Annesley Primary & Nursery School Progression Map

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Design Technology

At Annesley Primary and Nursery School, we believe that Design Technology (DT) inspires pupils to use creativity, imagination and practical skills to solve real and relevant problems. Our curriculum enables pupils to develop the knowledge, understanding and technical expertise needed to design and make innovative, functional and purposeful products that meet the needs of specific users.

Through a coherently sequenced curriculum, pupils learn to investigate and evaluate existing products, understand how they work and use this knowledge to inform their own designs. They develop their ability to generate, communicate, test and refine ideas before selecting appropriate materials, tools and techniques to create quality outcomes. Pupils progressively develop technical knowledge across structures, mechanisms, electrical systems, computing, textiles and food, while learning to evaluate their products against design criteria and consider how they could be improved.

By the end of Year 6, pupils will have developed the creativity, resilience, independence and technical competence to approach design challenges with confidence. They will be able to apply their accumulated knowledge and skills to design, make and evaluate products that respond to real needs, preparing them for further learning and participation in an increasingly technological world.

Our ARCHIE framework embeds six core values across our curriculum – Ambition, Resilience, Confidence, Honesty, Independence, and Equality. Below are how these values apply to DT at Annesley Primary & Nursery School:

A	Pupils follow a carefully planned progression of skills, moving from simple techniques towards increasingly complex design and making challenges as they advance through school. This ambitious curriculum structure ensures children are consistently challenged to develop more sophisticated design thinking, technical skill, and problem-solving capability. Pupils aspire to create products that are both functional and well-crafted, understanding that quality design requires careful planning, thoughtful iteration, and attention to detail. By engaging with increasingly demanding design challenges, children develop the ambition to push beyond straightforward solutions, considering how their designs might be improved, refined, and adapted to better meet the needs of the user. This ambitious approach to DT prepares pupils to become confident, capable designers who can tackle real-world problems creatively.
R	Our curriculum teaches children to persist through challenges, learn from mistakes, and improve their designs through an iterative process of testing and refinement. Pupils are encouraged to test their ideas, identify problems when things don't work as intended, and make thoughtful improvements based on what they discover. This resilient approach helps children understand that first attempts do not always work, and that this is a natural and valuable part of the design process rather than a sign of failure. By persevering through the inevitable setbacks that come with designing and making, pupils develop the determination needed to refine their solutions, adapt their approach, and ultimately create products that function successfully. This resilience builds the confidence to keep improving rather than giving up when initial designs fall short.
C	Our curriculum allows children to gain confidence by using tools, materials, and equipment safely and successfully, building the practical competence needed to tackle increasingly complex making tasks. We develop confidence further through regular opportunities to make choices, as pupils select their own designs, materials, and methods, helping them trust their own ideas and judgement. This growing self-assurance enables children to approach new design challenges without fear of failure, knowing that they possess the practical skills and creative judgement to find effective solutions. Through consistent opportunities to design, make, and evaluate, pupils develop the confidence to see themselves as capable young designers and engineers who can bring their ideas to life.
H	Our curriculum develops honesty through pupils evaluating their own work with genuine, critical reflection. Pupils are taught to assess what went well and what did not, helping them be honest about their strengths and the areas that need improvement, rather than simply focusing on the positives. This honest self-evaluation is fundamental to the design process, as DT promotes the idea that it is okay to admit errors and use them as a valuable chance to improve future designs. By fostering a culture where honest reflection is expected and valued, we help pupils understand that genuine progress in design and technology comes from truthful assessment of outcomes, not from overlooking flaws or exaggerating success.
I	Our curriculum teaches pupils to create and develop their own designs, encouraging them to think independently and creatively when approaching design challenges. Children decide which resources to use and how to use them safely, building confidence in their own decision-making abilities. When challenges arise during the design and making process, pupils are encouraged to think of solutions themselves and adapt their designs accordingly, rather than immediately seeking adult intervention. This growing independence empowers children to take ownership of their design process from initial concept through to finished product, developing the self-directed problem-solving skills that will serve them in future design and engineering challenges.
E	Group work within DT teaches children to listen to others' ideas, value different perspectives, and work together towards shared design goals, fostering a genuine culture of collaboration and mutual respect. Through adaptive teaching, all pupils are enabled to use tools and develop their skills, ensuring that every child – regardless of background or additional needs – can participate fully and successfully in design and making activities. We ensure equal access to high-quality resources, equipment, and design challenges for all pupils, removing barriers that might otherwise prevent full participation. By valuing diverse perspectives and ensuring inclusive access to practical learning, our DT curriculum helps every child see themselves as a capable designer, regardless of their starting point or personal circumstances.

