

DT

Body of Knowledge

	Autumn	Spring	Summer
R	Investigate how things work		
	<u>3 and 4 Year Olds</u> Physical Development • Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. • Use a comfortable grip with good control when holding pens and pencils EAD • 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. Understanding the World • Explore how things work. • Talk about the differences between materials and changes they notice. <u>Reception</u> Physical Development • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. • Develop overall body-strength, balance, coordination and agility. EAD • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.		
Year A	Design and make products that have a clear purpose (yr1)		

1/2 2024/25	Design, make and evaluate products with a clear purpose and intended user (yr2)		
	See National Curriculum for objectives Food Preparing fruit and vegetables Focus: cutting, measure and weight • Make: Chop fruit and vegetables up safely to make a smoothie; identify if a food is a fruit or a vegetable; learn where and how fruits and vegetables grow. • Evaluate: Taste and evaluate different food combinations; describe appearance, smell and taste; suggest information to include on packaging. Key vocabulary <i>Fruits, vegetables, differences, similarities, group, texture, taste, packaging, information</i>	See National Curriculum for objectives Textiles Making a pouch Focus: cutting, sewing and sequencing • Design: Use a template to create a design for a puppet. • Make: Cut fabric neatly with scissors; use methods to decorate puppet; sequence in steps for construction. • Evaluate: Reflect on a finished product, explaining likes and dislikes. Key vocabulary <i>Fabric, join, pin, staple, glue, template, design, decorate, sequence</i>	See National Curriculum for objectives Mechanisms Wheels and axels Focus: Attaching • Design: Explain how to adapt mechanisms using bridges or guides to control movement; design a moving storybook for a given audience; design a vehicle that included wheels, axles and axle holders which will allow the wheel to move; create labelled drawings to illustrate movement. • Make: Follow a design to create moving models that use levers and sliders; adapt mechanisms. • Evaluate: Test a punished product, explaining how it can be fixed if it doesn't work; review and test with intended audience; test mechanisms; know that a wheel needs an axel to move. Key vocabulary <i>Axel, wheel, lever, slider, mechanism, testing, movement, up, down, left, right, vertical, horizontal, forwards</i>
Year B 1/2 2023/24	Design and make products that have a clear purpose (yr1)		
	Design, make and evaluate products with a clear purpose and intended user (yr2)		
	See National Curriculum for objectives Structures Freestanding structures (bridges) Focus: Joins and templates • Design: Generate and communicate ideas for using sketching and modelling; learn about different types of structures, found in the natural world and in everyday objects. • Make: Make a structure according to design criteria; create joins and structures from paper/card and tape.	See National Curriculum for objectives Mechanisms Sliders and Levers (moving story books) Focus: Templates and cutting • Design: Create a class design criteria for a moving character; design moving character for a specific audience in accordance with design criteria; select a suitable linkage system to produce motion; design a wheel; select appropriate materials based on properties. • Make: Make linkages using card for levers and split pins for pivots; experiment with	See National Curriculum for objectives Food through time Health and varied diet Focus: Slicing and constructing to brief • Design: Design a healthy wrap based on a food combination which well together. • Make: Slice food safely using a bridge or claw grasp; construct a wrap that meets the design brief. • Evaluate: Describe the taste, texture and smell of fruit & vegetables; taste-testing combinations and final products; describe the

