

Sir John Cass Red Coat School Programme of Study – Key Stage 3
Subject: Resistant Materials

Year 7	Year 8	Year 9
<p><u>Topics Covered/ Areas of Focus:</u></p> <p>Year 7 British theme- Pencil Case Project</p>	<p><u>Topics Covered/ Areas of Focus:</u></p> <p>Year 8 Japan theme- Bookend-Clock Project</p>	<p><u>Topics Covered/ Areas of Focus:</u></p> <p>Year 9 American theme- Night Lamp and Sustainability Project</p>
<p><u>Skills Development & Expected Progress:</u></p> <ul style="list-style-type: none"> • Students develop knowledge of different types of woods and their properties. • Students develop skills in using Access FM to write their specification. • Students use a mood board and specification to design 2 innovative ideas for the stamp. • Students develop skills in using tools and equipment for marking out and cutting 	<p><u>Skills Development & Expected Progress:</u></p> <ul style="list-style-type: none"> • Students further develop skills in using Access FM to write their specification. • Students will develop skills in using a mood board. • Students develop knowledge of different types of woods. • Students develop understanding of technical and orthographic drawing. • Students develop understanding of 2D design and CAD. • Students develop understanding of 2D design • Students develop skills in bitmapping and vectorising. • Students develop skills in using 2D design software. • Students develop skills in using tools and equipment for marking out and cutting. 	<p><u>Skills Development & Expected Progress:</u></p> <ul style="list-style-type: none"> • Students further develop skills in using Access FM to write their specification. • Students will develop skills in using a mood board. • Students develop understanding of the difference between Thermoplastic and Thermosetting plastics. • Students develop knowledge in industrial processes used to manufacture plastic products. • Students develop skills in bitmapping and vectorising. • Students develop skills in using 2D design software. • Students develop skills in using a coping saw and hand files. • Students develop skills in using CAM(laser cutting)

Assessment:

Each unit of work is marked to National Curriculum levels.
 Students also evaluate their work and progress and respond to feedback.

Individual pieces of work are formatively marked following the school's assessment policy to provide constant feedback and progression. Students are expected to correct their own work and respond to teacher comments using the school assessment proforma.

Literacy:

Students develop speaking and listening skills.
 Students provide oral and written evaluation of their work.
 The promotion of independent research and product design allow students to develop ideas in depth.
 Reading enriches their subject knowledge and technical vocabulary.
 Students use the correct technical language. Key terms are taught explicitly.

Numeracy:

Students deal with measurement, symmetry, proportion, scale, shape, rotation, perspective, adding and subtracting.

ICT:

CAD, CAM, using computers and software such as 2D Design and Google SketchUp.

Life in Modern Britain:

- Health and safety regulations in UK
- Rule of Law
- Consideration for the Environment & Sustainability
- Tolerance towards all cultures/religions/opinions
- British Designers and the impact of their work

Life in Modern Britain:

- Health and safety regulations in UK
- Rule of Law
- Consideration for the Environment & Sustainability
- Tolerance towards all cultures/religions/opinions
- Comparison of Japanese & British Designers and the impact of their work

Life in Modern Britain:

- Health and safety regulations in UK
- Rule of Law
- Consideration for the Environment & Sustainability
- Tolerance towards all cultures/religions/opinions
- Comparison of American & British Designers and the impact of their work

SMSC:

Students understand responsibility towards others. Collaborative and cooperative work allows students to develop respect for the abilities of each other. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding and they learn to appreciate the value of differences and similarities. In these particular projects, the understanding of the British culture is reinforced.

Meeting the needs of individual students & Additional Support:

Differentiated learning, scaffolding/targeted questioning, one-2-one support, extension tasks, and technician support.

Extra-Curricular Activities & Club:

After school D&T Club

Independent Study/ Homework:

Homework is set fortnightly to develop student's knowledge and understand outside of the classroom. Students expected to work for an hour on each piece of homework. Regular feedback is given to students and gaps in learning are re-visited.

Resources for Learning Support and VLE:

PowerPoint presentation, CAD, CAM work. Carrying out research and recording their research on Microsoft word or PowerPoint.