



Design and Technology Progression of Skills



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum/ EYFS aims	<p>Physical Development: -Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>Expressive Arts and Design -Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. -Share their creations, explaining the process they have used.</p>	<p>Key Stage 1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p>		<p>Key Stage 2 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p>			
National Curriculum (design objectives)	<p>By the end of the key stage, pupils should be taught to: -Design purposeful, functional, appealing products for themselves and other users based on design criteria. -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p>			<p>By the end of the key stage, pupils should be taught to: -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. -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p>			



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Design	<ul style="list-style-type: none"> -Select appropriate resources. -Use gestures, talking and arrangements of materials and components to show design. -Use contexts set by the teacher and myself. -Use language of designing and making (join, build, shape, longer, shorter, heavier etc.). 	<ul style="list-style-type: none"> - Have own ideas. -Explain what I want to do. Explain what my product is for, and how it will work. -Use pictures and words to plan. -Design a product for myself following design criteria. -Explore similar existing products. 	<ul style="list-style-type: none"> - Have own ideas and plan what to do next. -Explain what I want to do and describe how I may do it. -Explain purpose of product, how it will work and how it will be suitable for the user. -Describe design using pictures, words, models and diagrams. -Design products for myself and others following design criteria. -Choose best tools and materials, and explain choices. -Use knowledge of existing products to produce ideas. 	<ul style="list-style-type: none"> -Show design meets a range of requirements. -Describe purpose of product. -Follow a given design criteria. -Have at least one idea about how to create product. -Create a design which shows order, equipment and tools. -Describe design using an accurately labelled sketch and words. -Explain how the product will work. -Make a prototype. 	<ul style="list-style-type: none"> -Use research for design ideas. -Show design meets a range of requirements and is fit for purpose. -Begin to create own design criteria. -Have at least one idea about how to create product and suggest improvements for design. -Produce a plan of how to make the product and explain it to others, mention how realistic the plan is. -Design using an annotated sketch. -Make and explain design decisions considering availability of resources. -Explain how product will work. -Make a prototype. 	<ul style="list-style-type: none"> -Use internet for research and design ideas. -Take a user's view into account when designing. -Begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose. -Create own design criteria. -Have a range of ideas. -Produce a logical, realistic plan of how to make the product and explain it to others. -Use cross-sectional planning and annotated sketches to design. -Make design decisions considering time and resources. -Clearly explain how parts of product will work. -Model and refine design ideas by making prototype. 	<ul style="list-style-type: none"> -Use research of user's individual needs, wants, and requirements for design. -Identify features of design that will appeal to the intended user. -Create own design criteria and specification. -Come up with innovative design ideas. -Follow and refine a logical plan of how to make the product. -Use annotated sketches and cross-sectional planning when designing. -Make design decisions, considering, resources and cost. -Clearly explain how parts of design will work, and how they are fit for purpose. -Independently model and refine design ideas by making prototypes.
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National Curriculum (Make objectives)	<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 			<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> - Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. -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. 			
Make	<ul style="list-style-type: none"> -Construct with a purpose, using a variety of resources. -Use simple tools and techniques. -Build/ construct with a wide range of objects. -Select tools and techniques to shape, assemble and join. -Discuss how to make an activity safe and hygienic. -Record experiences by drawing, writing, voice recording. 	<ul style="list-style-type: none"> -Explain what I'm making and why. -Consider what I need to do next. -Select tools/ equipment to cut, shape, join, finish and explain choices. -Measure, mark out, cut and shape, with support -Choose suitable materials and explain choices. -Work in a safe and hygienic manner. 	<ul style="list-style-type: none"> -Explain what I am making and why it fits the purpose. -Make suggestions as to what I need to do next. -Join materials/components together in different ways. -Measure, mark out, cut and shape materials and components, with support. -Describe which tools I'm using and why. -Choose suitable materials and explain choices depending on characteristics. -Use finishing techniques to make product look good. -Work safely and hygienically. 	<ul style="list-style-type: none"> -Select suitable tools/equipment, explain choices and begin to use them accurately. -Select appropriate materials, fit for purpose. -Work through plan in order. -Begin to measure, mark out, cut and shape materials/ components with some accuracy. -Begin to assemble, join and combine materials and components with some accuracy. -Begin to apply a range of finishing techniques with some accuracy. 	<ul style="list-style-type: none"> -Select suitable tools and equipment, explain choices in relation to required techniques and use accurately. -Select appropriate materials, fit for purpose and explain choices. -Work through plan in order. -Realise if the product is going to be good quality. -Measure, mark out, cut and shape materials/ components with some accuracy. -Assemble, join and combine materials and components with some accuracy. -Apply a range of finishing techniques with some accuracy. 	<ul style="list-style-type: none"> -Use selected tools/ equipment with good level of precision. -Select appropriate materials, fit for purpose and explain choices, considering functionality. -Create and follow detailed step-by-step plan. -Explain how the product will appeal to an audience. -Mostly accurately measure, mark out, cut and shape materials/ components. -Mostly accurately assemble, join and combine materials/ components. -Mostly accurately apply a range of finishing techniques -Begin to be resourceful with practical problems. 	<ul style="list-style-type: none"> -Use selected tools and equipment precisely. -Select appropriate materials, fit for purpose and explain choices, considering functionality and aesthetics. -Create, follow, and adapt detailed step-by-step plans. -Explain how the product will appeal to audience and make changes to improve the quality. -Accurately measure, mark out, cut and shape materials/ components. -Accurately assemble, join and combine materials/ components. -Accurately apply a range of finishing techniques. -Be resourceful with practical problems.