	• Evaluate: Explore features of structures; compare stability of different shapes; test the strength of own structure; identify weakest part of a structure; evaluate strength, stiffness and stability of own structure. Key vocabulary <i>Natural/man-made structures, stable, shapes, structures, wide, flat-based, length, strength, effects, stability, stiffness, manipulation/change, folding</i>	linkages; cut and assemble; select materials according to their characteristics; follow a design brief. • Evaluate: Evaluate against one design against design criteria; use peer feedback to modify final design; evaluate different designs; test and adapt a design. Key vocabulary <i>Mechanisms, moving parts, work together, machine, input/output, identify, lever, turn, pivot, linkage, connected, wheels, axels</i>	information that should be included on a label; evaluate which grip was the most effective. Key vocabulary <i>Balanced diet, nutritional information, packaging, five food groups, cut, healthy, diet, bridge grip, claw grip</i>
Year A 3/4 2024/25	Investigate existing objects to help design own products		
	<i>See National Curriculum for objectives</i> Structures Shell structures (computer aided design) Focus: planning and cutting • Design: Design a chosen building with key features to appeal to a specific person/purpose; draw and label the design using 2D & 3D shapes, label features, materials needed. • Make: Construct a range of 3D geometric shapes using nets; create a special feature using individual design; make facades from a range of recycled materials. • Evaluate: Evaluate own work and peers based on the aesthetic of the finished product; compare to original design; suggest points for modification Key vocabulary <i>Identify, suitability; weight, compression, tension, stability, strut, tie, span, beam, frame, shell structure, façade, aesthetics. modification</i>	<i>See National Curriculum for objectives</i> Textiles 2D shapes to 3D products Focus: Measure, plan and make • Design: Design and make a template from an existing pattern and apply individual design criteria. • Make: Follow design criteria to make item; select and cut fabrics using fabric scissors; sew cross stitch to join fabric; decorate fabric using applique; complete design idea to ensure durability. • Evaluate: Evaluate end product and think of other ways to create similar items. Key vocabulary <i>Threading, needle, knots, sewing, cross stitch, applique, weave, fabric, uniform sizes, appearance, layering, stuffing</i>	<i>See National Curriculum for objectives</i> Food Culture, climate and seasonality in Europe Focus: Assemble and Prepare • Design: Create a healthy and nutritious recipe for a savoury dish using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. • Make: Know how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid contamination; follow the instructions within a recipe. • Evaluate: Establish and use design criteria to review dishes; describe benefits of seasonal fruit & vegetables / the impact on the environment; suggest points of improvement. Key vocabulary <i>Climate, food growth, cooking equipment, health & safety, hygiene, food travel, negative/positive impacts, environment, seasons, nutritional benefits, store, clean, use safely</i>

Year B 3/4 2023/24	Produce, experiment and choose from a variety of designs		
	<i>See National Curriculum for objectives</i> Electrical Systems Circuits and switches Focus: create circuits • Design: Design a torch, give consideration to the target audience; create a design and a success criteria. • Make: Make a torch with a working electrical circuit; use appropriate equipment to cut and attach materials; assemble torch to design and success criteria. • Evaluate: Evaluate electrical products; test and evaluate the success of final product; take inspiration from peer work. Key vocabulary <i>Electrical items, electrical products, conductors/insulators, battery, stored electricity, power, torch features, positives/negatives</i> LINKED TO SCIENCE ROLLING PROGRAME	<i>See National Curriculum for objectives</i> Food Follow and adapt a recipe Focus: Assemble & prepare, evaluating & budgeting (environmental impacts) • Design: Design a baked food item within a given budget, drawing upon previous taste testing. • Make: Follow a baking recipe; cook safely, following basic hygiene rules; adapt a recipe. • Evaluate: Evaluate the recipe considering: taste, smell, texture and appearance; describe the impact of budget on ingredients selection; evaluate & compare products; suggest modifications Key vocabulary <i>Impacts of cost, budgeting, planning, ingredients, environmental impact, future product, modification, assemble, prepare.</i>	<i>See National Curriculum for objectives</i> Mechanisms Levers and linkages Focus: Using systems • Design: Design a shape that reduces air resistance; draw a net to create a structure from; personalise their design. • Make: measuring, marking, cutting and assembling with increased accuracy; make a model based on a chosen design. • Evaluate: Evaluate the speed of the final product based on: the effect of shape on speed and the accuracy of workmanship on performance. Key vocabulary <i>Products, change/evolve, moving things/kinetic energy, motion, levers, linkages, net, structure, measuring, marking, cutting, assembling, shape, speed, performance, systems</i>
Year A 5/6 2024/25	Design, create , evaluate and improve products		
	<i>See National Curriculum for objectives</i> Electrical systems Complex systems and switches (Christmas images) Focus: ICT control • Design: Design an electronic greetings card with a simple electrical controls unit; create a labelled design showing positive & negative parts in relation to the LED & battery. • Make: Make a working circuit, create an electronic greetings card to a design	<i>See National Curriculum for objectives</i> Food Adapt recipe and create packaging Focus: Safe preparation and nutrition • Design: Adapt a traditional recipe, understand nutritional value, remove & substitute ingredients; write an amended method for a recipe; design an appealing packaging to reflect the recipe. • Make: Cut & prepare vegetables safely; use a range of kitchen equipment; know	<i>See National Curriculum for objectives</i> Mechanisms Pulleys and gears Focus: Understand and use • Design: Design a pop-up book which uses a mixture of structures & mechanisms; name each mechanism, input & output; storyboard ideas for book. • Make: Follow design brief with accuracy; make mechanisms/structures using sliders, pivots and folds to produce movement; use

