

Progress in Design & Technology by Year Group (EYFS-KS2)

		By end of EYFS	By the end of Year 1	By the end of Year 2	By the end of Year 3	By the end of Year 4	By the end of Year 5	By the end of Year 6
Designing	Understanding contexts, users & purposes	Experiment with blocks. Joins construction pieces together to build & balance Constructs with a purpose in mind using a variety of resources	Start exploring a range of contexts, such as, imaginary, story-based, home, school, gardens, playgrounds Use simple design criteria to help develop ideas State what products they are making Describe what their products are for	Work confidently within a range of contexts, such as, imaginary, story-based, home, school, gardens, playgrounds Use simple design criteria to help develop ideas State what products they are making Describe what their products are for Say how their product will work and who will use it	- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment - describe the purpose of their products - indicate the design features of their products that will appeal to intended users - explain how particular parts of their products work Develop own design criteria	- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment - describe the purpose of their products - indicate the design features of their products that will appeal to intended users - explain how particular parts of their products work - gather information about the needs and wants of particular individuals and groups - develop their own design criteria and use these to inform their ideas	- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment - describe the purpose of their products - indicate the design features of their products that will appeal to intended users - explain how particular parts of their products work - carry out research, using surveys, interviews, questionnaires and web-based resources	- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment - describe the purpose of their products - indicate the design features of their products that will appeal to intended users - explain how particular parts of their products work - carry out research, using surveys, interviews, questionnaires and web-based resources - identify the needs, wants, preferences and values of particular individuals and groups - develop a simple design specification to guide their thinking
	Generating, developing, modelling & communication ideas	Select and use technology for a particular purpose (EG: take a photo of a model that they have built)	- Draw on their own experience to help generate ideas - use knowledge of existing products to help come up with ideas - develop and communicate ideas by talking and drawing	- Generate ideas by drawing on their own & others experiences, communicate ideas by talking and drawing - model ideas by exploring materials, components and construction kits and by making templates and mock ups - use information and communication technology, where appropriate, to develop and communicate their ideas	- share and clarify ideas through discussion - use annotated sketches, & drawings to communicate their ideas - use computer-aided design to develop and communicate their ideas	- share and clarify ideas through discussion - use annotated sketches, cross-sectional drawings to communicate their ideas - use computer-aided design to develop and communicate their ideas - make design decisions that take account of the availability of resources	- Generate ideas through brainstorming & identify a purpose for their product - model their ideas using prototypes and pattern pieces - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas - use computer-aided design to develop and communicate their ideas - generate realistic ideas, focusing on the needs of the user	- Communicate their ideas through detailed labelled drawings - model their ideas using prototypes and pattern pieces, drawing on research - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas - use computer-aided design to develop and communicate their ideas - make design decisions, taking account of constraints such as time, resources and cost

Making	Planning	Realising that tools can be used for a purpose. Uses simple tools & techniques competently & appropriately. Selects appropriate resources & adapts where necessary.	suggest ideas & explain what they are going to do Model their ideas in card & paper Develop their design ideas	- Develop their ideas & design through discussion, observation, drawing & modelling - Identify a purpose for what they intend to design & make - Make simple drawing & label parts - select from a range of tools and equipment, use vocab to name & describe them	- Plan the order of their work before starting - Explore, develop & communicate design proposals by modelling ideas - Make drawings with labels when designing - Select tools and equipment suitable for the task - select tools, materials and components suitable for the task	- Develop a clear idea of what has to be done, planning how to use materials, equipment & processes, & suggesting alternative methods of making if first attempt fails - Evaluate products & identify criteria that can be used for their own designs - select tools and equipment suitable for the task - select appropriate tools, materials and components suitable for the task - explain their choice of materials	- Draw up a specification for their design - Develop a clear idea of what has to be done, planning how to use materials, equipment & processes, & suggesting alternative methods of making if first attempt fails - select tools and equipment suitable for the task - Use results of investigations, information sources, including IT when developing design ideas - select appropriate tools materials and components suitable for the task - explain their choice of materials and components according to functional properties and aesthetic qualities	- Draw up a specification for their design - Explore, develop & communicate aspects of their design proposal by modelling their ideas in a variety of ways - Plan the order of their work, choosing appropriate material, tools & techniques. - produce appropriate lists of tools, equipment and materials that they need - formulate step-by-step plans as a guide to making
	Practical skills & techniques	Beginning to recognise danger & seek support of significant adults for help. Understand that equipment & tools need to be used safely. Practices some appropriate safety measures without direct supervision.	- Use basic food handling hygiene practices & personal hygiene - With support, use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components - Start to measure, mark out, cut and shape materials and Components, including constructions & textile materials & food ingredients Use tools Eg. Glues, scissors, hole punch safely - assemble, join and combine materials and components (Glues, masking tape) - Explore and use mechanisms in their products (levers, sliders, wheels & axles) - Use simple finishing techniques to improve the appearance of their product	Follow safe procedures for food safety & hygiene - Measure, cut & score with some accuracy - Use hand tools safely & appropriately - Assemble, join & combine materials in order to make a product - Cut, shape & join fabrics to make a simple garment. - Use basic sewing techniques - Choose & use appropriate finishing techniques - use a range of materials and components, including construction materials, textiles, food ingredients and mechanical components - assemble, join and combine materials and components - Explore and use mechanisms in their products (levers, sliders, wheels & axles) - use finishing techniques, including those from art and design	- Demonstrate hygienic food preparation & storage Measure, mark out, cut , score & assemble components with more accuracy Work safely & accurately with a range of simple tools Measure, tape or pin, cut & join fabric with some accuracy Use finishing techniques to strengthen & improve the appearance of their product using a range of equipment including IT - use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients	- follow procedures for safety and hygiene Measure, mark out, cut & shape a range of materials using appropriate tools, equipment & techniques Join & combine materials & components accurately in temporary & permanent ways Sew using a range of different stitches, weave & knit Measure, tape or pin, cut & join fabric with some accuracy Use simple graphical communication techniques - use a wider range of materials and components including construction materials and kits, textiles, food ingredients, mechanical components and electrical components - Understand how to use electrical systems in their products (series circuits, bulbs) - Explore computing programmes program,	- Apply the rules for basic food hygiene & other safe practices Eg. Hazards relating to the use of ovens Measure & mark out accurately Use skills in using different tools & equipment safely & accurately Weigh & measure accurately (time, dry ingredients, liquids) Cut & join with accuracy to ensure a good-quality finish to the product - Understand & use construction materials, kits, textiles, food ingredients, mechanical components (gears, pulleys, cams, levers, linkages) and electrical components - Apply understanding of computing to program, monitor & control their products	- Apply the rules for basic food hygiene & other safe practices Eg. Hazards relating to the use of ovens Assemble components to make working models Use tools safely & accurately Construct products using permanent joining techniques Make modifications as they go along Pin, sew & stitch material together to create a product Achieve a quality product - Understand & use construction materials, kits, textiles, food ingredients, mechanical components (gears, pulleys, cams, levers, linkages) and electrical components - Understand how to use electrical systems in their products (series circuits, switches, bulbs, buzzers, motors)

