



NEWTON BLUECOAT CE PRIMARY SCHOOL



Design & Technology

Progression of Key Learning

Nursery to Year 6 • 2026–27

CURIOUS • CREATIVE • PRACTICAL • INNOVATIVE

“Shine from the inside out”

Purpose

This document makes the progression from EYFS designing, making and practical exploration into the school's Design & Technology curriculum explicit. It identifies the key learning that should become increasingly secure as children move from exploratory construction, joining, food preparation and problem-solving towards purposeful design, technical understanding, accurate making, testing, evaluation and independent improvement.

Progression at a glance

EYFS foundation. Children explore construction and malleable materials, join and combine resources, use simple tools, make choices, solve practical problems, talk about what they are making and take part in simple food experiences. Adults model safe use while encouraging children to adapt and develop their ideas.

Key Stage 1 foundations. Pupils identify a simple user and purpose, explore existing products, communicate ideas through talk and drawings, use basic tools and materials safely, make simple structures, mechanisms, textiles and food products, and discuss whether a product works.

Lower Key Stage 2 development. Pupils establish clearer design criteria, use annotated drawings and models, plan the order of work, select tools and techniques more purposefully, develop technical knowledge and test products against their intended purpose.

Upper Key Stage 2 depth. Pupils research and develop detailed specifications, communicate through annotated drawings, prototypes and models, choose materials and processes independently, make accurately and safely, combine systems, test rigorously and justify refinements.

The design process

RESEARCH	DESIGN	MAKE	EVALUATE	IMPROVE
Explore users, purpose and existing products	Generate, communicate and refine ideas	Select tools, materials and techniques	Test against criteria and purpose	Adapt, refine and strengthen the outcome

Designing – user, purpose, research & ideas

Stage	Key learning
Nursery	Choose resources in construction, role play and creative areas; build bridges and homes; use junk modelling to develop own ideas; begin to say what they are making and make simple choices about materials.
Reception	Build villages, towns, cities and 3D story maps; use construction and junk modelling for a chosen idea; select materials for a purpose and talk about what is being made, who it might be for and how it could work.
Year 1	Explore familiar products; identify a simple user and purpose; generate ideas through talk and simple drawings; choose from possible materials and begin to use simple design criteria.
Year 2	Investigate products and identify useful features; use drawings, templates and simple models to communicate ideas; make design choices for a named user and purpose.
Year 3	Establish clearer design criteria; use labelled drawings and models; consider function and appearance; plan the main stages of making and adapt ideas after discussion.
Year 4	Research relevant products and users; produce annotated designs and simple prototypes; explain choices of materials, components and construction methods.
Year 5	Use research to develop a design specification; compare alternatives; communicate ideas through annotated drawings, prototypes and models and justify key design decisions.
Year 6	Develop detailed specifications from research; communicate complex ideas through annotated drawings, prototypes, models and, where appropriate, computer-aided design; refine ideas in response to testing and constraints.

Making – tools, materials, accuracy & finish

Stage	Key learning
Nursery	Manipulate playdough and malleable materials; cut paper and junk materials; use glue, tape and other joining materials; build with blocks, crates and construction resources; learn to use tools safely with adult modelling.
Reception	Use scissors, glue, tape, clay, construction and junk-modelling resources with increasing control; select and combine materials; build 3D forms and improve stability or joining when needed.
Year 1	Select from a small range of tools and materials; measure, mark, cut, shape, join and assemble with support; use tools safely and begin to improve the finish of a product.
Year 2	Choose suitable tools and materials with greater independence; use templates; measure, cut, join and assemble more accurately; apply simple finishing techniques.

Stage	Key learning
Year 3	Plan an order of work; select appropriate tools and techniques; measure and mark with increasing accuracy; join components securely and improve the quality of finish.
Year 4	Use a wider range of tools and processes accurately and safely; cut, shape, join and assemble materials with precision; apply suitable finishes for function and appearance.
Year 5	Select materials and processes independently; work accurately with components and mechanisms; make adjustments during construction and aim for a high-quality finish.
Year 6	Choose and use tools, materials, components and processes independently and safely; make with precision; combine systems where appropriate and achieve a robust, functional and well-finished outcome.

