Progression of Skills
Design and Technology

Design and Technology	EYFS Skills	2/3	3/ 4	Reception	**KS1 Skills**	Year 1	Year 2	**KS2 Skills**	Year 3	Year 4	Year 5	Year 6
Designing												
(Understanding contexts, users and purposes)	-Select appropriate resources -Use gestures, talking and arrangement of materials and components to show design -Use language of design making (join, build, shape, longer, shorter, heavier etc)			-Return to and build on their previous learning, refining ideas and developing their ability to represent them.	-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	-Explain what their product is for, and how it will work -Research similar existing products	-Explain purpose of product, how it will work and how it will be suitable for the user -Use knowledge of existing products to produce ideas	-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	-Begin to research others' needs -Show design meets a range of requirements -Describe purpose of product	-Use research for design ideas -Produce plan and consider how realistic it is	-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	-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
(Generating, developing, modelling and communicating ideas)		-Express ideas and feelings through making marks, and sometimes give meaning to the marks they make.		-Create collaboratively, sharing ideas, resources and skills.		-Have own ideas -Use pictures and words to plan, begin to use models -Design a product following design criteria	-Have own ideas and plan what to do next -Describe designs using pictures, words, models, diagrams, begin to use ICT -Explain what they want to do and describe how they may do it -Describe design using pictures, words, models, diagrams, begin to use ICT -Choose best tools and materials, and explain choices		-Have at least one idea about how to create a product -Create a plan which shows order, equipment and tools -Describe design using an accurately labelled sketch and words -Make design decisions -Make a prototype -Begin to use computers to show design	-Have at least one idea about how to create product and suggest improvements for design -Begin to create own design criteria -Make a prototype -Produce an annotated sketch -Make and explain design decisions considering availability of resources -Continue to develop the	-Create own design criteria -Use computer aided designs -Model and refine design ideas by making prototypes and using pattern pieces -Clearly explain how parts of a product will work -Use cross-sectional planning annotated sketches -Produce a logical, realistic plan and explain it to others	-Come up with innovative design ideas -Follow and refine a logical plan -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 of computers to show design		
Making												
(Planning)	-Construct with 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 -Understand that different media can be combined for a purpose		-Create closed shapes with continuous lines, and begin to use these shapes to represent objects.		-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	-Explain what they want to make and why -Explain what I need to do next -Choose suitable materials and explain choices	-Explain what they want to make and why it fits the purpose -Make suggestions as to what to do next -Choose suitable materials and explain choices	-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	-Work through plan in order -Plan materials that are fit for purpose	-Plan materials that are fit for purpose; explain choices -Work through plan in order with accuracy	-Plan a list of suitable tools, equipment, materials needed, considering constraints -Create follow and adapt detailed step-by-step plans -Plan materials that are fit for purpose, explain choices, considering functionality	-Plan materials that are fit for purpose, explain choices, considering functionality and aesthetics -Create, follow and adapt detailed step-by-step plans
(Practical skills and techniques)			-Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.			-Select tools/equipment to cut, shape, join, finish and explain choices -Measure, mark out, cut and shape, with support -Try to use finishing techniques to make a product look good -Work in a safe and hygienic manner	-Join materials/components together in different ways -Describe which tools are being used and why -Use finishing techniques to make product look good		-Select suitable tools/equipment, explain choices; begin to use them accurately -Begin to assemble, join and combine materials and components with some accuracy -Begin to measure, mark out, cut and shape materials/components with some accuracy	-Realise if a product is going to be good quality -Apply a range of finishing techniques with some accuracy	-Use selected tools and equipment precisely - Accurately measure, mark out, cut and shape materials/components -Mainly accurately assemble, join and combine -Use techniques that involve a small number of steps -Begin to be resourceful with practical problems	-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

Evaluating												
(Own ideas and products)	-Adapt work if necessary -Dismantle, examine, talk about existing objects / structures -Consider and manage some risks -Talk about how things work -Look at similarities and differences between existing objects / materials / tools -Describe textures -Show an interest in technological toys	-Make simple models which express their ideas.			-Explore and evaluate a range of existing products -Evaluate their ideas and products against design criteria	-Talk about own work, linking it to what was originally asked -Begin to talk about what could make their own ideas better	-Describe what went well, thinking about design criteria -Talk about what they would do differently if they were to do it again and why	-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 individuals in design and technology have helped shape the world	-Use criteria to evaluate finished product -Look at design criteria while designing and making -Say what would be changed to make product better	-Refer to design criteria while designing and making -Use criteria to evaluate products -Begin to explain how own original design could be improved	-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 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 -consider the impact of products beyond their intended purpose
(Existing products)						-Talk about existing products considering: use, materials, how they work, audience, where they might be used -Talk about existing products and what is good and what isn't good	-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		-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 are designed	-Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose -Research whether products can be recycled or reused	-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	-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
									-Learn about some inventors/ designers /engineers /chefs/ manufacturers of	-Know about some inventors/ designers/	-Talk about some key inventors/designers/ engineers/ chefs/manufacturers	-Discuss some key inventors/ designers/ engineers/ chefs/manufacturers

(Key events and individuals)									ground-breaking products	engineers/ chefs/ manufacturers of ground – breaking products	of ground-breaking products	of ground-breaking products
Technical Knowledge												
(Materials/ structures)		-Explore different materials, using all their senses to investigate them. - Manipulate and play with different materials. -Use their imagination as they consider what they can do with different materials.	-Explore different materials freely, in order to develop their ideas about how to use them and what to make. -Develop their own ideas and then decide which materials to use to express them. -Join different materials and explore different textures.		-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	-Begin to measure and join materials, with some support -Describe differences in materials -Suggest ways to make materials/products stronger	-Measure materials -Describe some different characteristics of materials -Join materials in different ways -Use joining, rolling or folding to make it stronger	-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)	-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
(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
(Mechanisms)						-Begin to use levers and slides	-Use levers and slides -Begin to understand how to use wheels and axles		-Select appropriate tools / techniques	-Select most appropriate tools/ techniques	-Refine product after testing	-Refine product after testing, considering aesthetics,

									-Alter product after checking, to make it better -Begin to try new/different ideas -Use simple lever and linkages to create movement	-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	-Grow in confidence about trying new / different ideas -Begin to use cams, pulleys or gears to create movement	functionality and purpose -Incorporate hydraulics and pneumatics -Be confident to try new / different ideas -Use cams, pulleys and gears to create movement
Cooking and Nutrition												
(Where food comes from) **(Food preparation, cooking and nutrition)**	-Begin to understand some food preparation tools, techniques and processes -Practise stirring, mixing, pouring, blending -Begin to understand that eating well contributes to good health				-Use the basic principles of a healthy and varied diet to prepare dishes -Understand where food comes from	-Describe textures -Wash hands & clean surfaces -Think of interesting ways to decorate food -Say where some foods come from, (i.e. plant or animal) -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	-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.	-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	-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	-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	-Understand a recipe can be adapted by adding / substituting ingredients -Explain seasonality of foods -Learn about food processing methods -Lame 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

									-Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	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	safely and hygienically including, where appropriate, use of heat source -Use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading	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.