

	EYFS	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
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, begin to use models - design a product for myself following design criteria - research 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, 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 	<ul style="list-style-type: none"> - 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 	<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 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. 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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

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 & 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 	<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 - try to use finishing techniques to make product look good - 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; 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 - 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; 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 	<ul style="list-style-type: none"> - 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 - use techniques that involve a small number of steps - begin to be resourceful with practical problems 	<ul style="list-style-type: none"> - 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
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Evaluate

<ul style="list-style-type: none"> - 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 	<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 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"> - 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 	<ul style="list-style-type: none"> - 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/manufacturers of ground-breaking products 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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
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Technical Knowledge - Structures		<ul style="list-style-type: none"> - begin to measure and join materials, with some support describe differences in materials - suggest ways to make material/product stronger - 		<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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
Technical Knowledge – Mechanisms			<ul style="list-style-type: none"> - begin to use levers or slides - use levers or slides - begin to understand how to use wheels and axles 	<ul style="list-style-type: none"> - 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 		<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 - Textiles

<ul style="list-style-type: none">- measure, cut and join textiles to make a product, with some support- choose suitable textiles	<ul style="list-style-type: none">- 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.	<ul style="list-style-type: none">- 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		
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Technical Knowledge – Food & Nutrition

<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 		<ul style="list-style-type: none"> - 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. 	<ul style="list-style-type: none"> - 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.
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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