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National Curriculum (Evaluate objectives)	<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> -Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria. 		<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> -Investigate and analyse a range of existing products. -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. -Understand how key events and individuals in design and technology have helped shape the world. 				
Evaluate	<ul style="list-style-type: none"> -Adapt work if necessary. -Dismantle, examine and talk about existing objects/ structures. -Consider and manage some risks. -Practise some appropriate safety measures. -Talk about how things work. -Look at similarities and differences between existing objects/ materials/ tools. 	<ul style="list-style-type: none"> -Talk about my work, linking it to what I was asked to do. -Talk about existing products considering: use, materials, how they work, audience, where they might be used. -Talk about existing products, and say what is and isn't good. -Talk about things that other people have made. -Begin to talk about what could make the product better. 	<ul style="list-style-type: none"> -Describe what went well, thinking about design criteria. -Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion. -Evaluate how good existing products are. -Talk about what I would do differently if I were to do it again and why. 	<ul style="list-style-type: none"> -Use design criteria to evaluate finished product. -Say what I would change to make the design better. -Begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose. -Begin to understand by whom, when and where products were designed. -Learn about some inventors/ designers/ engineers/ chefs/ manufacturers of ground-breaking products. 	<ul style="list-style-type: none"> -Use design criteria to evaluate the product. -Begin to explain how I could improve original design. -Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose. -Discuss by whom, when and where products were designed. -Research whether products can be recycled or reused -Know about some inventors/ designers/ engineers/ chefs/ manufacturers of ground-breaking products. 	<ul style="list-style-type: none"> -Evaluate the quality of the design while designing and making. -Evaluate ideas and finished product against specification, considering purpose and appearance. -Test and evaluate final product. -Evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose. -Begin to evaluate how much products cost to make and how innovative they are. -Research how sustainable materials are. -Talk about some key inventors/ designers/ engineers/ chefs/ manufacturers of 	<ul style="list-style-type: none"> -Evaluate the quality of the design while designing and making. -Evaluate ideas and finished product against specification, stating if it's fit for purpose. -Test and evaluate final product; explain what would improve it and the effect different resources may have had. -Do thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose. -Evaluate how much products cost to make and how innovative they are. -Research and discuss how sustainable materials are.



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						ground-breaking products.	-Consider the impact of products beyond their intended purpose. -Discuss some key inventors/ designers/ engineers/ chefs/ manufacturers of ground-breaking products.
National Curriculum (Technical Knowledge)	<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> -Build structures, exploring how they can be made stronger, stiffer and more stable. -Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 			<p>By the end of the key stage, pupils should be taught to:</p> <ul style="list-style-type: none"> -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. -Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. -Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. -Apply their understanding of computing to program, monitor and control their products. 			
Technical Knowledge (Materials/ Structures)	-Begin to suggest ways to make the material/ product stronger.	-Begin to measure and join materials, with some support. -Describe differences in materials. -Suggest ways to make material/ product stronger.	-Measure materials. -Describe some different characteristics of materials. -Join materials in different ways. -Use joining, rolling or folding to make it stronger. -Use own ideas to try to make product stronger.	-Use appropriate materials. -Work accurately to make cuts and holes. -Join materials. -Begin to make strong structures.	-Measure carefully to avoid mistakes. -Attempt to make the product strong. -Continue working on the product even if the original didn't work. -Make a strong, stiff structure.	-Select materials carefully, considering intended use of product and appearance. -Measure the materials accurately. -Ensure product is strong and fit for purpose. -Begin to reinforce and strengthen a 3D structure.	-Select materials carefully, considering intended use of the product, the aesthetics and functionality. -Measure accurately enough to ensure precision. -Reinforce and strengthen a 3D structure.



