Creative Technologies Curriculum Overview
Year 7

Key stage 3 Curriculum overview 2024-25

In key stage 3, students work in all areas of Creative technologies by rotating through a carousel of different material areas, following a common theme which is explicitly evident within the national curriculum. These two themes of eco and social draw upon the focus that D&T should solve real world problems for people. By embedding this into the curriculum students will develop empathy, compassion and an understanding of client's needs and wants as well as a better cultural capital. Students will explore many different material areas and develop their skills and techniques with a range of different specialist tools and equipment. They will make links with other subject areas such as art, computer science as well as maths and English. Students will become independent, problem solvers through a variety of creative and practical activities, which allow them to discover a depth of knowledge, understanding and skills needed to engage in an iterative process of designing and making.

Theme-

Textiles/Graphics	Engineering	Design and Technology	Food prep & nutrition
Assessments • **Formative/ Practical-** • **Summative/ Theory- end of unit assessment** **Homework 1- fabrics and fibres research and fact sheet** **Homework 2- end of unit forms quiz**	**Assessments** • **Formative/ Practical- final practical outcome of litter picker** • **Summative/ Theory- end of unit assessment** **Homework 1- extended reading- woods theory** **Homework 2- end of unit forms quiz**	**Assessments** • **Formative/ Practical- initial ideas** • **Summative/ Theory- end of unit assessment** **Homework 1- plastics and the environment letter** **Homework 2-end of unit forms quiz**	**Assessments** • **Formative/ Practical- Chicken nuggets** • **Summative/Theory- 'Dirty sandwich café article** **Homework 1-Article** **Homework 2-Scones experiment conclusion**
Upcycled Fashion	**Litter Picker**	**Eco Earphone Tidy**	**Healthy Eating**
Unit outline and practical skills: Students are provided a brief and specification in which they are required to create an up-cycled piece of clothing to be sold at a charity festival. Their focus here is developing their understanding of how the sewing machine works (theory and practical), experimenting with surface pattern techniques and hand embroidery. They will then also create using graphic editing software a suitable poster design that fits the client's specification. They will evaluate their final design against the brief's requirements.	**Unit outline and practical skills:** Students are to respond to a brief and specification in order to create an ergonomic and functional litter picker using CAD/CAM (laser cutting). They will research ergonomic design and biomimicry as well as mechanisms and type sof woods in order to make a successful end product. They will evaluate their final design by testing it against their specification.	**Unit outline and practical skills:** Students will respond to a brief and specification in order to research, design, make and evaluate an earphone tidy that makes use of recycled plastics. They will be encouraged to create a range of ideas before developing a protype in order to test their design. They will work safely and accurately with hand tools and specialist machinery in order to cut, shape and finish their final products to a high standard. They will also show compassion and understanding of the environmental impact of plastics and will be encouraged to discuss this in class and at home.	**Unit outline and practical skills:** Students begin by learning the basic rules to follow in the kitchen to keep themselves and others safe. They examine the different parts of the cooker and how to use them safely. They focus on healthy eating and making a range of snacks to fit this brief. They start to think about the wider world and where their food comes from and how it is processed. (Dairy farming).
Theory knowledge (with link to NC) • Fabric and fibres (M2) • Pre-production (D3) • Photoshop (M1) • Review (E3)	**Theory knowledge (with link to NC)** • Health and safety • Woods (M2) • Mechanisms (T2) • Biomimicry (D4) • Anthropometrics and ergonomics (D1) • Cad/ Cam (M1)	**Theory knowledge (with link to NC)** • Polymers including impact on the environment(M2, E4) • Health and safety • Hand tools and work shop machinery • Design communication(D4) • 3D modelling (D5) • Packaging including papers and boards	**Theory knowledge (with link to NC)** **Practical lessons** Knife skills (claw grip and bridge hold) Using the different parts of the cooker Using blenders Basic chopping skills Apply the healthy eating principles to dishes **Theory Lessons** Kitchen safety Food safety Healthy Eating Food Choices (self) Food Provenance (dairy farming) Understand/apply the principles of nutrition and health Cook a repertoire of predominantly savoury dishes so they are able to feed themselves and others a healthy and varied diet Become competent in a range of cooking techniques (eg selecting and preparing ingredients, using utensils and

			electrical equipment, applying heat in different ways, using awareness of taste, texture and smell to decide how to season dishes and combine ingredients, adapting and using their own recipes Understand the source, seasonality and characteristics of a broad range of ingredients
Literacy and numeracy Stand and speak encouraged in lessons. Units of measurements (pixels/dimensions)	**Literacy and numeracy** Stand and speak encouraged in lessons. Extended reading of types of woods for homework before creating a fact sheet/ poster Units of measurements (mm/ m's), use of measuring tools such as steel ruler and digital capliers. Anthropometric data.	**Literacy and numeracy** Students are to write a formal letter as part of their homework, asking the headteacher to consider how we can reduce plastic waste in school. Stand and speak encouraged in lessons. Units of measurements (mm/ m's), use of measuring tools such as steel ruler and digital capliers.	**Literacy and numeracy** Assessed piece of writing about a 'dirty sandwich café' allows for extending writing checking SP and G. Reading and following instructions (recipe) Units of measurements (grams/ litres etc) Working out timings Estimating sizes

NC links (Design and Technology)-

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
D1 use research and exploration, such as the study of different cultures, to identify and understand user needs	**M1** select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture	**E1** analyse the work of past and present professionals and others to develop and broaden their understanding	**T1** understand and use the properties of materials and the performance of structural elements to achieve functioning solutions
D2 Identify and solve their own design problems and understand how to reformulate problems given to them	**M2** select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties	**E2** investigate new and emerging technologies	**T2** understand how more advanced mechanical systems used in their products enable changes in movement and force
D3 develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations		**E3** test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups	**T3** understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]
D4 use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses		**E4** understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	**T4** apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].
D5 develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools			

National curriculum (Food Prep and nutrition)-

F1 understand and apply the principles of nutrition and health
F2 cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet
F3 become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]
F4 understand the source, seasonality and characteristics of a broad range of ingredients