Design and Technology Overarching Skills Progression

	Designing	Making	Evaluating	Apply Technical Knowledge	Cooking and Applying the Principles of Nutrition
	Statements taken from Statutory Framework for the Early Year Foundation Stage and Development Matters				
End of EYFS	<u>Designing – Understanding contexts, users and purposes</u> • talk about and explore 2D and 3D shapes • use some of their print and letter knowledge in their early writing • create closed shapes with continuous lines and begin to use these shapes to represent objects • draw with increasing complexity and detail, such as representing a face with a circle and including details • use drawing to represent ideas • explore, use and refine a variety of artistic effects to express their ideas	<u>Making & Planning</u> • choose the right resources to carry out their own plan • use one-handed tools and equipment, for example, making snips in paper with scissors • talk about and explore 2D and 3D shapes • make comparisons between objects relating to size, length, weight and capacity • combine shapes to make new ones, for example, an arch or a bigger triangle • begin to describe a sequence of events, real or fictional, using words such as 'first', 'then…' • select, rotate and manipulate shapes to develop spatial reasoning skills • use some of their print and letter knowledge in their early writing • make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park • join different materials • explore, use and refine a variety of artistic effects to express their ideas • create collaboratively, sharing ideas, resources and skills	<u>Evaluating – Own ideas and products</u> • use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen • talk about and identify the patterns around them, for example, stripes on clothes or designs on rugs and wallpaper • use all their senses in hands-on exploration of natural materials • explore collections of materials with similar or different properties • explore how things work • talk about the differences between materials and changes they notice • explore different materials freely, 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 . explore different textures	<u>Technical knowledge – Making products work</u> • select shapes appropriately such as flat surfaces for building or a triangular prism for a roof	<u>Cooking and nutrition – Where food comes from</u> • manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices <u>Cooking and nutrition – Food preparation, cooking and nutrition</u> • manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices • talk about the differences between materials and the changes they notice (cooking – combining different ingredients, and then cooling or heating (cooking) them) Communication and Language Personal, Social and Emotional Development Physical Development Mathematics Literacy Understanding the World Expressive Arts and Designs

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End of Year 2	<u>Designing – Understanding contexts, users and purposes</u> D1 work confidently within a range of contexts, such as imaginary, storybased, home, school, gardens, playgrounds, local community, industry and the wider environment D2 state what products they are making D3 say whether their products are for themselves or other users D4 describe what their products are for D5 say how their products will work D6 say how they will make their products suitable for their intended users D7 use simple design criteria to help develop their ideas Designing - Generating, developing, modelling and communicating ideas D8 generate ideas by drawing on their own experiences D9 use knowledge of existing products to help come up with ideas D10 develop and communicate ideas by talking and drawing D11 model ideas by exploring materials, components and construction kits and by making templates and mockups D12 use ICT, where appropriate, to develop and communicate their ideas	<u>Making & Planning</u> M1 plan by suggesting what to do next M2 select from a range of tools and equipment, explaining their choices M3 select from a range of materials and components according to their characteristics <u>Making – Practical skills and techniques</u> M4 follow procedures for safety and hygiene M5 use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components M6 measure, mark out, cut and shape materials and components M7 assemble, join and combine materials and components M8 use finishing techniques, including those from art and design	<u>Evaluating – Own ideas and products</u> E1 talk about their design ideas and what they are making E2 make simple judgements about their products and ideas against design criteria E3 suggest how their products could be improved <u>Evaluating - Existing products</u> E4 explore what products are and who or what they are for. E5 explore how products work and how or where they might be used. E6 explore what materials products are made from E7 explore what they like and dislike about products	<u>Technical knowledge – Making products work</u> T1 about the simple working characteristics of materials and components T2 about the movement of simple mechanisms such as levers, sliders, wheels and axles T3 how freestanding structures can be made stronger, stiffer and more stable T4 that a 3-D textiles product can be assembled from two identical fabric shape T5 that food ingredients should be combined according to their sensory characteristics T6 the correct technical vocabulary for the projects they are undertaking	<u>Cooking and nutrition – Where food comes from</u> C1 that all food comes from plants or animals C2 that food has to be farmed, grown elsewhere (e.g. home) or caught <u>Cooking and nutrition – Food preparation, cooking and nutrition</u> C5 that everyone should eat at least five portions of fruit and vegetables every day C6 how to prepare simple dishes safely and hygienically, without using a heat source C7 how to use techniques such as cutting, peeling and grating Year 1 and 2 Skills

