

Big idea	Aspect	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Humankind	Everyday products	Name and explore a range of everyday products and describe how they are used. optional	Explain how an everyday product could be improved. optional	Explain how an existing product benefits the user. optional x 2	Investigate and identify the design features of a familiar product. covered x 4 optional	Explain how the design of a product has been influenced by the culture or society in which it was designed or made. covered optional x 3	Analyse how an invention or product has significantly changed or improved people's lives.
	Staying safe	Follow the rules to keep safe during a practical task.	Work safely and hygienically in construction and cooking activities. optional x 3	Use appliances safely with adult supervision. optional x 2	Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray. optional	Explain the functionality and purpose of safety features on a range of products. optional	Demonstrate how their products take into account the safety of the user.
Processes	Mechanisms and movement	Use wheels and axles to make a simple moving model.	Use a range of mechanisms (levers, sliders, wheels and axles) in models or products. covered	Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. optional	Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.	Use mechanical systems in their products, such as pneumatics.	Explain and use mechanical systems in their products to meet a design brief.
	Electricity	Identify products that use electricity to make them work and describe how to switch them on and off.	Create an operational, simple series circuit. covered	Incorporate a simple series circuit into a model. optional	Incorporate circuits that use a variety of components into models or products. optional x 2	Use electrical circuits of increasing complexity in their models or products, showing an understanding of control. covered	Understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) and use programming to control their products.

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Creativity	Generation of ideas	Create a design to meet simple design criteria. covered x 3 optional x 5	Generate and communicate their ideas through a range of different methods. covered x 3 optional	Develop design criteria to inform a design. covered x 8 optional	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 x 2	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 optional x 2
	Structures	Construct simple structures, models or other products using a range of materials. covered x 12 optional x 2	Explore how a structure can be made stronger, stiffer and more stable. covered x 3 optional x 3	Create shell or frame structures using diagonal struts to strengthen them. covered x 2 optional	Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	Build a framework using a range of materials to support mechanisms.	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. covered x 3 optional
	Use of ICT	Use design software to create a simple plan for a design.	Use design software to create a simple labelled design or plan.	Write a program to make something move on a tablet or computer screen.	Write a program to control a physical device, such as a light, speaker or buzzer.	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.	Use a sensor to monitor an environmental variable, such as temperature, sound or light.
Investigation	Investigation	Select the appropriate tool for a simple practical task. covered x 2 optional x 5	Select the appropriate tool for a task and explain their choice. covered x 6 optional x 3	Use tools safely for cutting and joining materials and components. covered optional x 8	Select, name and use tools with adult supervision. covered optional	Name and select increasingly appropriate tools for a task and use them safely. covered optional x 6	Select appropriate tools for a task and use them safely and precisely. optional x 3

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	Evaluation	Talk about their own and each other's work, identifying strengths or weaknesses and offering support. covered optional x 3	Explain how closely their finished products meet their design criteria and say what they could do better in the future. covered x 2 optional x 4	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. covered x 2 optional x 3	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 improvements. covered x 5 optional x 5	Test and evaluate products against a detailed design specification and make adaptations as they develop the product. covered x 2	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others. optional
Materials	Cutting and joining textiles	Cut and join textiles using glue and simple stitches.	Use different methods of joining fabrics, including glue and running stitch.	Cut and join wools, threads and other materials to a loom.	Hand sew a hem or seam using a running stitch.	Combine stitches and fabrics with imagination to create a mixed media collage.	Pin and tack fabrics in preparation for sewing and more complex pattern work.
	Materials for purpose	Select and use a range of materials, beginning to explain their choices. covered x 5 optional x 4	Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. covered x 13 optional x 7	Plan which materials will be needed for a task and explain why. covered x 7 optional x 3	Choose from a range of materials, showing an understanding of their different characteristics. covered x 12 optional x 3	Select and combine materials with precision. covered x 11	Choose the best materials for a task, showing an understanding of their working characteristics. covered x 7 optional x 5
	Decorating and embellishing textiles	Use gluing, stapling or tying to decorate fabric, including buttons and sequins.	Add simple decorative embellishments, such as buttons, prints, sequins and appliqué.	Decorate a loom weaving using embellishments, such as natural or silk flowers, tassels and bows.	Create detailed decorative patterns on fabric using printing techniques.	Use applique to add decoration to a product or artwork.	Use different methods of fastening for function and decoration, including press studs, Velcro and buttons.
Nature	Food preparation and cooking	Measure and weigh food items using non-standard measures, such as spoons and cups. covered x 3	Prepare ingredients by peeling, grating, chopping and slicing. covered x 2 optional	Prepare and cook a simple savoury dish. covered x 5	Identify and use a range of cooking techniques to prepare a simple meal or snack. covered x 3 optional x 2	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. optional	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.

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	Nutrition	Select healthy ingredients for a fruit or vegetable salad. covered	Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). covered optional	Design a healthy snack or packed lunch and explain why it is healthy. covered x 2	Evaluate meals and consider if they contribute towards a balanced diet.	Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet. covered optional
	Origins of food	Sort foods into groups by whether they are from an animal or plant source. optional	Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).	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. covered	Explain how organic produce is grown.
Comparison	Compare and contrast	Describe the similarities and differences between two products.	Compare different or the same products from the same or different brands.	Explain the similarities and difference between the work of two designers.	Create and complete a comparison table to compare two or more products. covered	Survey users in a range of focus groups and compare results.	Create a detailed comparative report about two or more products or inventions.
Significance	Significant people	Describe why a product is important.	Explain why a designer or inventor is important. covered	Describe how key events in design and technology have shaped the world.	Explain how and why a significant designer or inventor shaped the world. covered optional	Describe the social influence of a significant designer or inventor.	Present a detailed account of the significance of a favourite designer or inventor.



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