Objectives progression by Subject

Broughton Community School new (73 projects, 1071 lessons) live

Big idea	Aspect	Year 3	Year 4	Year 5	Year 6
Humankind	Everyday products	Explain how an existing product benefits the user. covered x 2	Investigate and identify the design features of a familiar product. covered x 6 optional x 2	Explain how the design of a product has been influenced by the culture or society in which it was designed or made. covered x 3	Analyse how an invention or product has significantly changed or improved people's lives. covered x 3 optional
	Staying safe	Use appliances safely with adult supervision. covered optional x 3	Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray. covered	Explain the functionality and purpose of safety features on a range of products. covered	Demonstrate how their products take into account the safety of the user. covered
Processes	Mechanisms and movement	Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. covered x 3 optional	Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products. covered x 3 optional	Use mechanical systems in their products, such as pneumatics. covered x 3 optional x 2	Explain and use mechanical systems in their products to meet a design brief. optional
	Electricity	Incorporate a simple series circuit into a model. Assign	Incorporate circuits that use a variety of components into models or products. covered optional x 2	Use electrical circuits of increasing complexity in their models or products, showing an understanding of control. Assign	Understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) and use programming to control their products. covered x 2 optional

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Creativity	Generation of ideas	Develop design criteria to inform a design. covered x 3	Use annotated sketches and exploded diagrams to test and communicate their ideas. covered x 4 optional x 3	Use pattern pieces and computer-aided design packages to design a product. covered	Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways. covered x 2
	Structures	Create shell or frame structures using diagonal struts to strengthen them. covered	Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them. covered	Build a framework using a range of materials to support mechanisms. covered x 3	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. covered x 2
	Use of ICT	Write a program to make something move on a tablet or computer screen. optional	Write a program to control a physical device, such as a light, speaker or buzzer. covered x 2 optional	Link a physical device to a computer or tablet so that it can be controlled (such as changing motor speed or turning an LED on and off) by a program. Assign	Use a sensor to monitor an environmental variable, such as temperature, sound or light. covered x 2
Investigation	Investigation	Use tools safely for cutting and joining materials and components. covered x 4 optional	Select, name and use tools with adult supervision. covered	Name and select increasingly appropriate tools for a task and use them safely. covered	Select appropriate tools for a task and use them safely and precisely. covered x 2 optional x 2
	Evaluation	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making	Test and evaluate products against a detailed design specification and make adaptations as they develop the product. covered x 3 optional x 2	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others. covered x 3 optional x 2

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Materials	Cutting and joining textiles	Cut and join wools, threads and other materials to a loom. covered	Hand sew a hem or seam using a running stitch. covered	Combine stitches and fabrics with imagination to create a mixed media collage. covered	Pin and tack fabrics in preparation for sewing and more complex pattern work. covered x 2
	Decorating and embellishing textiles	Decorate a loom weaving using embellishments, such as natural or silk flowers, tassels and bows. covered	Create detailed decorative patterns on fabric using printing techniques. covered	Use applique to add decoration to a product or artwork. covered	Use different methods of fastening for function and decoration, including press studs, Velcro and buttons. covered
	Materials for purpose	Plan which materials will be needed for a task and explain why. covered x 2 optional	Choose from a range of materials, showing an understanding of their different characteristics. covered x 5 optional x 4	Select and combine materials with precision. covered x 2 optional x 3	Choose the best materials for a task, showing an understanding of their working characteristics. covered x 4 optional x 3
Nature	Nutrition	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). covered	Design a healthy snack or packed lunch and explain why it is healthy. covered x 3	Evaluate meals and consider if they contribute towards a balanced diet. covered x 3 optional	Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet. covered
	Food preparation and cooking	Prepare and cook a simple savoury dish. covered x 3	Identify and use a range of cooking techniques to prepare a simple meal or snack. covered	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. covered x 2 optional	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently. covered x 3
	Origins of food	Identify and name foods that are produced in different places. covered	Identify and name foods that are produced in different places in the UK and beyond.	Describe what seasonality means and explain some of the reasons why it is beneficial.	Explain how organic produce is grown. covered

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Comparison	Compare and contrast	Explain the similarities and difference between the work of two designers. covered	Create and complete a comparison table to compare two or more products. covered x 3	Survey users in a range of focus groups and compare results. covered	Create a detailed comparative report about two or more products or inventions. covered x 4
Significance	Significant people	Describe how key events in design and technology have shaped the world. covered optional	Explain how and why a significant designer or inventor shaped the world. covered x 3 optional	Describe the social influence of a significant designer or inventor. covered	Present a detailed account of the significance of a favourite designer or inventor. covered