Northway Primary and Nursery School Progression in DT

Where possible across all areas: Identify great designers and their work and use research of designers to influence work

<table>
<tr><td>EYFS</td><td colspan="6">During the year children in EYFS will continuously revisit the following skills, which are the building blocks to our KS1 Design Technology curriculum:

• Know that different media can be combined to create new effects
• Selects tools and techniques needed to shape, assemble and join materials they are using and explain the processes they have used.
• Know and understand that different materials can be used to create
• Experiment with colour, design, texture, form and function
• Use what they have learnt about media and materials in original ways, thinking about uses and purposes
• Represent their own ideas, thoughts and feelings through design and technology
• Manipulate materials to achieve a planned effect
• Use simple tools and techniques competently and appropriately
• Return to and build on their previous learning, refining ideas and developing their ability to represent them</td></tr>
<tr><td></td><td>Y1</td><td>Y2</td><td>Y3</td><td>Y4</td><td>Y5</td><td>Y6</td></tr>
<tr><td>National Curriculum (Designing)</td><td colspan="2">Pupils should be taught to:
 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</td><td colspan="4">Pupils should be taught to:
 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</td></tr>
</table>

Designing Understanding contexts, users and purposes	*Begin to think about the purpose of the design and the intended user* *Begin to explore materials, make templates and mock ups e.g. moving picture / lighthouse*	*State the purpose of the design and the intended user* *Explore materials, make templates and mock ups e.g. moving picture*	*Begin to gather information about the needs and wants of particular individuals and groups* *Begin to develop their own design criteria and use these to inform their ideas* *Begin to research designs*	*Gather information about the needs and wants of particular individuals and groups* *Develop their own design criteria and use these to inform their ideas* *Research designs*	*Carry out research, using surveys, interviews, questionnaires and web-based resources* *Identify the needs, wants, preferences and values of particular individuals and groups* *Develop a simple design specification to guide their thinking* *Recognise when their products have to fulfil conflicting requirements*	
Generating, developing, modelling and communicating ideas	*Begin to generate own ideas for design by drawing on own experiences or from reading*	*Generate own ideas for design by drawing on own experiences or from reading*	*Share and clarify ideas through discussion* *Model their ideas using prototypes and pattern pieces* *Use annotated sketches, cross-sectional drawings and diagrams*		*Generate innovative ideas, drawing on research* *Make design decisions, taking account of constraints such as time, resources and cost* *Develop prototypes* *Use computer-aided design*	

National Curriculum (Making)	Pupils should be taught to: • select from and use a range of tools and equipment to perform practical tasks [e.g. 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 characteristic		Pupils should be taught to: • select from and use a wider range of tools and equipment to perform practical tasks [e.g. 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 *Follow procedures for safety* *Use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components*			
Making Practical skills and techniques	*Follow procedures for safety* *Begin to use and make own templates* *Begin to measure, mark out, cut out and shape materials and components (supported if needed)* *Begin to assemble, join and combine materials and components (supported if needed)* *Use simple fixing materials e.g. temporary – paper clips tape and permanent – glue, staples* *Use finishing techniques (including those from art and design)*	*Follow procedures for safety* *Use and make own templates* *Measure, mark out, cut out and shape materials and components* *Assemble, join and combine materials and components* *Explain reasons for choice of fixing materials* *Think carefully about finishing techniques (including those from art and design)*	*Begin to measure, mark out, cut and shape materials and components with some accuracy* *Assemble, join and combine materials and components with some accuracy* *Apply a range of finishing techniques, include those from art and design, with some accuracy*	*Measure, mark out, cut and shape materials and components with some accuracy* →	*Accurately measure to nearest cm/ mm mark out, cut and shape materials and components* *Accurately assemble, join and combine materials/components* *Accurately apply a range of finishing techniques, including those from art and design* → *Demonstrate resourcefulness, e.g. make refinements*	*Accurately measure to nearest mm, mark out, cut and shape materials and components* *Use techniques that involve a number of steps* *Refine design and explain reasons for refinement*
Planning and Making	*Make a plan of their product*	*Plan by suggesting what to do next* *Select from a range of tools and equipment*	*Select tools and equipment suitable for the task*	*Explain their choice of tools and equipment in relation to the skills and techniques*	→	→