		EYFS	Key Stage 1		Key Stage 2			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Designing	**Knowledge**	• Materials and loose parts can be used to make things they imagine. • Different materials are good for different jobs. • Making starts with an idea, and ideas can change as they build. • Things are made for a person or a purpose, e.g. a house for a toy animal. **Key vocabulary:** idea, plan, make, build, choose, draw, change	• Products are designed for a particular user, e.g. a child, a pet or a family member. • Design criteria are simple statements about what a product must do and look like. • A good product is functional (it works) and appealing (people like it). • Ideas can be shared by talking, drawing and making templates or mock-ups. **Key vocabulary:** design, user, purpose, idea, product, plan, design criteria	• Design criteria help designers decide what a product needs to be and do. • Products must be fit for purpose: they must work for the person who will use them. • A mock-up made from paper, card or construction kits helps test ideas before making. • Different users want and need different things from a product. **Key vocabulary:** function, appealing, template, mock-up, model, improve	• Research, such as looking at existing products and asking users, shows what a product needs. • Design criteria should be specific so that a product can be tested against them. • Annotated sketches explain how parts of a design will look and work. • A prototype is a first version of a product, made so that ideas can be tested. **Key vocabulary:** research, annotated sketch, prototype, functional, innovative, fit for purpose	• A design brief states the user, the purpose and the problem a product must solve. • Cross-sectional and exploded diagrams show how the parts of a product fit together. • Products are developed over time and improved through several versions (iterative design). • Computer-aided design (CAD) can be used to draw, model and change ideas quickly. **Key vocabulary:** design brief, cross-sectional diagram, exploded diagram, CAD, iterative	• Surveys, interviews and questionnaires give designers evidence about what users need. • A design specification lists the precise requirements every part of a design must meet. • Design problems can be solved in more than one way, so designers compare options. • Cultural, environmental and cost considerations influence design decisions. **Key vocabulary:** specification, questionnaire, survey, constraint, target user, sustainable	• Successful design begins with a clear understanding of a real need and the people affected. • Designers reformulate a problem when their first understanding of it is incomplete. • Design decisions should be justified with evidence from research and testing. • Different methods of communication suit different audiences, e.g. plans, 3D models, CAD and presentations. **Key vocabulary:** reformulate, innovation, evidence, justify, 3D model, presentation
	Skills	• Talk about and begin to plan what they want to make. • Choose materials and tools, including loose parts, recycled and natural materials, to carry out their ideas. • Use drawing, mark-making and modelling to show an idea.	• With support, design an appealing product for a named user using simple design criteria. • Generate ideas by talking and drawing. • Make simple templates or mock-ups from paper and card.	• Design a functional, appealing product for a user, based on given design criteria. • Generate several ideas through talking, drawing, templates and mock-ups. • Label drawings to show materials and features.	• Use research to generate realistic ideas that meet specific design criteria. • Develop design criteria for a functional, appealing product fit for a specific user. • Communicate ideas through discussion, sketches and	• Use research to write a design brief and develop design criteria. • Develop an idea into a plan and explain the purpose of the product. • Communicate ideas using annotated sketches, cross-sectional and exploded diagrams.	• Carry out research using surveys, interviews and questionnaires to develop a specific design brief. • Write a design specification so that every part of the design meets the purpose. • Identify design problems and propose and test solutions.	• Use research, including different cultures and contexts, to identify and understand user needs. • Develop specifications for products that respond to a variety of situations. • Identify and solve problems independently and reformulate

