

Design and Technology Progression of Skills

	EYFS	Year One	Year Two	End of KS expectations	Year Three	Year Four	Year Five	Year Six	End of KS expectations
Design	- 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.)	- 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, begin to use models - Design a product for myself following design criteria - Research similar existing products	- 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, diagrams, begin to use ICT - 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	- <i>Design purposeful, functional, appealing products for themselves and other users based on design criteria</i> - <i>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i>	- Begin to research others' needs - 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 plan which shows order, equipment and tools - Describe design using an accurately labelled sketch and words - Make design decisions - Explain how product will work - Make a prototype - Begin to use computers to show design	- 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 and explain it to others - - Say how realistic plan is. - Include an annotated sketch - Make and explain design decisions considering availability of resources - Explain how product will work - Make a prototype - Begin to use computers to show design.	- Use internet and questionnaires 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 and explain it to others. - Use cross-sectional planning and annotated sketches - Make design decisions considering time and resources - Clearly explain how parts of product will work. - Model and refine design ideas by making prototypes and using pattern pieces. - Use computer-aided designs	- Draw on market research to inform design - Use research of user's individual needs, wants, 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. - Use annotated sketches, cross-sectional planning and exploded diagrams - 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 and using pattern pieces - Use computer-aided designs	- <i>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</i> - <i>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design</i>
Make	- Construct with a purpose, using a variety of resources - Use simple tools and techniques - Build / construct with a wide range of objects - Select tools & techniques to shape, assemble and join - Replicate structures with materials / components - Discuss how to make an activity safe and hygienic - Record experiences by drawing, writing, voice recording - Understand different media can be combined for a purpose	- 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 - Try to use finishing techniques to make product look good - Work in a safe and hygienic manner	- 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	- <i>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</i> - <i>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</i>	- Select suitable tools/equipment, explain choices; begin to use them accurately - Select appropriate materials, fit for purpose. - Work through plan in order - Consider how good product will be - 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 - Apply a range of finishing techniques with some accuracy	- Select suitable tools and equipment, explain choices in relation to required techniques and use accurately - Select appropriate materials, fit for purpose; explain choices - Work through plan in order. - Realise if 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	- Use selected tools/equipment with good level of precision -- Produce suitable lists of tools, equipment/materials needed - Select appropriate materials, fit for purpose; explain choices, considering functionality - Create and follow detailed step-by-step plan - Explain how product will appeal to an audience - Mainly accurately measure, mark out, cut and shape materials/components - Mainly accurately assemble, join and combine materials/components - Mainly accurately apply a range of finishing techniques - Use techniques that involve a small number of steps - Begin to be resourceful with practical problems	- Use selected tools and equipment precisely - - Produce suitable lists of tools, equipment, materials needed, considering constraints - Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics - Create, follow, and adapt detailed step-by-step plans - Explain how product will appeal to audience; make changes to improve quality - Accurately measure, mark out, cut and shape materials/components - Accurately assemble, join and combine materials/components - Accurately apply a range of finishing techniques - Use techniques that involve a number of steps - Be resourceful with practical problems	- <i>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i> - <i>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</i>

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Evaluate	- Adapt work if necessary - Dismantle, examine, talk about existing objects/structures - Consider and manage some risks - Practise some appropriate safety measures independently - Talk about how things work - Look at similarities and differences between existing objects / materials / tools - Show an interest in technological toys - Describe textures	- 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 product better	- 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	- Explore and evaluate a range of existing products - Evaluate their ideas and products against design criteria	- Look at design criteria while designing and making - Use design criteria to evaluate finished product - Say what I would change to make 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	- Refer to design criteria while designing and making - Use criteria to evaluate 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/manuf acturers of ground-breaking products	- Evaluate quality of 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 ground-breaking products	- Evaluate quality of design while designing and making; is it fit for purpose? - Keep checking design is best it can be. - 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 - Consider the impact of products beyond their intended purpose - Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products	- 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
Technical Knowledge –		- 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	- Build structures, exploring how they can be made stronger, stiffer and more stable	- 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 product strong - Continue working on product even if original didn't work - Make a strong, stiff structure	- Select materials carefully, considering intended use of product and appearance - Explain how product meets design criteria - Measure accurately enough to ensure precision - Ensure product is strong and fit for purpose - Begin to reinforce and strengthen a 3D frame	- Select materials carefully, considering intended use of the product, the aesthetics and functionality. - Explain how product meets design criteria - Reinforce and strengthen a 3D frame	- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Technical Knowledge – Mechanisms		- Begin to use levers or slides	- Use levers or slides - Begin to understand how to use wheels and axles	- Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	- 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	- Select most appropriate tools / techniques - Explain alterations to 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 product after testing - Grow in confidence about trying new / different ideas - 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	- Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

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Technical Knowledge – Textiles		- Measure, cut and join textiles to make a product, with some support - Choose suitable textiles	- Measure textiles - Join textiles together to make a product, and explain how I did it - Carefully cut textiles to produce accurate pieces - Explain choices of textile - Understand that a 3D textile structure can be made from two identical fabric shapes.		- Join different textiles in different ways - Choose textiles considering appearance and functionality - Begin to understand that a simple fabric shape can be used to make a 3D textiles project	- Think about user when choosing textiles - Think about how to make product strong - Begin to devise a template - Explain how to join things in a different way - Understand that a simple fabric shape can be used to make a 3D textiles project	- Think about user and aesthetics when choosing textiles - Use own template - Think about how to make product strong and look better - Think of a range of ways to join things - Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	- Think about user's wants/needs and aesthetics when choosing textiles - Make product attractive and strong - Make a prototype - Use a range of joining techniques - Think about how product might be sold - Think carefully about what would improve product - Understand that a single 3D textiles project can be made from a combination of fabric shapes.	
Technical knowledge – Food and nutrition	- Begin to understand some food preparation tools, techniques and processes - Practise stirring, mixing, pouring, blending - Discuss how to make an activity safe and hygienic - Discuss use of senses - Understand need for variety in food - Begin to understand that eating well contributes to good health	- Describe textures - 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	- Explain hygiene and keep a hygienic kitchen - Describe properties of ingredients and importance of varied diet - Say where food comes from (animal, underground etc.) - Describe how food is farmed, home-grown, caught - Draw eat well plate; explain there are groups of food - Describe "five a day" - Cut, peel and grate with increasing confidence	- Use the basic principles of a healthy and varied diet to prepare dishes - Understand where food comes from.	- Carefully select ingredients - Use equipment safely - Make product look attractive - Think about how to grow plants to use in cooking - Begin to understand food comes from UK and wider world - Describe how healthy diet= variety/balance 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	- Explain how to be safe/hygienic - Think about presenting 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 eat well plate and how a healthy diet=variety / balance of food and drinks - Explain 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	- Explain how to be safe / hygienic and follow own guidelines - Present product well - interesting, attractive, 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, 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 range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	- Understand a recipe can be adapted by adding / substituting ingredients - Explain 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.	- 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.
Technical knowledge – Electrical systems					- Use simple circuit in product - Learn about how to program a computer to control product.	- Use 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	- Understand and use electrical systems in their products [for example, series circuits