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End of Year 4	<u>Designing – Understanding contexts, users and purposes</u> D1work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment D2 describe the purpose of their products D3 indicate the design features of their products that will appeal to intended users D4 explain how particular parts of their products work D5 gather information about needs and wants of particular individuals and groups D6 develop their own design criteria and use these to inform their ideas <u>Designing - Generating, developing, modelling and communicating ideas</u> D7 share and clarify ideas through discussion D8 model their ideas using prototypes and pattern pieces D9 use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas D10 generate realistic ideas, focusing on the needs of the user D11 make design decisions that take account of the availability of resources	<u>Making & Planning</u> M1 select tools and equipment suitable for the task M2 explain their choice of tools and equipment in relation to the skills and techniques they will be using M3 select materials and components suitable for the task M4 explain their choice of materials and components according to functional properties and aesthetic qualities M5 order the main stages of making <u>Making – Practical skills and techniques</u> M6 follow procedures for safety and hygiene M7 use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components M8 measure, mark out, cut and shape materials and components with some accuracy M9 assemble, join and combine materials and components with some accuracy M10 apply a range of finishing techniques, including those from art and design, with some accuracy	<u>Evaluating – Own ideas and products</u> E1 identify the strengths and areas for development in their ideas and products E2 consider the views of others, including intended users, to improve their work E3 refer to their design criteria as they design and make E4 use their design criteria to evaluate their completed products <u>Evaluating – Existing products Pupils will be taught to investigate and analyse:</u> E5 how well products have been designed and made E6 why materials have been chosen E7 what methods of construction have been used E8 developed innovative products E9 how well products work to achieve their purposes E10 how well products meet user needs and wants E11 whether products can be recycled or reused <u>Evaluating – Key events and individuals</u> E14 about inventors, designers, engineers, chefs and manufacturers who have developed innovative products.	<u>Technical knowledge – Making products work</u> T1 how to use learning from science and maths to help design and make products that work T2 that materials have both functional properties and aesthetic qualities T3 that materials can be combined and mixed to create more useful characteristics T4 that mechanical and electrical systems have an input, process and output T5 use the correct technical vocabulary for the projects they are undertaking T6 how mechanical systems such as levers and linkages or pneumatic systems create movement T7 how simple electrical circuits and components can be used to create functional products T8 how to make strong, stiff shell structures T9 that a single fabric shape can be used to make a 3D textiles product T10 that food ingredients can be fresh, pre-cooked and processed	<u>Cooking and nutrition – Where food comes from</u> C1 that food is grown (such as tomatoes, wheat and potatoes) C2 that food can be reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world <u>Cooking and nutrition – Food preparation, cooking and nutrition</u> C3 how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source C4 how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking C5 that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate C6 that to be active and healthy, food and drink are needed to provide energy for the body Year 3 Skills Year 4 Skills Year 3 and 4 Skills

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End of Year 6	Designing – Understanding contexts, users and purposes D1 work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment D2 describe the purpose of their products D3 indicate the design features of their products that will appeal to intended users D4 explain how particular parts of their products work D5 carry out research, using surveys, interviews, questionnaires and web-based resources D6 identify the needs, wants, preferences and values of particular individuals and groups 7 develop a simple design specification to guide their thinking Designing - Generating, developing, modelling and communicating ideas D8 share and clarify ideas through discussion D9 model their ideas using prototypes and pattern pieces D10 use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas D11 use computer-aided design to develop and communicate their ideas D12 generate realistic ideas, focusing on the needs of the user D13 make design decisions that take account of the availability of resources	Making - Planning M1 select tools and equipment suitable for the task M2 explain their choice of tools and equipment in relation to the skills and techniques they will be using M3 select materials and components suitable for the task M4 explain their choice of materials and components according to functional properties and aesthetic qualities M5 produce appropriate lists of tools, equipment and materials that they need M6 formulate step-by-step plans as a guide to making Making – Practical skills and techniques M7 follow procedures for safety and hygiene M8 use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components M9 accurately measure, mark out, cut and shape materials and M10 accurately assemble, join and combine materials and components M11 accurately apply a range of finishing techniques, including those from art and design M12 use techniques that involve a number of steps M13 demonstrate resourcefulness when tackling practical problems	Evaluating – Own ideas and products E1 identify the strengths and areas for development in their ideas and products E2 consider the views of others, including intended users, to improve their work E3 critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make E4 evaluate their ideas and products against their original design specification Evaluating – Existing products Pupils will be taught to investigate and analyse: E5 how well products have been designed and made E6 why materials have been chosen E7 what methods of construction have been used E8 how well products work to achieve their purposes E9 how well products meet user needs and wants E10 how much products cost to make E11 how innovative products are E12 how sustainable the materials in products are E13 what impact products have beyond their intended purpose Evaluating – Key events and individuals E14 about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	Technical knowledge – Making products work T1 how to use learning from science and maths to help design and make products that work T2 that materials have both functional properties and aesthetic qualities T3 that materials can be combined and mixed to create more useful characteristics T4 that mechanical and electrical systems have an input, process and output T5 the correct technical vocabulary for the projects they are undertaking T6 how mechanical systems such as cams or pulleys or gears create movement T7 how more complex electrical circuits and components can be used to create functional products T8 how to reinforce and strengthen a 3D framework T9 that a 3D textiles product can be made from a combination of fabric shapes T10 that a recipe can be adapted by adding or substituting one or more ingredients	Cooking and nutrition – Where food comes from C1 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 C2 that seasons may affect the food available C3 how food is processed into ingredients that can be eaten or used in cooking Cooking and nutrition – Food preparation, cooking and nutrition C4 how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source C5 how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking C6 that recipes can be adapted to change the appearance, taste, texture and aroma C7 that different food and drink contain different substances – nutrients, water and fibre – that are needed for health Year 6 Skills Year 5 and 6 Skills