		• Change their ideas while making and explain why. • Make something for a person or purpose.	• Choose materials and features to suit the user. • Use ICT where appropriate, e.g. photographs or simple drawing software, to record ideas.	• Plan by suggesting what to do next. • Improve an idea after discussing it with others.	annotated drawings. • Model ideas using mock-ups or prototypes. • Explain how and why a design was refined.	• Use CAD or other ICT to develop or model a design. • Generate more than one idea and select the best against the criteria.	• Communicate ideas using photographs, sketches, pattern pieces, prototypes and research. • Use ICT to enhance the design process.	problems they are given. • Communicate ideas using annotated sketches, detailed plans, 3D modelling, CAD and oral and digital presentations. • Justify design decisions and adapt designs in response to evidence.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Making	**Knowledge**	• Tools have different jobs, e.g. scissors cut and glue sticks join. • Materials can be joined, stacked, balanced and used to make enclosures and spaces. • Tools must be used with care and in the correct way. • Sharing ideas and resources helps people build together. **Key vocabulary:** cut, join, stack, balance, build, glue, tool, safe	• Simple tools, e.g. scissors and hole punches, are used safely to perform a job. • Materials have characteristics such as soft, stiff, bendy and strong. • Paper and card can be cut, folded, shaped and joined in different ways. • Finishing, such as decorating, makes a product look more appealing. **Key vocabulary:** cut, fold, shape, join, tape, glue, stiff, bendy, finish	• Different tools and techniques suit different jobs. • Materials are chosen for their characteristics, e.g. strong, flexible, waterproof. • New and reclaimed materials and construction kits can be used to build products. • Making is planned in order: what to do first, next and last. **Key vocabulary:** assemble, reclaimed, component, tool, equipment, measure, finish	• Measuring and marking out carefully improves the quality of a product. • Tools and equipment are chosen because they suit the task, and are used safely. • Materials have functional properties (what they do) and aesthetic qualities (how they look). • A plan lists the main stages of making. **Key vocabulary:** mark out, score, accuracy, property, aesthetic, stage, quality	• Every component has a function and contributes to how a product works. • Accuracy in measuring, cutting and joining affects how well a product works. • Different tools and techniques are chosen for different materials. • Making stages should be ordered logically in a plan. **Key vocabulary:** component, function, order, technique, accuracy, health and safety	• A step-by-step plan lists the stages, tools, equipment, materials and components needed. • Tools must be used correctly, with an understanding of health and safety. • Accuracy and a high-quality finish make a product more fit for purpose. • Materials are chosen according to their functional properties and aesthetic qualities. **Key vocabulary:** step-by-step plan, resources, tolerance, quality, finish, risk	• Specialist tools, techniques and equipment produce more precise results. • Different materials and components suit different purposes, so choices must be justified. • Quality control means checking work against the plan and the specification as they go. • Risks can be identified and reduced before using tools and equipment. **Key vocabulary:** specialist, justify, quality control, risk assessment, refine, specification
	Skills	• Use tools such as scissors, brushes and joining materials with growing control.	• Select and use simple tools and equipment safely to perform a job.	• Select and use tools, equipment and techniques to perform practical	• Plan the main stages of making. • Select tools and equipment suited to the task and use	• Order the main stages of making in a plan. • Select tools suited to the task and	• Write a step-by-step plan listing the resources needed. • Select suitable tools and use them	• Create a step-by-step plan to guide making, listing tools, equipment,

		• Join, stack and balance materials to build and create spaces. • Build on previous learning to develop and change their ideas. • Create collaboratively, sharing ideas and resources. • Use tools independently, with care and precision.	• Cut, shape and join paper and card. • Select from a range of materials and ingredients according to their characteristics. • Follow a simple plan to make a chosen product. • Use simple finishing techniques to improve their product.	tasks, and explain their choices. • Select new and reclaimed materials, components and construction kits to make their product. • Plan by suggesting what to do next. • Join and combine materials in more than one way. • Use simple finishing techniques suitable for the product.	them with increasing accuracy. • Measure, mark out, cut, shape and score with some accuracy. • Explain their choice of materials and components according to properties and aesthetic qualities. • Assemble and join components with some precision.	explain their choices. • Measure, mark out, cut and join with increasing accuracy. • Explain what each component does in their product. • Use finishing techniques that improve the function and appearance of the product.	with accuracy and an understanding of health and safety. • Measure, mark out, cut and assemble accurately. • Combine materials and components, reinforcing joins where needed. • Apply a high-quality finish suited to the user.	materials and components. • Select and use specialist tools, techniques, equipment and machinery confidently and safely. • Select from a wide range of materials and components, justifying their choices. • Work to a high level of accuracy and check quality as they go. • Manage their time and resources independently and make adaptations during making.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Evaluating	**Knowledge**	• People can talk about what they have made. • Things they make can be different from things others make. • Things do not always work first time, and problems can be solved. • Looking at how things are made can give them ideas.	• Existing products are made for particular users and purposes. • A product can be judged by asking: does it work, and does it look appealing? • Design criteria are used to check whether a product has done its job. • Evaluating means saying what went well and what could be better.	• Existing products can be explored to find out how they work and who they are for. • A product is evaluated against its design criteria, its user and its purpose. • Talking about what went well and what could be changed helps improve future work. • Some inventors have created products that changed how	• Existing products can be investigated and analysed against criteria. • Testing a product with its intended user shows how well it meets user needs. • Peers can give useful feedback that helps improve a product. • Key individuals and events have influenced design and technology, e.g. Elias Howe and the sewing machine.	• Finished products can be compared with existing products to see how they could be improved. • Evaluations should consider how well a product meets user needs. • Products can sometimes be reused or recycled at the end of their life. • Key individuals and events in design have shaped the world, e.g. Leonardo	• Existing products can be analysed for how well they are made and how they are constructed. • Products are tested with intended users to evaluate quality, functionality and fitness for purpose. • The views of others are used to refine ideas and improve work. • The materials chosen for products have sustainability and environmental impacts.	• Ground-breaking products and inventors have changed society, e.g. Joseph Swan and Thomas Edison (electric light). • Past and present designers and technologists influence current ideas and developments. • Evaluation uses evidence from testing and user feedback to justify improvements. • Design and technology has both