Evaluating, testing & improving

Stage	Key learning
Nursery	Talk about what has been made; notice when a model falls or a join does not work; try another way with adult support; begin to express likes and dislikes.
Reception	Explain simple choices; test whether a construction stands, moves or works as intended; make changes to improve an idea and talk about the finished outcome.
Year 1	Talk about whether a product works for its purpose; identify something successful and something that could change; make a simple improvement.
Year 2	Test products during making; compare the outcome with simple design criteria; identify strengths and make practical improvements.
Year 3	Test products against their intended purpose and design criteria; explain what works, what does not and how the product could be improved.
Year 4	Evaluate throughout the design process; use evidence from testing to modify materials, construction, mechanisms or finish; explain improvements clearly.
Year 5	Test rigorously against a design specification; gather feedback where useful; justify strengths, weaknesses and modifications and refine the product.
Year 6	Critically evaluate ideas and outcomes against detailed specifications, user needs and constraints; use testing evidence to make purposeful refinements and justify final design decisions.

Structures & construction

Stage	Key learning
Nursery	Build with blocks, crates and large construction materials; make bridges and winter homes; explore how to balance, stack and join materials so constructions stay together.
Reception	Build villages, towns, cities and 3D story maps; explore stability, shape and joining; adapt constructions when they fall or do not meet the intended idea.
Year 1	Create simple freestanding structures such as 3D robots; explore ways to make structures stable, strong and secure.
Year 2	Apply knowledge of stable structures when constructing products; choose joining methods that help a product hold its shape and function.
Year 3	Design and make shell structures such as kites; explore how shape, material choice and strengthening can make a structure light but strong.
Year 4	Apply strengthening and stabilising techniques where needed; select suitable construction methods and explain how they improve performance.
Year 5	Design purposeful structures within more complex products; select materials for structural properties and reinforce or stabilise where necessary.
Year 6	Create robust structures that meet constraints, for example a Viking long ship or fairground ride; combine frame/shell knowledge with mechanisms or systems and evaluate structural performance.

Mechanisms, mechanical, electrical & digital systems

Stage	Key learning
Nursery	Explore cause and effect through moving toys, ramps, wheels and construction play; notice that pushing, pulling or changing parts can make things move.
Reception	Explore moving and balancing toys, construction and simple cause-and-effect resources; predict what may happen and adapt designs to make movement work.
Year 1	Use simple levers and sliders to create movement in a product such as a card; identify the moving part and explain simply how it works.
Year 2	Use wheels and axles to make a vehicle move successfully; understand the role of wheel, axle and chassis.
Year 3	Use levers and linkages to create controlled movement; identify pivot points and describe the type/direction of movement.
Year 4	Create a functional product containing a simple electrical circuit; understand how components work together. Develop control of mechanisms through purposeful design.

Stage	Key learning
Year 5	Combine cams, gears and pulleys to create controlled movement; understand input and output and make choices about mechanism for the intended effect.
Year 6	Combine structures with levers/pulleys and develop mechanical/electrical systems; use control, input/output, programming and computer-aided design where appropriate in complex working products.

Textiles

Stage	Key learning
Nursery	Explore fabric and other flexible materials in creative play; cut, stick, wrap, weave or join materials in simple ways; make choices about colour and texture.
Reception	Use weaving and mixed materials; cut and join flexible materials with increasing control; select materials to suit an imaginative or practical purpose.
Year 1	Explore simple ways of joining and decorating flexible materials; develop the fine-motor control needed for later textile work.
Year 2	Use a template and simple joining/stitching techniques to make a glove puppet; consider how the product will be used.
Year 3	Develop accuracy when measuring, cutting and joining textile pieces; begin to understand seams and functional construction.
Year 4	Design and make a functional textile product such as a purse; use seams, seam allowance and applique/decoration with increasing accuracy.
Year 5	Make a high-quality textile product such as an Amazon animal; select fabrics and joining methods, work accurately and consider function and appearance.
Year 6	Apply established textile knowledge independently where relevant; select suitable fabrics, seams, hems, joining and finishing methods and evaluate durability and quality.