						monitor & control their products		Apply understanding of computing to program, monitor & control their products • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems
Evaluating	Own ideas & products	Uses language as a powerful means of widening contacts, sharing feeling, experiences & thoughts. Uses talk to connect ideas, explain what is happening & anticipate what might happen next. Recall & relive past experiences. Uses talk to organise and sequence & clarify thinking, ideas, feelings & events.	• talk about their design ideas and what they are making How well did it work? • Evaluate their product as they are developed, identifying strengths (strong, more stable) and possible changes Evaluate their product by asking questions about what they have made & how they have gone about it	• Talk about their design ideas and what they are making, what they liked & disliked • Evaluate their product as they are developed, identifying strengths (strong, more stable) • Suggest how their products could be improved	• Identify the strengths and areas for development in their ideas and products • Evaluate their product as they are developed, identifying strengths/weaknesses (strong, more stable, weak) and what they might change • Consider the views of others, including intended users, to improve their work	• Evaluate their work both during & at the end Evaluate their products carrying out appropriate tests • consider the views of others, including intended users, to improve their work	• Evaluate a product against the original design specification Evaluate it personally & seek evaluation from others	• Critically evaluate their products, identifying strengths & areas for development, and carrying out appropriate tests Record their evaluations using drawings with labels Evaluate against their original criteria & suggest ways that their product could be improved
	Existing products	Understand who, what & where in simple questions (What do we use scissors for? Where is) Understands the use of objects (What do we use to cut things. They answer how & why questions about their experiences.	• who products are for • what products are for • how products work • what materials products are made from • what they like and dislike about products	• what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products	• how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused	• how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants • how much products cost to make • how innovative products are	• how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants • how sustainable the materials in products are • what impact products have beyond their intended purpose	

	Key events & individuals		Not required in KS1		• about inventors & designers,	• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
Technical knowledge	Making products work	Operates mechanical toys (turns the knob on a wind-up toy or pulls back on a friction car). Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	• about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable	• about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable • that food ingredients should be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking	• how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • the correct technical vocabulary for the projects they are undertaking • how to program a computer to control their products • how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • that food ingredients can be fresh, pre-cooked and processed	• how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products • that food ingredients can be fresh, pre-cooked and processed	• how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking • how mechanical systems such as cams or pulleys or gears create movement • how to reinforce and strengthen a 3D framework • that a recipe can be adapted by adding or substituting one or more ingredients	• how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • the correct technical vocabulary for the projects they are undertaking • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients
Cooking & nutrition	Where food comes from	Notifies detailed features of objects in their environment (notifies plants, animals). Develop an understanding or growth & changes over time. They can make observation of animals & plants & explain why something occur & talk about changes.	• that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught	• that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught	• 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	• 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	• that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking	• that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking

	Food preparation, cooking & nutrition	Eats a healthy range of foods & understand the need for variety in food. Shows some understanding that good practices with regard to exercise, eating, sleeping & hygiene can contribute to good health. Children know the importance for good health of physical exercise & a healthy diet & talk about ways to keep healthy & safe.	• how to name and sort foods into the five groups in The eatwell plate • that everyone should eat at least five portions of fruit and vegetables every day • With support, how to prepare simple dishes safely and hygienically, without using a heat source • With support, how to use techniques such as cutting, peeling and grating	• how to name and sort foods into the five groups in The eatwell plate • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • that to be active and healthy, food and drink are needed to provide energy for the body	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • that recipes can be adapted to change the appearance, taste, texture and aroma	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health