



Robert Bloomfield Academy: Key Stage 3 Grade Descriptors – CPA DT



KS3	Explore	Design	Manufacture	Evaluate
Exceeding KS3 Expectations	Develop realistic design proposals as a result of the exploration of design opportunities and users' needs, wants and values. In-depth research of design movements and developments in design technology. Show influence from famous designers and brands within work.	Design and make, prototypes in response to issues, needs, problems and opportunities. Use imagination, experimentation and combine ideas when designing consider the costs, commercial viability and marketing of products	Demonstrate in practical work knowledge of how the impact of forces and stresses on materials and objects and the ways in which materials can be reinforced and stiffened. Specialist techniques and processes used to shape, fabricate, construct and assemble a high quality product	Within evaluation use refined and complex key DT terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics
Year 9 Sec Year 9 Dev Year 9 Beg	Demonstrate an ability to write a design brief and specifications from their own and others' considerations of human needs, wants and interests. Investigate and analyse the work of past and present professionals and companies in the area of design and technology in order to help inform their own ideas.	Use different design strategies, such as collaboration, user-centred design and systems thinking, to generate initial design ideas. Technical drawing employs both formal and informal technical drawing (thumbnail sketches, cross-sectional, exploded diagrams). Options related to a variety of costings explored within designs.	Select from and use a wide range of specialist tools, techniques, processes, equipment and machinery precisely. Products have a good quality professional finish.	Create own evaluation questions and measurable outcomes. Collect data from target audience to aid evaluation. Evaluate costs and ascertain whether product is financially viable.
Year 8 Sec Year 8 Dev Year 8 Beg	Use a variety of research and analysis tools (e.g. mood boards, ACCESS FM) to explore and develop ideas. Research tailored to a specific target audience.	Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, and computer-based tools. Design choices are justified and basic costings discussed.	Select from and use a wider, more complex range of materials, components and take into account their properties. Use Computer-Aided Manufacture (laser cutter, 3D printers).	Test, evaluate and refine their ideas and products against an in-depth specification, taking into account the views of intended users and other interested groups.

	A wide range of existing products are used for analysis with a greater focus on method of production and materials used.	Iterative design evident throughout design process.	Use appropriate and accurate marking out methods Understand efficient cutting and how to minimise waste. Surface finish considered	Manufacturing diaries show evidence of evaluation at each step.
Year 7 Sec Year 7 Dev Year 7 Beg	Use product analysis as a tool to explore and annotate existing designs identifying strengths and weaknesses which in turn inform own design process. Understand what a target audience is and identify a target audience. Use mood boards to explore and develop ideas.	Identify and solve their own design problems and understand how to reformulate problems given to them. Use iterative design to model, evaluate and improve several times during design process. Thought process is evident through annotated designs. Several themes explored and aimed at particular individuals or groups.	Experimentation with a variety of techniques, tools and equipment, including Computer Aided Design (Photoshop). Choices for final product are made in relation to design specification, chosen target audience and theme. Can select correct tools and explain functions. Manufacturing diaries feature descriptions of techniques.	Use checklists to evaluate progress and final product. Consider the views of others and provide constructive criticism through peer review. Use feedback from others to make improvements to work.
T1 T2 T3	Use research to develop own design specification to inform the design of functional, and aesthetically appealing products that are fit for purpose. Investigate some existing products.	Generate, develop, model and communicate several ideas through discussion and sketches. Create a prototype and use iterative design to make improvements.	Select from and use a wider range of materials, components (including metal) and tools. Development of skills with basic hand tools and some knowledge of power tools/machinery. Use finishing techniques to achieve a more refined final piece. When working in pairs can support with measurements and practical techniques.	Evaluate ideas and products against their own design criteria. Use key terminology when peer assessing the work of others.
T4 T5 T6	Understand what a design brief and design specification are and why they are used.	Create simple designs using basic calculations and measurements. Understand what a theme is.	Able to identify the main steps in the manufacturing process and record them in a manufacturing diary. Can identify some types of natural and manmade materials.	Can recognise/identify/ describe areas for improvement.

			Can name basic hand tools and use to perform simple cuts. Understand basic Health and Safety rules and workshop expectations.	
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