		Key vocabulary: like, change, problem, solve, better, tell	**Key vocabulary:** evaluate, user, purpose, product, like, dislike, better	people live, e.g. Mary Anderson (windscreen wiper). **Key vocabulary:** investigate, design criteria, function, evaluate, improve, inventor	**Key vocabulary:** evaluate, test, prototype, feedback, analyse, user needs, criteria	da Vinci's mechanisms. **Key vocabulary:** evaluate, compare, recycle, reuse, improvement, sensory evaluation	**Key vocabulary:** functionality, construction, sustainability, critique, refine, mock-up	positive and negative impacts on the environment. **Key vocabulary:** innovation, impact, environment, justify, evidence, manufacture
	Skills	• Talk about what they have made and what they like about it. • Describe problems they met and how they solved them. • Compare their work with that of others. • Say what they would change. • Notice how everyday objects are made.	• With support, make simple judgements about their work against the design criteria, user and purpose. • Talk about their ideas and how they changed them. • Explore a range of existing products and say what they like and dislike. • Say what went well and one thing they would change. • Use simple design vocabulary when talking about their product.	• Explore a range of existing products and discuss what they like and dislike, and why. • Evaluate ideas and products against their design criteria with some support. • Talk about what went well and possible changes to their product. • Describe how well their product works for its user. • Use design and technology vocabulary when evaluating.	• Investigate and analyse a range of existing products against criteria. • Evaluate their work against specific design criteria. • Test their product with the intended user to see how well it meets their needs. • Improve their work using peer evaluation. • Use vocabulary such as prototype, functional and innovative.	• Investigate and analyse existing products. • Evaluate their work and the work of others against specific design criteria. • Compare their finished product with existing products and suggest improvements. • Judge how well their product meets user needs and whether it could be reused or recycled. • Use sensory evaluation where food is the product.	• Investigate and analyse existing products, including how well they are made and their methods of construction. • Test products with intended users and critically evaluate design, manufacture, functionality and fitness for purpose. • Consider the views of others to refine ideas and improve work. • Evaluate how sustainable the materials in products are and the impact on the environment. • Use precise evaluation vocabulary, e.g. design decisions and specification.	• Test, evaluate and refine ideas against a specific design specification, taking the views of intended users into account. • Investigate and analyse ground-breaking existing products and learn about inventors relevant to the project. • Compare finished products with existing products and explain the improvements they made and why. • Evaluate how sustainable materials are and consider alternative materials. • Analyse the work of past and present professionals to broaden their understanding of design and technology.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Structures	**Knowledge**	• Blocks and other materials can be	• A freestanding structure stands up	• Shapes such as triangles and tubes	• A shell structure has an outer layer, e.g. a box or carton, which	• More complex structures can be strengthened,	• A frame structure is made from joined parts that form a	• Structures need to resist forces such as compression

