Primary Design and Technology Progression Map

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum/ Early Years Outcomes Pupils should be taught:	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	1. Design purposeful, functional, appealing products for themselves and other users based on design criteria. 2. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 5. Explore and evaluate a range of existing products. 6. Evaluate their ideas and products against design criteria. 7. Build structures, exploring how they can be made stronger, stiffer and more stable. 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 9. Use the basic principles of a healthy and varied diet to prepare dishes. 10. Understand where food comes from.		1. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. 2. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. 3. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. 4. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. 5. Investigate and analyse a range of existing products. 6. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 7. Understand how key events and individuals in design and technology have helped shape the world. 8. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. 9. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. 10. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. 11. Apply their understanding of computing to program, monitor and control their products. 12. Understand and apply the principles of a healthy and varied diet. 13. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. 14. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.		
By the end of the year, children should be able to…							
Generating and developing the skills of creative, technical and practical expertise.	Use what they have learnt about media and materials in original ways, thinking about uses and purposes. Represent their own ideas, thoughts and feelings through	Develop ideas within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds and the local community	Developing within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment.	Work confidently within a range of contexts, such as the home, school and leisure. Show that their design meets a range of requirements?	Work confidently within a range of contexts, such as the home, school, leisure and culture Explain how particular parts of their products work.	Work confidently within a range of contexts, such as the home, school, leisure, culture and enterprise, Describe the purpose of their products.	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment Indicate the design features of their

Primary Design and Technology Progression Map

	design and technology.	State what products they are designing and making and why. Say whether their products are for themselves or other users. Generate some of their own ideas by drawing on their own experiences. Develop and communicate ideas by talking and drawing.	Describe what their products are for and how they will work. Use simple design criteria to help develop their ideas. Use knowledge of existing products to help come up with ideas and explain why their products are suitable for the intended users. Choose the best tools and materials and give reasons why these are best Describe their design by using pictures, diagrams, models and words. (Plan by suggesting what to do next).	Begin to put together a step-by-step plan which shows the order and also what equipment and tools they need? Indicate the design features of their products that will appeal to intended users and how realistic their plans are? Begin to describe their design using an accurately labelled sketch, cross-sectional drawing or exploded diagram	Gather information about the needs and wants of particular individuals and groups and use these to inform their ideas. Produce a step-by step plan Develop their own design criteria and use these to inform their ideas. Model their ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings or exploded diagrams to develop and communicate their ideas. Suggest some improvements and say what was good and not so good about their original design Make design decisions that take account of the availability of resources.	Begin to carry out research, using surveys, interviews, questionnaires and web-based resources to come up with a range of ideas. Begin to identify the needs and wants. Produce a detailed step-by-step plan Share and clarify ideas through discussion. Also suggest some alternative plans and say what the good points and drawbacks are about each Use annotated sketches, cross-sectional drawings or exploded diagrams to develop and communicate their ideas. Use computer-aided design to develop and communicate their ideas.	products that will appeal to intended users and how they will meet their needs. Begin to identify the needs, wants, preferences and values of particular individuals and groups. Carry out research, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Model their ideas using prototypes and pattern pieces. Use computer-aided design to develop and communicate their ideas. Generate innovative ideas, drawing on research. Make design decisions, taking account of constraints such as time, resources and cost.

Primary Design and Technology Progression Map

Building and applying a repertoire of knowledge and skills to make products	Show good co-ordination in large and small movements. Handle equipment and tools effectively. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	With support, select from a range of tools and equipment, explaining their choices. With support, select from a range of materials and components according to their characteristics. Follow procedures for safety and hygiene. Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components. With support, measure, mark out, cut, shape and join materials and components developing perseverance and adaptability when mistakes are made.	Select from a range of tools and equipment, explaining their choices. Select from a range of materials and components according to their characteristics. 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 developing perseverance and adaptability when mistakes are made. With support use finishing techniques, including those from art and design.	Select tools and equipment suitable for the task. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Begin to measure, mark out, cut and shape materials and components with some accuracy. Begin to assemble, join and combine materials and components with some accuracy demonstrating perseverance and adaptability when mistakes are made. Apply a range of finishing techniques, including those from art and design.	Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to functional properties and aesthetic qualities. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Measure, mark out, cut and shape materials and components with some accuracy. Assemble, join and combine materials and components with some accuracy demonstrating perseverance and adaptability when mistakes are made.	Select tools and equipment suitable for the task. 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. Produce appropriate lists of tools, equipment and materials that they need. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and components demonstrating	Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to functional properties and aesthetic qualities. Produce appropriate lists of tools, equipment and materials that they need. Formulate step-by-step plans as a guide to making. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.