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Technical Knowledge (Mechanisms)		-Begin to use levers or sliders.	-Use levers or sliders. -Begin to understand how to use wheels and axles.	-Select appropriate tools/ techniques. -Alter product after checking, to make it better. -Begin to try new/ different ideas. -Use simple lever and linkages to create movement. -Begin to use pneumatics to create movement.	-Select the most appropriate tools/ techniques. -Explain alterations to the product after checking it. -Grow in confidence about trying new/ different ideas. -Use levers and linkages to create movement. -Use pneumatics to create movement.	-Refine the product after testing. -Grow in confidence about trying new/ different ideas. -Use levers and linkages to create movement. -Begin to use cams, pulleys or gears to create movement.	-Refine product after testing, considering aesthetics, functionality and purpose. -Incorporate hydraulics and pneumatics. -Be confident to try new/ different ideas. -Use cams, pulleys and gears to create movement.
Technical Knowledge (Electrical Systems)				-Use simple circuit in product. -Learn about how to program a computer to control product.	-Use a number of components in circuit. -Program a computer to control product.	-Incorporate switch into product. -Confidently use number of components in circuit. -Begin to be able to program a computer to monitor changes in environment and control product.	-Use different types of circuit in product. -Think of ways in which adding a circuit would improve product. -Program a computer to monitor changes in environment and control product.
National Curriculum (Cooking and Nutrition)	By the end of the key stage, pupils should be taught to: -Use the basic principles of a healthy and varied diet to prepare dishes. -Understand where food comes from.			By the end of the key stage, pupils should be taught to: -Understand and apply the principles of a healthy and varied diet. -Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. -Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.			



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Cooking and Nutrition	<ul style="list-style-type: none"> -Discuss how to make an activity safe and hygienic. -Practise stirring, mixing and pouring. -Discuss use of senses. -Understand need for variety in food. -Begin to understand that eating well contributes to good health. 	<ul style="list-style-type: none"> -Describe textures of food. -Wash hands & clean surfaces. -Think of interesting ways to decorate food. -Say where some foods come from (i.e. plant or animal). -Describe differences between some food groups (i.e. sweet, vegetable etc.). -Discuss how fruit and vegetables are healthy. -Cut, peel and grate safely, with support. 	<ul style="list-style-type: none"> -Explain hygiene and keep a hygienic cooking area. -Describe properties of ingredients and importance of varied diet. -Say where food comes from (i.e. animal, underground etc.). -Describe how food is farmed, home-grown, caught. -Draw an eat well plate; explain there are groups of food. -Describe what is meant by "five a day". -Cut, peel and grate with increasing confidence. 	<ul style="list-style-type: none"> -Carefully select ingredients. -Use equipment safely. -Make the product look attractive. -Think about how to grow plants to use in cooking. -Begin to understand food comes from the UK and the wider world. -Describe how a healthy diet means a variety of food/drinks. -Explain how food and drink are needed for active/ healthy bodies. -Prepare and cook some dishes safely and hygienically. -Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. 	<ul style="list-style-type: none"> -Explain how to be safe/ hygienic. -Think about presenting the product in interesting/ attractive ways. -Understand ingredients can be fresh, pre-cooked or processed. -Begin to understand about food being grown, reared or caught in the UK or wider world. -Describe an eat well plate and how a healthy diet means a variety of food and drinks. -Explain the importance of food and drink for active, healthy bodies. -Prepare and cook some dishes safely and hygienically. -Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. 	<ul style="list-style-type: none"> -Explain how to be safe/ hygienic and follow school guidelines. -Present the product well- interesting, attractive and fit for purpose. -Begin to understand seasonality of foods. -Understand food can be grown, reared or caught in the UK and the wider world. -Describe how recipes can be adapted to change appearance, taste, texture and aroma. -Explain how there are different substances in food/ drink needed for health. -Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source. -Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. 	<ul style="list-style-type: none"> -Understand a recipe can be adapted by adding/ substituting ingredients. -Explain the seasonality of foods. -Learn about food processing methods. -Name some types of food that are grown, reared or caught in the UK or wider world. -Adapt recipes to change appearance, taste, texture or aroma. -Describe some of the different substances in food and drink, and how they can affect health. -Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. -Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
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