		stacked to build towers and walls. • Tall structures can fall over. • A wide, flat base makes a structure more stable. • Some materials hold things up better than others. **Key vocabulary:** tall, wide, balance, fall, strong, build, tower	on its own, without being held. • Structures can be made stronger, stiffer and more stable. • A wide base makes a structure more stable. • Folding, rolling and layering paper and card can make them stiffer. **Key vocabulary:** structure, stable, strong, stiff, base, tower, wall, framework, weak	can make structures stronger. • Structures must support their own weight and sometimes extra loads. • Joining parts firmly makes a structure stronger and more stable. • Testing shows where a structure is weak. **Key vocabulary:** strength, stiffen, reinforce, load, support, stable, test, join	gives it shape and strength. • A net is a flat pattern that folds to make a 3-D shape. • Scoring, tabs and strong adhesives make accurate, firm shell structures. • Corrugating, ribbing and laminating can strengthen and stiffen card. **Key vocabulary:** shell structure, net, face, edge, vertex, cube, cuboid, score, tab, laminate	stiffened and reinforced with ribs, struts and ties. • Joins are often the weakest part of a structure. • Combining materials can make a structure stronger and lighter. • Structures are designed to support a load or resist forces. **Key vocabulary:** reinforce, strut, load, force, join, rigid, lightweight, stability	supporting framework. • Triangulation makes frames strong and rigid. • Braces and gussets reinforce corners and joints. • Frame structures can be temporary or permanent, depending on their purpose. **Key vocabulary:** frame structure, triangulation, brace, gusset, stiffen, temporary, permanent	(squashing) and tension (stretching). • Frame and shell structures can be combined, e.g. in a bridge or shelter. • The shape and material of a structure affect how much load it can bear. • Real structures, such as bridges, rely on engineering knowledge developed over time. **Key vocabulary:** compression, tension, load-bearing, span, cantilever, engineering, aesthetics
	<u>Skills</u>	• Build structures with blocks, loose parts and recycled materials. • Make enclosures and spaces, and say what they are for. • Test whether a structure stands up and make it stronger. • Talk about what makes a structure stable. • Build collaboratively and share ideas.	• Build freestanding structures using construction kits, paper and card. • Make a structure stronger, stiffer and more stable. • Test their structure and say what could be improved. • Use simple joining methods, e.g. tape and glue. • Use technical vocabulary relevant to the project.	• Build structures, exploring how they can be made stronger, stiffer and more stable. • Use folding, rolling or shapes such as triangles to strengthen a structure. • Test a structure by adding loads and record what happens. • Choose materials and joins to suit the structure. • Use technical vocabulary relevant to the project.	• Design and make a shell structure using a net. • Measure, mark out, score, cut and assemble accurately. • Apply knowledge of nets of cubes and cuboids and, where appropriate, more complex 3-D shapes. • Strengthen and stiffen card using corrugating, ribbing or laminating. • Add finishing details such as text and graphics.	• Strengthen, stiffen and reinforce a more complex structure. • Combine materials and choose joining methods to make a strong structure. • Test a structure with a load and improve it. • Make cross-sectional and exploded diagrams to show how the structure fits together. • Use technical vocabulary accurately.	• Design and make a 3-D frame structure. • Use triangulation, braces and gussets to strengthen and stiffen it. • Cut, shape and join materials accurately. • Test the structure against the design criteria and improve it. • Use technical vocabulary accurately.	• Design and make a complex structure that must bear a load or span a gap. • Select materials and joins to resist compression and tension. • Use CAD or models to test and refine a structural design. • Evaluate the structure against a design specification and suggest improvements. • Use sophisticated technical vocabulary independently.

		EYFS	Key Stage 1		Key Stage 2			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Mechanism and Mechanical Systems	**Knowledge**	• Things can be pushed, pulled, rolled and spun. • Wheels help things roll. • Different movements need different materials or parts. • Things move in different directions and at different speeds. **Key vocabulary:** push, pull, roll, spin, wheel, slide, move, fast, slow	• A mechanism is a set of parts that work together to produce movement. • Sliders move in a straight line and levers move around a fixed point (a pivot). • Pushing or pulling an input makes the output move. • Different mechanisms produce different types of movement. **Key vocabulary:** slider, lever, pivot, slot, guide, push, pull, up, down, straight, curved	• Wheels turn on axles, which are held in place by axle holders. • A fixed axle turns with the wheel; a free axle lets the wheel turn around it. • A vehicle needs a chassis (frame), wheels and axles to move. • Friction affects how easily wheels turn. **Key vocabulary:** wheel, axle, axle holder, chassis, body, fixed, free, rotate, mechanism	• A cam is a shaped wheel that turns and pushes a follower up and down. • Different cam shapes make the follower move in different ways. • Rotary (turning) movement can be changed into reciprocating (up and down) movement. • Mechanical systems have an input, a process and an output. **Key vocabulary:** cam, follower, rotary, reciprocating, crank, input, process, output	• A lever turns around a pivot; a linkage connects levers to transfer and change movement. • Pivots can be fixed or loose; this changes how a linkage moves. • Linkages can change the direction and the size of a movement. • Mechanisms can produce linear, rotary, oscillating or reciprocating movement. **Key vocabulary:** lever, linkage, pivot, fixed, loose, linear, oscillating, input, output	• Gears are toothed wheels that transmit rotation; a driver turns a follower. • A pulley and drive belt transmit movement between axles. • Gear and pulley sizes change speed and force: the gear ratio. • Gears and pulleys can speed up, slow down or change the direction of movement. **Key vocabulary:** gear, pulley, drive belt, ratio, driver, follower, transmit, rotation, spindle	• Complex products combine several mechanisms, e.g. cams, gears, pulleys and linkages. • Mechanical systems can be driven by a motor, linking to electrical systems. • Mechanisms are designed to achieve a particular function, e.g. in toys and automata. • Real machines, such as clocks and bicycles, use combinations of mechanisms. **Key vocabulary:** automata, system, motor, combine, mechanism, efficiency, function
	Skills	• Explore how things move by pushing, pulling, rolling and spinning. • Use wheels and other parts to make things move. • Test and change a model to make it move better. • Talk about how their model moves. • Use construction kits and loose parts to create moving models.	• Explore and use sliders and levers. • Make a simple mechanism, such as a card with a slider or lever. • Use paper fasteners and card strips to make a pivot. • Say how the movement changes when the mechanism is altered. • Use technical vocabulary	• Explore and use wheels, axles and axle holders. • Make a wheeled vehicle that moves, including a chassis and body. • Distinguish between fixed and freely moving axles. • Test and improve how well their vehicle moves. • Use technical vocabulary	• Explore, then make, a simple cam and follower mechanism. • Use a crank or handle to turn a cam. • Test different cam shapes and compare the movements produced. • Describe the input, process and output of their mechanism.	• Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Design and make a linkage to produce a planned movement. • Draw annotated diagrams to show how a mechanism works. • Use technical vocabulary	• Understand and use gears and pulleys in a product. • Make a mechanism that speeds up, slows down or changes the direction of movement. • Use a motor to power a mechanical system. • Use exploded diagrams and annotated	• Design and make a product that combines more than one mechanism. • Select mechanisms to achieve a specific movement or function. • Combine mechanical and electrical systems, e.g. a motor-driven mechanism. • Test, adapt and refine the mechanism to