	criteria; map out where components need to go. • Evaluate: Evaluate against original design; modify to improve reliability and aesthetics Key vocabulary <i>Electronic, functioning, circuits, LED, battery, positive/negative, working circuit, components, wire, output/input, modifications, reliability, aesthetics, graphite conductor, series/parallel circuits, breaks in circuits, control</i> LINKED TO SCIENCE ROLLING PROGRAME	how to avoid cross-contamination; follow a step-by-step method. • Evaluate: Identify nutritional differences; identify & describe healthy benefits of food groups. Key vocabulary <i>Nutritional value, substitution, appealing, packaging, cut, prepare, cross-contamination, health & safety, farm-to-plate, balanced diet, adapting, healthier recipe, nutritional calculator</i>	layer spacers to hide the workings of mechanical parts for aesthetical purposes. • Evaluate: Evaluate the work of others & receive feedback on own work; suggest points for improvement. Key vocabulary <i>Motion, input/output, accuracy, sliders, pivots, folds, control movement, layer spacers, mechanical parts, aesthetics, range of motion & mechanisms</i>
Year B 5/6 2023/24	Research, design and explore ideas to create products for a clear use		
	<i>See National Curriculum for objectives</i> Textiles Combining fabric (sewing) Focus: Temporary and permanent • Design: Design an item of clothing in accordance to specification linked to a set of criteria to fit a specific theme. • Make: Use template to pin fabric, marking and cutting fabric accurately; sewing a strong running stitch; tying string knots, decorating and attaching objects using thread. • Evaluate: Evaluating work continually as it is created. Key vocabulary <i>Specification, template, pin, marking, measure, sewing, attaching, running stitch, knots, decorative stitches, application, outcome, technique, accuracy, even regularity of stitches, temporary, permanent</i>	<i>See National Curriculum for objectives</i> Food Create a recipe Focus: Research, nutrition and design • Design: Writing a recipe, explaining the key steps, method and ingredients; including facts and drawings from research undertaken. • Make: Following a recipe, using the correct quantities; adapting recipe based on research; working to a timescale; working safely and hygienically with independence. • Evaluate: Evaluating a recipe considering: taste, smell, texture, and origin of the food group; taste testing using a scoring system; suggesting improvements in productions; evaluate health & safety to minimise cross-contamination. Key vocabulary <i>Recipe, research, ingredient, adaptation, health & safety, cross-contamination, hygiene, quantise, measure, food combinations, compliment, 'farm to fork', nutrition</i>	<i>See National Curriculum for objectives</i> Structures Frame structures (man-made & natural) Focus: Precision planning and assembly • Design: Design an area featuring a variety of different structures, considering their uses and effective/ineffective designs. • Make: Build a range of structures, drawing upon new & prior knowledge; measure, mark and cut wood; use a range of materials to reinforce and decorate. • Evaluate: Improve 9design based on peer evaluation; test & adapt design to improve it; identify what makes a successful structure. Key vocabulary <i>Variety, effectiveness/ineffective/effective, measure, mark, cut, saw, wood, reinforce, improve, strengthened, manipulating materials & shapes, man-made & natural structures, precision</i>