	Use a range of tools and equipment safely and correctly *Choose appropriate materials and components for their product*	*(explaining their choices)* *Select from a range of materials and components according to their characteristics*	*Select materials and components suitable for the task* *Order the main stages of making* *Produce detailed lists of tools, equipment and materials that they need*	*they will be using* *Explain their choice of materials and components according to functional properties and aesthetic qualities*	*Formulate step-by-step plans as a guide to making*	
National Curriculum (Evaluating)	Pupils should be taught to: □ explore and evaluate a range of existing products □ evaluate their ideas and products against design criteria		Pupils should be taught to: □ 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 *Investigate - how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes and how well products meet user needs and wants*			
Evaluating Existing products	*Begin to investigate and understand - what products are, who they are for, how they are made and what materials are used*	*Investigate - what products are, who they are for, how they are made and what materials are used*	*Investigate - who designed and made the products, where products were designed and made, when products*		*Investigate - how much products cost to make, how innovative products are and how sustainable the materials in products are*	

			were designed and made and whether products can be recycled or reused			
Own ideas and products	*Talk about their design ideas and what they are making* *Suggest how their products could be improved*	*Make simple judgements about their products and ideas against design criteria* *Evaluating products and components used*	*Identify the strengths and weaknesses of their ideas and products* *Consider the views of others, including intended users, to improve their work*	→	*Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make* *Compare their ideas and products to their original design specification*	→
National Curriculum (Technical Knowledge)	Pupils should be taught to: □ build structures, exploring how they can be made stronger, stiffer and more stable □ explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products		Pupils should be taught to: □ apply their understanding of how to strengthen, stiffen and reinforce more complex structures □ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] □ understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors] □ apply their understanding of computing to program, monitor and control their products *Understand how to use learning from science and maths to help design and make products that work* *Know that materials have both functional properties and aesthetic qualities* *Know that materials can be combined and mixed to create more useful characteristics* *Know that mechanical and electrical systems have an input, process and output* *Use the correct technical vocabulary for the projects they are undertaking*			

Technical knowledge	*Understand about the simple working characteristics of materials and components* *Understand about the movement of simple mechanisms: levers, sliders* *Understand how to securely join two pieces of fabric together*	*Understand about the simple working characteristics of materials and components* *Understand about the movement of simple mechanisms: wheels and axles* *Understand how freestanding structures can be made stronger, stiffer and more stable*	*Understand how levers and linkages create movement* *Know that a single fabric shape can be used to make a 3D textiles product*	*Understand how cams, pulleys and gears create movement* *Know how to make strong, stiff shell structures*	*Understand how simple electrical circuits and components can be used to create functional products* *Know how to reinforce/strengthen a 3D framework* *Understand how to program a computer to control their products* *Understand how pneumatic systems create movement*	*Understand how to use knowledge of structures, electrical systems and mechanisms to create a fairground ride.*
← *Know the correct technical vocabulary for the projects they are undertaking* →						
National Curriculum (Cooking and Nutrition)	Pupils should be taught to: □ use the basic principles of a healthy and varied diet to prepare dishes □ understand where food comes from		Pupils should be taught to: □ 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 *How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source* *How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking*			
Cooking and Nutrition Where food comes from	***Know where food comes from*** *– all food comes from plants or animals*	***Know where food comes from*** *-food has to be farmed, grown elsewhere (e.g. home) or caught*	***Know that food is grown*** *(such as tomatoes, wheat and potatoes),* ***reared*** *(such as pigs, chickens and cattle)* ***and***	*Know that seasons may affect the food available* *Know that food ingredients can be fresh, pre-*	*Understand how food is processed into ingredients that can be eaten or used in cooking*	*Know that a recipe can be adapted a by adding or substituting one or more ingredients*