			relevant to the project.	relevant to the project.	• Use technical vocabulary relevant to the project.	relevant to the project.	drawings to show how a mechanical system works. • Use technical vocabulary accurately.	improve performance. • Use sophisticated technical vocabulary independently.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Electrical Systems and Computing	**Knowledge**	• Some toys and objects use batteries to work. • Switches turn things on and off. • Electricity can be dangerous, so only adults handle mains sockets. • Some toys can be programmed to follow instructions. **Key vocabulary:** battery, switch, on, off, light, sound, button, safe	• Many everyday products use electricity from batteries or the mains. • Mains electricity is dangerous, but batteries in children's products are safe to use. • A programmable toy follows a set of instructions in order. • Electrical products have a purpose, e.g. to light, to sound or to move. **Key vocabulary:** battery, mains, electricity, switch, program, instruction, safe	• A battery, a wire and a bulb can make a simple circuit. • A circuit must be a complete loop for electricity to flow. • Programs give instructions and can make a product follow a sequence. • Some materials let electricity pass through them and some do not. **Key vocabulary:** circuit, complete, battery, bulb, wire, conductor, insulator, program	• A series circuit has all its components in one loop. • A switch opens and closes a circuit to turn a component on and off. • Circuit symbols are used to draw circuits in diagrams. • Electrical products use components such as bulbs, buzzers and motors. **Key vocabulary:** series circuit, switch, bulb, buzzer, motor, battery holder, symbol, connection	• Electrical systems have an input, a process and an output. • Different switches suit different jobs: toggle, push-to-make and push-to-break. • A fault in a circuit, e.g. a loose wire, stops it working. **Key vocabulary:** input, output, toggle switch, fault, conductor, insulator	• A program tells a control device what to do and when. • Sensors are input devices that monitor, e.g. light, temperature or movement. • Output devices, such as LEDs, buzzers and motors, respond to the program. • Programs can be tested and debugged to improve a product. **Key vocabulary:** program, sensor, control, monitor, debug, microcontroller	• Complex circuits use components such as LDRs, tilt switches, reed switches and LEDs. • In a parallel circuit, components are on separate branches, so one can work without the others. • Programmed products can monitor conditions and respond automatically. • Electrical and computing systems are used in everyday products, e.g. alarms. **Key vocabulary:** LDR, reed switch, tilt switch, LED, parallel circuit
	Skills	• Explore battery-powered toys and talk about how they work. • Switch toys on and off safely. • Use programmable toys to follow simple directions.	• Identify products that use electricity and say how they are used. • Follow safety rules when using batteries and electrical items. • Give simple instructions to a	• Make a simple circuit with a battery, wires and a bulb with support. • Say whether a circuit is complete and will work. • Create a simple program with a	• Make a simple series circuit with a switch. • Assemble a battery holder, wires and bulb or buzzer. • Use circuit symbols in simple diagrams. • Build an electrical component into a product.	• Understand and use electrical systems in their products, linked to science. • Design and make a series circuit with a switch, buzzer, bulb or motor.	• Apply their understanding of computing to program, monitor and control their products. • Write a program that controls an output, e.g. an LED, buzzer or motor.	• Understand and use electrical systems in their products, linked to science. • Design and make a product using a complex switch or circuit, e.g. LDR, tilt switch or reed switch.

