom	**Science** Healthy Lifestyles **Science** Experiments with sound, light and movement