	EYFS	KS1	Year 3 & 4	Year 5 & 6
DESIGNING: **Understanding contexts, users and purposes**	**Understanding the World** Explore how things work: Operate mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car; plays with water to investigate 'low technology' such as washing and cleaning; use pipes, funnels and other tools to carry/ transport water from one place to another. Explore objects by linking together different approaches: shaking, hitting, looking, feeling, tasting, mouthing, pulling, turning and poking. Remember where objects belong. Match parts of objects that fit together, e.g. puts lid on teapot	Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment State what products they are designing and making Say whether their products are for themselves or other users Describe what their products are for Say how their products will work Say how they will make their products suitable for their intended users Use simple design criteria to help develop their ideas	Gather information about the needs and wants of particular individuals and groups Develop their own design criteria and use these to inform their idea	Carry out research, using surveys, interviews, questionnaires and web-based resources Identify the needs, wants, preferences and values of particular individuals and groups Develop a simple design specification to guide their thinking
			Across KS2 Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment Describe the purpose of their products Indicate the design features of their products that will appeal to intended users Explain how particular parts of their products work	
DESIGNING: **Generating, developing, modelling and communicating ideas**	**Understanding the World** Explore different materials freely, in order to develop their ideas about how to use them and what to make: ● Transporting blocks, early building in rows, horizontally or stacked vertically. ● Create closed shapes with continuous lines and begin to use these shapes to represent objects. **Expressive Arts and Design** Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. More complex structures with understanding of pattern, shape and balance. Opportunities to build on large scale outdoors with loose parts. Den building from variety of resources	Generate ideas by drawing on their own experiences Use knowledge of existing products to help come up with ideas Develop and communicate ideas by talking and drawing Model ideas by exploring materials, components and construction kits and by making templates and mockups Use information and communication technology, where appropriate, to develop and communicate their ideas	Generate realistic ideas, focusing on the needs of the user Make design decisions that take account of the availability of resources	Generate innovative ideas, drawing on research Make design decisions, taking account of constraints such as time, resources and cost
			Across KS2 Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces Use annotated sketches, cross sectional drawings and exploded diagrams to develop and communicate their ideas Use computer-aided design to develop and communicate their ideas	
MAKING: **Planning**	**Personal, Social and Emotional Development** Have a clear idea about what they want to do in their play and how they want to go about it. Show confidence in choosing resources and perseverance in carrying out a chosen activity	Plan by suggesting what to do next Select from a range of tools and equipment, explaining their choices Select from a range of materials and components according to their characteristics	Order the main stages of making	Produce appropriate lists of tools, equipment and materials that they need Formulate step-by-step plans as a guide to making
			Across KS2 Select tools and equipment suitable for the task	

	Select and use activities and resources, with help when needed. Collaborate with peers on shared projects in addition to individual creations. **Understanding the World** Develop their own ideas and then decide which materials to use to express them.		Explain their choice of tools and equipment in relation to the skills and techniques they will be using Select materials and components suitable for the task Explain their choice of materials and components according to functional properties and aesthetic qualities	
MAKING: **Practical skills and techniques**	Talk about what makes activities safe or unsafe e.g. hygiene or when using tools. **Physical Development** Use large-muscle movements to wave flags and streamers, paint and make marks. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Show increasing control in holding, using and manipulating a range of tools and objects such as tambourines, jugs, hammers, and mark making tools. Developing the skills to use a varied range of joining techniques e.g. gluing, sewing/ stitching, stapling, weaving, hole punching. Develop more complex tearing and folding. Use one-handed tools and equipment, for example, making snips in paper with scissors.	Follow procedures for safety and hygiene Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components Measure, mark out, cut and shape materials and components Assemble, join and combine materials and components Use finishing techniques, including those from art and design	Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials and components with some accuracy Apply a range of finishing techniques, including those from art and design, with some accuracy	Accurately measure, mark out, cut and shape materials and components Accurately assemble, join and combine materials and components Accurately apply a range of finishing techniques, including those from art and design Use techniques that involve a number of steps Demonstrate resourcefulness when tackling practical problem
			Across KS2 Follow procedures for safety and hygiene Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components	
EVALUATING: **Own ideas and products**	Gesture or simple verbal reply given in response to a simple question or comment about creations. Develop own ideas through experimentation with diverse materials, e.g. light, projected image, loose parts, to express and communicate their discoveries and understanding.	Talk about their design ideas and what they are making Make simple judgements about their products and ideas against design criteria Suggest how their products could be improved	Refer to their design criteria as they design and make Use their design criteria to evaluate their completed products	Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Evaluate their ideas and products against their original design specification
			Across KS2 Identify the strengths and areas for development in their ideas and products Consider the views of others, including intended users, to improve their work	
EVALUATING: **Existing products**	**Understanding the World** Know about similarities and differences in relation to places, objects, materials and living things Discuss own and others' creations ed and evaluated using linked vocabulary.	What products are Who products are for What products are for How products work	Who designed and made the products Where products were designed and made When products were designed and made Whether products can be recycled or reused	How much products cost to make How innovative products are How sustainable the materials in products are What impact products have beyond their intended purpose