		• Talk about what they have made or programmed. • Follow safety rules around electrical items.	programmable toy. • Say what a product is for and how it is switched on. • Use simple vocabulary to describe electrical products.	sequence of instructions. • Test and improve what they have made. • Use technical vocabulary relevant to the project.	• Use technical vocabulary relevant to the project.	• Select a suitable switch for their product. • Draw a circuit diagram and find and fix faults. • Use technical vocabulary relevant to the project.	• Use a sensor as an input to trigger an output. • Test, debug and improve their program and product. • Use technical vocabulary accurately.	• Build series and parallel circuits and explain how they differ. • Apply their understanding of computing to program, monitor and control a product. • Evaluate and refine the system against the design specification.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Textiles	**Knowledge**	• Fabrics feel different, e.g. soft, rough, smooth. • Fabrics can be threaded, woven, wrapped and joined. • Fabrics are chosen for different jobs, e.g. warm, waterproof. • Clothes and other items are made from fabric. **Key vocabulary:** fabric, soft, rough, smooth, thread, weave, join, fold	• Fabrics have different properties, e.g. soft, stretchy, warm and strong. • Fabrics can be joined using glue, staples or simple stitches. • A template is used to cut out fabric shapes. • Decoration and finishing make a textile product appealing. **Key vocabulary:** fabric, template, join, stitch, thread, decorate, finish, soft, stretchy	• A simple 3-D textile product can be made from two identical shapes cut with a template. • Fabrics can be joined using running stitch, over stitch, glue or staples. • Different joining techniques make seams that are stronger or neater. • Finishing techniques, e.g. decorating, make a product more appealing. **Key vocabulary:** running stitch, over stitch, template, pattern pieces, mark out, join, decorate	• A 2-D pattern is used to make a 3-D textile product. • A seam allowance is the extra fabric allowed for stitching. • Fabrics can be strengthened, stiffened and reinforced. • Fastenings, such as buttons and zips, have a function. **Key vocabulary:** pattern, seam, seam allowance, fastening, stiffen, strength, template, compartment	• Pattern pieces must be accurate for the pieces to fit together. • Fastenings such as buttons, press studs and Velcro are chosen for the product's purpose. • Different fabrics and stitches suit different purposes. • Decorative techniques, e.g. appliqué, add detail and appeal. **Key vocabulary:** pattern pieces, fastening, appliqué, seam, accuracy, press stud, embellish	• Stitches such as back stitch make strong seams. • Fabric choice affects how a product looks, feels and performs. • Fabrics can be combined and reinforced for strength. • A product can be designed to meet a user's specific needs, e.g. comfort or durability. **Key vocabulary:** back stitch, durable, properties, reinforce, hem, wadding, embroidery	• A 3-D textile product can be made from accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate. • Seams, hems and wadding affect the finish and function of a product. • Textile design and technology continue to innovate, e.g. Stephanie Kwolek and Kevlar. **Key vocabulary:** seam, hem, wadding, right side, wrong side, pinking shears, fastenings, pattern pieces

