

Home-School Learning Collaboration – D&T (Engineering)



Topics in this cycle: 1. Olympic history. 2. Secondary research – designer Philippe Starck 3. Designing using creative techniques & CAD and make a Paris 2024 Olympic medal 4. Die Casting 5. Product evaluation	Taught: Summer 1	Year Group: 8
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<ul style="list-style-type: none"> • The history of the Olympic Games and different materials used to make medals, ribbons, and packages. • How to conduct secondary research task analysis • How to conduct a product analysis of existing products using ACCESS FMM • How to write a detailed design specification for my product • How to draw four (4) design ideas for a creative Olympic medal in 2d and 3d. • How to use CAD (2d design V3) to develop and create presentational medal drawings – orthographic/engineering drawings • How to create a mould via laser cutting or /and mould to die cast pewter to make a model of your medal. • How to finish a medal and create a package or small-scale storage • How to carry out an effective product evaluation 		<p>www.technologystudent.com www.bitesize.co.uk</p> <p>How to pewter casting? https://youtu.be/vcxt9PlgMec</p> <p>How to use a polisher? https://youtu.be/WrxXBmFY8Bs</p> <p>Brazing and Brazing hearth https://youtu.be/Dr7PHyyUQHk</p> <p>Techsoft design V2 (CAD) basics https://youtu.be/LO9CPpsoqHQ</p> <p>How the Bafta Award is made? https://youtu.be/JqJBmg1k_zw</p>
Key vocabulary and definitions to be learnt		What will the assessment look like?
Investigate/research	Carry out research or study into, study of materials and sources in order to establish facts and reach new conclusions.	Project Booklet: Los Angeles 2028 Medal

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Design	A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.	Assessed on investigation, design, make and evaluate. BASE test: 50 minutes <ul style="list-style-type: none"> • Multiple choice • Short answer questions • Designing design task
Manufacture	To build or make.	
Evaluate	To evaluate is defined as to judge the value or worth of someone or something.	
Reuse	Is the action or practice of using an item, whether for its original purpose (conventional reuse) or to fulfil a different function (creative reuse or repurposing).	
Aesthetics	How well a product appeals to the sense as it relates to (colour, texture & form/geometry)	Family Learning Opportunities
Consumer	Who uses the product.	Make an Olympic medal model from corrugated card or cereal box. Use play dough to create different shapes your medal could be. Practice drawing/sketching in 2D & 3D (medal ideas or pendants). Research Philippe Starck Visit these places Los Angeles physically or virtually Design Museum or galleries.
Function	The use or purpose of a product.	
Environment	The impact will the product have on the natural environment.	
Design Specification	A list of criteria the product must meet to be successful	
Pewter	Pewter is an attractive metal which has been used for the production of household and other items in Britain since Roman times. It is an alloy consisting mostly of tin which has been mixed with small amounts of other metals such as copper, lead or antimony to harden it and make it more durable.	
Die Casting	Die casting is a metal casting process that involves feeding molten nonferrous alloys into dies under high pressure and at high speed to rapidly create moulded products.	
Thermoplastic	Is a plastic that gets soft when heated and rehardening on cooling without appreciable change of properties.	
Acrylic	Acrylic plastic is a strong, clear polymer used in a host of industries including, but not limited to automobiles, lighting fixtures and optical applications.	
Brazing hearth	Brazing Hearths are usually at bench height and provide a convenient, heat proof and shielded location for Hard Soldering and Annealing. They are used in combination with a Blow Torch fuelled by natural gas, and for which they may have a built-in air compressor, or a Gas Torch fuelled by Liquefied Petroleum Gas (LPG)	
Wasting process	One that produces waste or unusable material either by cutting bits out or cutting bits off. Name the most common wasting processes. - Drilling. - Sawing. - Filing. - Sanding. - Planning. - Chiselling.	
Mould	A hollow container used to give shape to <u>molten</u> or hot liquid material when it <u>cools</u> and <u>hardens</u> "the smith would pour the molten metal into the shaped mould.	