		How products are used Where products might be used What materials products are made from What they like and dislike about products	**Across KS2** How well products have been designed How well products have been made Why materials have been chosen What methods of construction have been used How well products work How well products achieve their purposes How well products meet user needs and wants	
EVALUATING: **Key events and individuals**			Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	
TECHNICAL KNOWLEDGE: **Making products work**	**Expressive Arts and Design** Return to and build on their previous learning, refining ideas and developing their ability to represent them. Show resilience and perseverance in the face of challenge. Notice and become interested in the transformative effect of their action on materials and resources Uses simple tools to effect changes to materials.	About the simple working characteristics of materials and components About the movement of simple mechanisms such as levers, sliders, wheels and axles How freestanding structures can be made stronger, stiffer and more stable That a 3-D textiles product can be assembled from two identical fabric shapes That food ingredients should be combined according to their sensory characteristics The correct technical vocabulary for the projects they are undertaking	How mechanical systems such as levers and linkages or pneumatic systems create movement How simple electrical circuits and components can be used to create functional products How to program a computer to control their products How to make strong, stiff shell structures That a single fabric shape can be used to make a 3D textiles product That food ingredients can be fresh, pre-cooked and processed	How mechanical systems such as cams or pulleys or gears create movement How more complex electrical circuits and components can be used to create functional products How to program a computer to monitor changes in the environment and control their products How to reinforce and strengthen a 3D framework That a 3D textiles product can be made from a combination of fabric shapes That a recipe can be adapted by adding or substituting one or more ingredients
			Across KS2 How to use learning from science to help design and make products that work How to use learning from mathematics to help design and make products that work That materials have both functional properties and aesthetic qualities That materials can be combined and mixed to create more useful characteristics That mechanical and electrical systems have an input, process and output The correct technical vocabulary for the projects they are undertaking	

Skills Progression

COOKING AND NUTRITION: **Where food comes from**	Talk about where food comes from.	That all food comes from plants or animals That food has to be farmed, grown elsewhere (e.g. home) or caught	That seasons may affect the food available How food is processed into ingredients that can be eaten or used in cooking	That food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world
COOKING AND NUTRITION: **Food preparation, cooking and nutrition**	Stirring, mashing with a fork or potato masher. Chopping, grating ingredients, beating cake mixture and folding in egg.	How to name and sort foods into the five groups in the Eatwell Guide That everyone should eat at least five portions of fruit and vegetables every day How to prepare simple dishes safely and hygienically, without using a heat source How to use techniques such as cutting, peeling and grating	That a healthy diet is made up from a variety and balance of different food and drink, as depicted in the Eatwell Guide That to be active and healthy, food and drink are needed to provide energy for the body	That recipes can be adapted to change the appearance, taste, texture and aroma That different food and drink contain different substances – nutrients, water and fibre – that are needed for health
			How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	