



SUMMARY OF APPROACH TO DESIGN AND TECHNOLOGY NEW END PRIMARY SCHOOL



Intent

At New End Primary School our vision is to give children a Design and Technology curriculum which develops the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. We aim the children to build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. We aim the children to be able to critique, evaluate and test their ideas and products and the work of others. Also, for children to understand and apply the principles of nutrition and learn how to cook. Design and technology scheme of work aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation.

At New End we aim all children to;

- produce creative work, exploring their ideas and recording their experiences
- To become proficient in the three main stages: design, make and evaluate.
- Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical and technical understanding, required for each strand.
- We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others.

Implementation

We teach a skills-based Design and Technology curriculum, which allows the children to express their creative imagination as well as providing them with the opportunities to practise and develop mastery in the key processes of D&T.

Our D&T lessons are linked to our termly topics – see Appendix 1 – and these include studying different techniques. Through a well-planned and wide range of different activities, children develop their own style and work on their control and use of materials using creativity through experimentation. Skills progress with each year and lessons build on prior learning whilst giving the children chance to trial new techniques. We use Kapow's Design and Technology scheme and we supplement the Kapow activities with tried and tested lessons. The main skills which we develop through our D&T provision are: the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition* has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality.

The National curriculum organises the Design and technology attainment targets under five subheadings or strands:


- Design
- Make
- Evaluate
- Technical knowledge
- Cooking and nutrition*

Impact

Teaching the full scheme ensures that by the end of Year 6, children in New End will have met the statutory objectives of the National Curriculum...

- Understand the functional and aesthetic properties of a range of materials and resources.
- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.
- Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios.
- Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.
- Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.
- Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.
- Self-evaluate and reflect on learning at different stages and identify areas to improve.
- Meet the end of key stage expectations outlined in the National curriculum for Design and technology.

In so doing, we expect the children to meet the end of key stage expectations as outlined in the National Curriculum. Our skills progression guide enables us to track progress, and evidenced by outcomes in sketchbooks, displays and exhibitions.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	Stand-alone lessons Cooking without a kitchen, Xmas Strings, Exhibitions, Textiles
EYFS	A&D Drawing Painting	D&T Craft, design, materials	A&D Elements: Colour Elements: Shape	D&T Elements: Form Elements: Texture	A&D Elements: Line Elements: Pattern	A&D D&T Elements: Tone	
Year 1	D&T Structures: Constructing Windmills Design, decorate and build a windmill for a mouse (client) to live in, develop an understanding of different types of windmill, how they work and their key features. Look at real existing examples and the functions that they carry out.	A&D Drawing: Make your mark Painting: colour splash	D&T Textiles: Puppets Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale. Develop technical skills of cutting, glueing, stapling and pinning.	A&D Sculpture and 3D Paper play	D&T Food: Fruit and Vegetables Handle and explore fruits and vegetables and learn how to identify which category they fall into, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.	A&D Craft and Design: Embellishments	D&T Mechanisms: making a moving story book Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it. Cooking without a kitchen
Year 2	A&D Drawing: Tell a story Craft and design: Map it out	D&T Structures: Baby bear's chair Using the tale of Goldilocks and the Three Bears as inspiration, pupils help Baby Bear by making him a brand new chair, exploring different shapes and	A&D Painting and mixed media: Beside the seaside	D&T Mechanical systems: Fairground wheel Design and create a functional Ferris wheels, consider how the different components fit together so that the	A&D Sculpture and 3D: Clay houses	D&T Mechanical systems: Making a moving monster After learning the terms: pivot, lever and linkage, pupils design a monster that will move using a linkage mechanism.	D&T Food: A balanced diet Explore and learn what forms a balanced diet, pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which

		materials. When designing the chair, they consider his needs and what he likes		wheels rotate and the structure stands freely. Select appropriate materials and develop their cutting and joining skills.		Pupils practise making linkages and experiment with various materials to bring their monsters to life.	will include a healthy mix of protein, vegetables and dairy. Cooking without a kitchen
Year 3	D&T Structures: Constructing a castle Learning about the features of a castle, pupils design and make one of their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets before constructing a stable base.	A&D Drawing: Growing artists Painting and mixed media: prehistoric	D&T Digital world: Electronic charm Design, code, make and promote a Micro:bit electronic charm to use in low-light conditions, developing their understanding of programming to monitor and control products to solve a design scenario.	A&D Sculpture and 3D: Abstract shape and space	D&T Food: Eating seasonally Pupils discover when and where fruits and vegetables are grown and learn about seasonality in the UK. They look at the relationship between the colour of fruits and vegetables and their health benefits by making three dishes	A&D Craft and Design: Ancient Egyptian scrolls	D&T Cross-stitch and applique: Egyptian collars Introduce two new skills to add to the pupils' repertoire: cross stitch and appliqué. Pupils apply their knowledge to the design, decoration and assembly of Egyptian collars. Exploring pneumatics Designing a pneumatic toy Design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts. Pupil are introduced to thumbnail sketches and exploded diagrams.
Year 4	A&D Sculpture and 3D: Mega materials Drawing: Power prints	D&T Structure: Pavilions Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.	A&D Painting and mixed media: Light and dark	D&T Mechanical systems: making a slingshot car Transform lollipop sticks, wheels, dowel and straws into a moving car. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.	A&D Craft and design: Fabric of nature	D&T Electrical systems: Torches Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria.	D&T Cooking without a kitchen Adapting a recipe Work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit ensuring that their creation comes within the given budget of overheads and costs of ingredients.

							Evaluating fastenings Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate-use.
Year 5	D&T Cooking and Nutrition: What could be healthier? Research and modify a traditional recipe to make it healthier. Cook improved versions, creating appropriate packaging and learn about where the ingredients are sourced/the importance of animal welfare when farming	A&D Sculpture and 3D: interactive installation Architecture	D&T Mechanical systems: making a pop-up book Create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.	A&D Drawing: I need space	D&T Structures: Bridges After learning about various types of bridges and exploring how the strength of structures can be affected by the shapes used, create their own bridge and test its durability - using woodworking tools and techniques	A&D Painting and mixed media: portraits	D&T Textiles: stuffed toys Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch. Cooking without a kitchen
Year 6	A&D Art and Design Skills Painting and mixed media: artist study	D&T Textiles: waistcoats Select fabrics, use templates, pin, decorate and stitch materials together to create a waistcoat for a person or purpose of their choosing. Create or use a pattern template to fit a desired person or item	A&D Drawing and Sculpture: Make my voice heard	D&T Structure: Playgrounds Design and create a model for a new playground featuring five apparatus, made from three different structures. Using a footprint as the base, practise visualising objects in plan view and get creative including natural features.	A&D Still Life: Making memories	D&T Mechanical & Electrical Systems: Automata toys/Vehicles Use woodworking skills, pupils construct an automata/vehicle; measuring and cutting their materials, assembling the frame, choosing cams and designing the characters/ Explore how circuits can be adapted to suit different purposes, explore series circuits and apply to moving vehicle.	D&T Food: come dine with me Research and prepare a three-course meal and taste-test and score their food. Research the journey of their main ingredient from 'farm to fork' or write a favourite recipe.

