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| <b>Curriculum Map</b> | <b>Subject</b> | <b>STEM</b> | <b>Year</b> | <b>9</b> |
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| Unit                            | Summary   | Skills   | Assessment  | British Values and SMSC  | Career links   | Cross-curricular links  |
|---------------------------------|---|--|---|--|--|---|
| Understanding Technical Drawing | Students study technical drawings and learn how to turn 3D drawings into orthographic drawings and how to make 3D objects from orthographic drawings.   | Technical drawing, Critical thinking, Presentation.            | Students will be assessed on a final orthographic drawing and their 3D product made from an orthographic drawing.   | Democracy - Encourage students to collaborate and share ideas, fostering a democratic classroom environment.<br>Rule of Law -Emphasize the importance of following rules and guidelines in technical drawing and design. | Architectural Drafter, Mechanical Drafter, Technician  | Mathematics: Applying geometry and measurement concepts to create accurate technical drawings.<br>Science: Understanding the scientific principles and materials used in designs.<br>Design and Technology: Integrating design thinking and principles into technical drawing.<br>ICT (Information and Communication Technology): Using digital tools for computer-aided design (CAD) and drawing software. |
| Pneumatics and Hydraulics       | Students explore the principles and applications of pneumatics and hydraulics, including how these systems work, their advantages, and real-world uses. They design and build simple pneumatic and hydraulic systems.   | Problem-solving, Critical Thinking, Practical Skills           | Students will be assessed based on their understanding of the concepts and their ability to design and build functional pneumatic and hydraulic systems.          | Democracy - Collaborative work, Rule of Law - Safety and Regulations, Individual Liberty - Creativity and Exploration, Mutual Respect - Working together in groups   | Hydraulic Engineer, Pneumatic Technician, Mechanical Engineer, Automation Specialist           | Science - Understanding fluid dynamics and pressure, Design and Technology - Applying engineering principles, Mathematics - Calculations related to pressure and force, Physics - Exploring fluid mechanics and principles of motion.   |
| Renewable Energies              | Students delve into the world of renewable energy sources, including solar, wind, hydro, and geothermal energy. They learn about the principles, benefits, and applications of each source. Students work on projects to design and implement small-scale renewable energy systems. | Research, Problem-solving, Critical Thinking, Practical Skills | Assessment will be based on project outcomes, understanding of renewable energy concepts, and the ability to design and implement small renewable energy systems. | Democracy - Group projects and collaboration, Rule of Law - Safety regulations, Individual Liberty - Creativity in design, Mutual Respect - Respect for diverse energy sources   | Renewable Energy Technician, Environmental Engineer, Energy Analyst, Sustainability Consultant | Science - Understanding energy conversion, Geography - Studying geographical factors in renewable energy, Mathematics - Calculations related to energy production, Environmental Studies - Exploring environmental impacts of energy sources.   |