

Design and Technology

Overview of the year:		Ways to consolidate and extend your learning in Design Technology:		
This year we look at a variety of materials, their basic properties and be able to understand the process of choosing materials is an important step in product design. We will also look at the use of CAD/ CAM in design and the work of designers. By the end of the year, students should have understood and gained a good knowledge base to be able to apply to a variety of practical outcomes in the lesson and for their future lives.		Reading about designer's past and present will help students see the big picture of the past and the present and see how the world of design evolves as new technologies are found. Programs such as Grand Designs, How it's Made can provide an insight into the world of design, engineering and manufacture. Visits to the V&A museum, Design Museum and London Transport Museum will enhance what they are learning in lessons.		
Half Term	Unit title	Knowledge	Skills	Assessment
1	Plastic based materials Jitterbug (PBM)	What plastic-based materials are available and learn about their properties and possible uses	To be able to identify a range of plastic-based materials and apply to specific examples to a practical outcome. Be able to use the basic handheld tools. To be able to understand the basic electronics and what the components do. Accurately marking, measuring, cutting, sanding, soldering electronics.	Knowledge based assessment on plastic-based materials. Practical assessment of completed product.
2	PBM Jitter bug Card based materials (CBM), and a sustainable passive amplifier	Continued project for PBM What cards are available and learn about their properties and possible uses.	Continued skill for PBM To be able to identify a range of card-based materials and apply to specific examples to a practical outcome. Be able to use the basic handheld tools. To be able to understand the basic electronics and what the components do. Identifying and using a suitable adhesive on card-based material. Accurate marking, measuring, cutting, soldering electronics and using the correct application method for production.	Continued for PBM assessment Knowledge based assessment on card-based materials. Practical assessment of completed product.
3	Sustainable passive amplifier	Continued project for CBM	Continued skill for CBM	Continued for CBM assessment
4	Textile based materials (TBM), Charity based organisation WWF pouch key ring	What soft based materials are available and learn about their properties and possible uses. Research of James Merry (embroidery artist).	To be able to identify a range of textile-based materials and apply to specific examples to a practical outcome. Be able to use the basic embroidery tools. Carry out research on embroidery artist James Merry. To be able to understand basic stitches and how to apply to a textile-based material. Accurate marking, measuring, cutting, and stitching.	Knowledge based assessment on textile-based materials and of James Merry. Practical assessment of completed product.
5	TBM pouch key ring Metal based materials (MBM), Digital prototype, Computer Aided design (CAD) and Computer Aided Manufacture (CAM), merchandising for a London based zoo 'Allymals'	Continued project for TBM The use of CAD and CAM in the industry and What MBM are available, their properties and possible uses.	Continued skill for TBM To be able to identify a variety of CAD and CAM options available. Use of CAD for the purposes of designing. To be able to identify a range of metal-based materials and apply to specific examples to a practical outcome. Be able to use the basic handheld tools. Accurately marking, measuring, cutting and filing.	Continued for TBM assessment Knowledge based assessment on CAD/CAM in industry and Metal based materials. Practical assessment of completed product.
6	Digital prototyping and MBM 'Allymals'	Continued project for digital prototyping and MBM	Continued skill for digital prototyping and MBM	End of year knowledge-based assessment.