Primary Design and Technology Progression Map

					Refer to their design criteria as they design and make. Apply a range of finishing techniques, including those from art and design, with some accuracy.	perseverance and adaptability when mistakes are made. Accurately apply a range of finishing techniques, including those from art and design.	Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and components demonstrating perseverance and adaptability when mistakes are made. 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 problems.
Evaluating Skills of Judgement and Evaluation	Express themselves effectively. Develop their own narratives and explanations by connecting ideas or events.	Talk about their design ideas and what they are making Make simple judgements about their products and ideas against design criteria. Begin to suggest how their products could be improved.	Talk about their design ideas and what they are making and comment on things others have done. Make judgements about their products and ideas against design criteria and suggest improvements. Evaluate existing products considering:	Identify the strengths and areas for development in their ideas and products and suggest improvements throughout the process. Begin to consider the views of others, including intended users, to improve their work.	Identify the strengths and areas for development in their ideas and products and suggest improvements throughout the process. Consider the views of others, including intended users, to improve their work.	Identify the strengths and areas for development in their ideas and products and suggest improvements throughout the process. Consider the views of others, including intended users, to improve their work.	Identify the strengths and areas for development in their ideas and products and suggest improvements throughout the process. Consider the views of others, including intended users, to improve their work.

Primary Design and Technology Progression Map

		Begin to evaluate existing products considering: *what products are, *who products are for, *what products are for, *how products are used, *where products might be used, *what materials products are made from. .	*what products are, *who products are for, *what products are for, *how products are used, *where products might be used, *what materials products are made from.	With support, use their design criteria to evaluate their completed products and suggest improvements Begin to evaluate existing products considering: *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, *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.	Use their design criteria to evaluate their completed products. Evaluate existing products considering: *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, *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.	Begin to critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make. Begin to evaluate their ideas and products against their original design specification. Investigate and analyse existing products considering: *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, *how much products cost to make, *how innovative products are, *how sustainable the materials in products are	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. Investigate and analyse existing products considering: *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, *how much products cost to make, *how innovative products are, *how sustainable the materials in products are *what impact products have beyond

Primary Design and Technology Progression Map

						*what impact products have beyond their intended purpose.	their intended purpose.
Knowledge and understanding Acquiring and applying knowledge to inform progress		Recognise and describe basic structures and name a range of materials and ingredients. Name some of the tools, techniques and their essential purpose. Name significant individuals and companies that have impacted the design and technology industry.	Recognise and construct basic structures and use a range of materials and ingredients. Describe the materials, components, techniques and processes they have used, using an appropriate vocabulary (for instance, they know the names of the tools/materials they use) Name significant individuals and companies that have impacted the design and technology industry.	Describe how materials and components are chosen and applied to a specific purpose. Demonstrate, how tools they have chosen to work with should be used effectively and with safety Name and describe how and why significant individuals and companies have impacted the design and technology industry.	Describe how materials and components are chosen and applied to a specific purpose. Demonstrate an understanding and use of mechanical and electrical systems Demonstrate, how tools they have chosen to work with should be used effectively and with safety Name and describe how and why significant individuals and companies have impacted the design and technology industry.	Describe how materials, components and computing programs are chosen and applied to a specific purpose. Demonstrate an understanding and use of mechanical and electrical systems Demonstrate, how tools they have chosen to work with should be used effectively and with safety Name and describe how and why significant individuals and companies have impacted the design and technology industry.	Describe how materials, components and computing programs are chosen and applied to a specific purpose Demonstrate an understanding and use of mechanical and electrical systems Describe the processes they are using and how they hope to achieve high quality outcomes Demonstrate, how tools they have chosen to work with should be used effectively and with safety Name and describe how and why significant individuals and companies have impacted the design and technology industry.

Primary Design and Technology Progression Map

	By the end of EYFS, children should be able to…	By the end of KS1, children should be able to…	By the end of KS2, children should be able to…
Cooking and Nutrition	Know the importance for good health of a healthy diet.	Explain that food has to be farmed, grown elsewhere (e.g. home) or caught. Know that everyone should eat at least five portions of fruit and vegetables every day. Name and sort foods into the five groups. Prepare simple dishes safely and hygienically, without using a heat source. Use techniques such as cutting, peeling and grating. Explain that food ingredients should be combined according to their sensory characteristics.	Explain 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. Explain that a healthy diet is made up from a variety and balance of different foods and drinks. Explain that to be active and healthy, food is needed to provide energy for the body. Explain that seasons may affect the food available and give examples. Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Adapt recipes to change the appearance, taste, texture and aroma. Explain that different foods contain different substances - nutrients, water and fibre - that are needed for health.