Cooking & nutrition

Stage	Key learning
Nursery	Take part in simple cooking and food experiences such as soup, gingerbread and fruit printing/tasting; begin to follow hygiene routines and notice that ingredients can change when prepared or cooked.

Stage	Key learning
Reception	Explore where food comes from through farming and food-growth experiences; prepare simple foods with adult support; discuss healthy choices and use simple tools safely and hygienically.
Year 1	Prepare fruit kebabs and smoothies; understand that fruit and vegetables are part of a healthy and varied diet; use simple preparation techniques safely.
Year 2	Design and make a healthy wrap; select ingredients for taste and health; prepare food hygienically and safely.
Year 3	Design and prepare healthy snacks for a particular purpose; make informed choices about ingredients and use a wider range of preparation techniques.
Year 4	Adapt ingredients and techniques to create a successful bread product; understand seasonality and where ingredients are grown, reared, caught or processed.
Year 5	Create a healthier “fake away” inspired by foods from around the world; consider nutrition, flavour, culture and preparation techniques.
Year 6	Use knowledge of seasonality, nutrition and constraints to design and prepare a successful menu or dish; make justified ingredient choices and work safely and hygienically.

Thinking, talking & technical vocabulary

Stage	Key learning
Nursery	Use everyday words such as make, build, cut, stick, join, strong, fall, move and food; talk about choices and what happened during making.
Reception	Use increasingly precise words such as material, join, shape, stable, move, healthy and improve; explain what was made and why a change was needed.
Year 1	Use vocabulary such as design, product, purpose, function, user, criteria, plan, measure, join, finish, lever, slider, structure, stable and healthy.
Year 2	Add vocabulary including template, wheel, axle, chassis, fabric and stitch; explain simple technical choices and evaluate against criteria.
Year 3	Use vocabulary including design criteria, design brief, annotation, prototype, mechanism, linkage, linear, rotary, reciprocating, oscillating, shell structure and strengthen.
Year 4	Use technical terms such as circuit, battery, conductor, insulation, seam, seam allowance, applique, scoring, ribbing, laminated, seasonal, reared and harvested.
Year 5	Use vocabulary including design specification, innovation, design decisions, gear, cog, ratio, pulley, belt, drive, cam, input, output, reinforce, stabilise and nutrition.

Stage	Key learning
Year 6	Use precise technical vocabulary including system, control, program, flowchart, frame structure, gusset, exploded diagram, hygiene and seasonality; justify decisions and improvements using subject-specific language.

End-of-phase expectations

By the end of Nursery: Children confidently explore construction and malleable materials, use simple cutting and joining techniques, take part in practical food experiences, talk about what they are making and begin to solve practical problems by trying another way.

By the end of Reception: Children select and combine materials for a purpose, build and adapt 3D constructions, use simple tools with increasing control, test whether ideas work, make improvements and talk about healthy food and where food comes from.

By the end of Key Stage 1: Pupils identify a user and purpose, communicate simple ideas, select and use basic tools safely, measure/cut/join/assemble with growing control, apply introductory knowledge of structures, mechanisms, textiles and food, and evaluate whether products work.

By the end of Lower Key Stage 2: Pupils establish design criteria, use labelled/annotated drawings and models, plan making, select appropriate tools and techniques, work with increasing accuracy, apply technical knowledge of structures, mechanisms, electrical systems, textiles and cooking, and refine products through testing.

By the end of Key Stage 2: Pupils research users and products, develop detailed specifications, communicate through annotated drawings/prototypes/models and CAD where appropriate, select materials and processes independently, combine technical systems, make accurately and safely, and rigorously evaluate and refine outcomes.

Thinking like a designer

- Who is the product for and what does it need to do?
- What can I learn from existing products?
- Which materials, components and techniques are most suitable, and why?
- How will I communicate and test my idea before making the final product?
- Does the product meet the design criteria or specification?
- What evidence from testing tells me what to improve?
- Can I explain and justify my design decisions using technical vocabulary?