	Skills	• Explore different fabrics through touch and play. • Thread, weave and join materials with support. • Use scissors and other tools with increasing control. • Choose fabrics for a purpose. • Talk about what they have made.	• Explore and describe a range of fabrics. • Cut fabric using a template. • Join fabrics using simple methods such as glue or staples. • Decorate fabric using simple finishing techniques. • Use technical vocabulary relevant to the project.	• Use a template to make two identical shapes for a simple 3-D product. • Join fabrics using different techniques, e.g. running stitch, over stitch, glue and staples. • Thread a needle and stitch with some support. • Explore and use different finishing techniques. • Use technical vocabulary relevant to the project.	• Strengthen, stiffen and reinforce existing fabrics. • Securely join two pieces of fabric together. • Use patterns, templates and seam allowances. • Add a fastening, e.g. a button or Velcro. • Use technical vocabulary relevant to the project.	• Make accurate pattern pieces from a design. • Join fabric pieces with neat, secure stitching. • Select and attach a fastening that suits the product. • Decorate using techniques such as appliqué. • Use technical vocabulary accurately.	• Design a textile product for a specific user, selecting fabrics, stitches and fastenings. • Sew accurately, using techniques such as back stitch. • Reinforce seams and joins where needed. • Use decorative techniques that suit the purpose. • Evaluate the product against the design criteria.	• Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Strengthen, stiffen and reinforce fabrics where appropriate. • Use hems, seams, wadding and fastenings to achieve a quality finish. • Select fabrics and techniques and justify their choices. • Evaluate and refine the product against the design specification.
		EYFS	**Key Stage 1**		**Key Stage 2**			
		Nursery/ Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Cooking and Nutrition	**Knowledge**	• Some foods help the body stay healthy. • People can make healthy choices about what they eat. • Healthy bodies need food, drink, sleep, exercise and good hygiene. • Hands must be washed before preparing food.	• All food comes from plants or animals. • A healthy and varied diet includes plenty of fruit and vegetables (the Eatwell Guide). • Fruit and vegetables can be prepared safely and hygienically without a heat source. • Sensory vocabulary describes how food looks, smells, tastes and feels.	• Fruit and vegetables come from farms, gardens and other places where they grow. • Foods can be sorted into the five groups of the Eatwell Guide. • Techniques such as cutting, peeling and grating are used to prepare food. • Safe, hygienic preparation includes washing	• Ingredients can be fresh or processed, and are grown, reared or caught. • Fruit and vegetables are seasonal. • Techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking prepare food. • Recipes use a list of ingredients and steps.	• A healthy diet is made up of a variety and balance of food and drink, as shown in the Eatwell Guide. • Savoury dishes can be cooked safely and hygienically, using a heat source where appropriate. • Ingredients should be weighed accurately using scales. • Ovens must be used safely and	• A recipe can be adapted by adding or substituting ingredients. • Nutrients, e.g. protein, carbohydrate and vitamins, have different roles in the diet. • Techniques such as kneading and baking change the texture of ingredients. • Some people have allergies or intolerances that	• A balanced diet needs the right proportions of each food group. • Seasons affect which foods are available. • Food is processed into ingredients, and ingredients are grown, reared or caught. • Recipes can be adapted to change the appearance, taste, texture and aroma.

		Key vocabulary: healthy, fruit, vegetables, wash, taste, cut, mix, spread	**Key vocabulary:** fruit, vegetable, healthy, peel, slice, squeeze, juicy, crunchy, sweet, sour, hygiene	hands and cleaning surfaces. **Key vocabulary:** Eatwell Guide, farm, grown, grate, peel, ingredient, hygienic, texture, taste	**Key vocabulary:** grown, reared, caught, seasonal, processed, fresh, savoury, recipe, texture, appearance	with adult supervision. **Key vocabulary:** savoury, balanced diet, scales, weigh, oven, hygienic	affect what they can eat. **Key vocabulary:** nutrients, protein, carbohydrate, adapt, allergy, knead, dough	**Key vocabulary:** seasonality, processed, balanced diet, nutrition, adapt, aroma
	Skills	• Talk about foods they like and healthy choices. • Prepare simple food safely and hygienically. • Use tools such as spoons, knives and spreaders with support. • Talk about taste, smell and texture. • Follow simple steps to make something to eat.	• Use the basic principles of a healthy and varied diet to prepare dishes. • Prepare simple dishes safely and hygienically, without a heat source. • Use techniques such as cutting, squeezing and spreading. • Describe the taste, smell and texture of food using simple sensory words. • Name and use simple equipment correctly.	• Name and sort foods into the five groups of the Eatwell Guide. • Prepare a healthy dish using techniques such as cutting, peeling and grating. • Describe where a range of fruit and vegetables come from. • Use technical and sensory vocabulary. • Work safely and hygienically.	• Prepare and cook a variety of predominantly savoury dishes safely and hygienically. • Use techniques such as peeling, chopping, slicing, grating, mixing and spreading. • Choose fresh and processed ingredients appropriate for their dish. • Identify whether ingredients are grown, reared or caught, and which are seasonal. • Follow a simple recipe.	• Prepare and cook a variety of predominantly savoury dishes, including using a heat source where appropriate. • Weigh ingredients using scales. • Safely use an oven. • Explain how a dish contributes to a healthy and balanced diet. • Evaluate a dish using sensory vocabulary.	• Adapt a recipe by adding or substituting ingredients. • Use a range of techniques such as peeling, chopping, slicing, grating, mixing, kneading and baking. • Select ingredients with their nutritional value in mind. • Prepare food with allergy awareness. • Evaluate how well a dish meets the user's needs.	• Apply the principles of nutrition to plan and cook a number of predominantly savoury dishes. • Cook so that they can feed themselves and others a healthy, balanced diet. • Adapt recipes to change appearance, taste, texture and aroma. • Use seasonal ingredients and explain where and how they are grown, reared, caught and processed. • Work independently, safely and hygienically.