Moredon Primary and Nursery School

Progression Skills Document – DT

Early Years Foundation Stage and The National Curriculum

By the end of each Key Stage children are expected to:

EYFS	KS1	KS2
Physical Development **30-50 months** Uses one-handed tools and equipment, e.g. makes snips in paper with child scissors. **40-60 months** Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control. Shows a preference for a dominant hand. **ELG –** Children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively, including pencils for writing. **Exploring and Using Media and Materials** **30-50 months** Explores colour and how colours can be changed. Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects. Realises tools can be used for a purpose. **40-60 months** Explores what happens when they mix colours. Experiments to create different textures. Understands that different media can be combined to create new effects. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using. **ELG** - Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. When designing and making, pupils should be taught to: Design Design purposeful, functional, appealing products for themselves and other users based on design criteria. • generate develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Make Select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing. • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Evaluate Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms, such as levers, sliders, wheels and axles, in their products. Cooking and nutrition Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. When designing and making, pupils should be taught to: Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design. Make Select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately. • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluate Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages. Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors. Apply their understanding of computing to programme, monitor and control their products. Cooking and nutrition

		Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

Area of skill as identified in the curriculum	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
To master practical skills - Food	• Cut, peel or grate ingredients safely and hygienically. • Assemble or cook ingredients	Measure or weigh using measuring cups or electronic scales.	• Prepare ingredients hygienically using appropriate utensils. • Follow a recipe	• Measure ingredients to the nearest gram accurately. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).	•Demonstrate a range of baking and cooking techniques	•Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.

Moredon Primary and Nursery School

Progression Skills Document – DT

						•Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Key Vocabulary	**Cut, peel, grate, healthy, safely, ingredients. Assemble, cook, combine, mix, make**	**Measure, weigh, weight, scales, balance, precise,**	**Prepare, make, measure, ingredients, recipe, follow, precise, hygienic, equipment, utensils,**	**Measure, precise, ingredients, accurately, nearest, mix, assemble, ingredients**	**Measure, precise, ingredients, accurately, bake, heat, nearest, mix, assemble, ingredients**	**Measure, precise, ingredients, accurately, bake, heat, nearest, mix, assemble, ingredients**
To master practical skills - Materials	•Cut materials safely using tools provided.	• Measure and mark out to the nearest centimetre. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	•Cut materials accurately and safely by selecting appropriate tools. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs.	• Measure and mark out to the nearest millimetre. • Select appropriate joining techniques.	•Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).	• Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).
Key Vocabulary	**Safely, safety, cut, scissors, materials**	**Measure, mark, cm, cut ,scissors, tear, rip, fold, curl, clue, hinge, strengthen, materials**	**Tools, measure, strengthen, scissors, attach, perimeter, materials**	**Cm, mm, mark, measure, precise, glue, join, attach, materials**	**Cm, mm, mark, measure, precise, glue, join, attach, shape, refine, finishing, materials**	**cm, mm, mark, measure, precise, glue, join, attach, shape, refine, finishing, quality, materials**
To master practical skills - Textiles	•Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).	•Shape textiles using templates. • Join textiles using running stitch.	•Understand the need for a seam allowance. • Join textiles with appropriate stitching.	• Select the most appropriate techniques to decorate textiles	•Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).	• Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for comfort on a cushion).
Key Vocabulary	Textile, colour, decorate, technique, dyeing, finishing off.	Textile, colour, decorate, technique, dyeing, finishing off., join, template, sow, running stitch,	Textiles, seam, sow, stitch, running stitch, seam allowance,	Textile, decorate, technique,	Seam allowance, join, stitch, back stitch, textiles	Visual, tactile, textiles, Seam allowance, join, stitch, back stitch, textiles
To master practical skills - Electrical and electronics	•Find faults in battery operated devices (such as low battery, water damage or battery terminal damage).	•Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	• Create series of circuits.	• Create series and parallel circuits	• Create circuits using electronics kits that employ a component(such as LEDs, resistors, transistors and chips).	• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).
Key Vocabulary	Faults, devices, battery, mains, electric, electronics,	Faults, devices, battery, mains,, diagnosis, electrics, electronics,	electrics, electronics, circuits, series	electrics, electronics, circuits, parallels, series	electrics, electronics, circuits, parallels, series, electronic kits,	electrics, electronics, circuits, parallels, series, electronic kits, LEDs, resistors,
To master practical skills - Computing	• Use different software.	• Model designs using software.	• Control models using software designed for this purpose.	• Control and monitor models using software designed for this purpose.	• Write code to control and monitor models.	• Write code to control and monitor models or products
Key Vocabulary	Computing, software,	Computing, software,	Models, Computing, software,	Models, Computing, software,	Code, control, model, monitor	Code, control, model, monitor

Moredon Primary and Nursery School

Progression Skills Document – DT

To master practical skills - Construction	• Experiment with different materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.	• Use materials to for drilling, screwing, gluing and nailing materials to make and strengthen products.	• Choose suitable techniques to construct products or to repair items.	• Strengthen materials using suitable techniques.	•Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding).	• Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding).
Key Vocabulary	Drilling, screwing, nailing, strengthen, construct	Drilling, screwing, nailing, strengthen, construct	Construct, repair, fix	Construct, repair, fix, strengthen,	Construct, make, create, technique,	Construct, make, create, technique,
To master practical skills - Mechanics	•look at products using levers, wheels and winding mechanisms	• Create products using levers, wheels and winding mechanisms.	• Begin to use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	Convert rotary motion to linear using cams	. • Use innovative combinations of electronics (or computing) and mechanics in product designs.
Key vocabulary	Mechanics, levers, wheels, winding mechanisms,	Mechanics, levers, wheels, winding mechanisms,	Mechanics mechanisms,, transference, forces,	Mechanics mechanisms,, transference, forces,	Mechanics mechanisms,, transference, forces,, convert, rotary, linear, motion	Mechanics mechanisms,, transference, forces,, convert, rotary, linear, motion, combination
To design, make, evaluate and improve.	•Design products that have a clear purpose and an intended user.	• Make products, refining the design as work progresses. • Use software to design.	•Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials).	• Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs.	• Make products through stages of prototypes making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate	•Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.
Key vocabulary	Purpose, intended, use, evaluate,	Purpose, intended, use, evaluate, software	Efficiently, identify, purpose	Efficiently, identify, purpose, refine, represent,	Porotypes, evaluate, refinements, finish	Porotypes, evaluate, refinements, finish
To take inspiration from design throughout history.	• Explore objects and designs to identify likes and dislikes of the designs.	• Suggest improvements to existing designs. • Explore how products have been created.	• Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.	• Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.	• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.	• Create innovative designs that improve upon existing products . • Evaluate the design of products so as to suggest improvements to the user experience.
Key vocabulary	Explore, identify, likes, dislikes, why	Explore, identify, likes, dislikes, why, improvements, existing designs	Identify, designers, pioneers, horticultural,	Improve, disassemble,	Inspirational designers, history,, past, present	Innovate, improve, existing products, suggestions