			caught *(such as fish) in the UK, Europe and the wider world*	*cooked and processed*		
Cooking and nutrition Food preparation	*Prepare simple dishes safely and hygienically, without using a heat sources* *Use techniques such as cutting and spreading* *Name and sort foods into the five groups of the 'eat well' plate*	*Use appropriate equipment to weigh and measure ingredients* *Know that everyone should eat at least five portions of fruit and vegetables every day* *Understand that food ingredients should be combined according to their sensory characteristics*	*Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate* *Measure using grams*	*Know that to be active and healthy, food is needed to provide energy for the body* *Follow a recipe*	*Know that different foods contain different substances - nutrients, water and fibre - that are needed for health* *Understand the need for correct storage and is aware that there are date marks ('use by' and 'best before') on foods* *Measure accurately*	*Know that recipes can be adapted to change the appearance, taste, texture and aroma* *Work out ratios in recipes*

Cooking and Nutrition progression statements

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ingredients	Able to recognise and name a basic range of ingredients.		Can recognise and name an increasing range of ingredients.		Knows that there are a vast range of ingredients used around the world and can name a variety.	
		Can give examples of ingredients that come from shops, markets and can be grown at home.		Is able to explain where to find different ingredients in a shop.		Is able to describe and demonstrate how to grow some foods.
Tasting	Willing to taste different foods.		Confident to taste new foods and can use basic language to describe them.		Willing to taste a wide range of known and unknown foods and can describe them using sensory vocabulary.	
		Willing to taste foods and say whether they like them or not.		Confident in tasting foods and describing why they like them or dislike them.		Confident in describing foods using extensive sensory vocabulary and completing tasting evaluations.
Healthy eating	We need food and drink to stay alive.		People around the world choose and combine different foods and drinks to make meals and snacks.		Food (and some drinks) provide energy for the body so we can be active and stay healthy.	
		We need a variety and balance of food (and drinks) to stay healthy, as depicted in the eatwell guide.		We need to eat foods in the proportions shown by the eatwell guide as well as eating a variety of foods from the largest food groups to be healthy.		Nutrients, vitamins, minerals and water are needed for health and are acquired by eating a variety of foods.
Equipment	Is able to name a basic range of cooking equipment.		Names an increasing range of cooking equipment and explain what it does.		Describes an extended range of cooking equipment, explain its function and how it is designed for its purpose.	
		Explains the purpose of a basic range of cooking equipment.		Is able to choose the most appropriate equipment for instructions given.		Is able to use knowledge and skills to work out how unknown pieces of equipment function.

Skills	Recognise and name a range <u>of basic cooking skills with support</u>. For example: • *Peel (with a peeler)* • *Mix (with increasing thoroughness)* • *Spread (soft ingredients)* • *Measure (with measuring spoons)* • *Snip with kitchen scissors* • *Grate (soft foods)* • *Shape* • *Mash* • *Juice (juicer)* • *Cut (soft foods) using:* *- Fork secure* *- Claw grip* *- Bridge hold (and mini bridge)*		Names and uses a range of cooking skills with <u>increasing competence</u>. For example: • *Peel (with a peeler)* • *Mix (thoroughly)* • *Spread (evenly over food)* • *Measure (with measuring jug and scales)* • *Snip with kitchen scissors (with great control)* • *Grate (firmer foods like carrots)* • *Shape (with greater precision)* • *Cut out with cutters* • *Spoon ingredients (using two spoons)* • *Arrange (attractively)* • *Crack an egg* • *Cut (soft foods progressing to firmer foods) using:* *- Fork secure* *- Claw grip* *- Bridge hold (and mini bridge)*		Names and uses a range of cooking skills <u>with confidence and accuracy</u> to prepare <u>increasingly challenging ingredients</u>. For example: • *Peel (to create ribbons, e.g. carrots, courgettes)* • *Mix (fold ingredients together e.g. flour into a mixture)* • *Measure accurately (using digital scales, analogue scales, measuring jug)* • *Grate (with greater control and skill, e.g. zest from a lemon)* • *Cut out with cutters (positioning carefully to avoid wastage)* • *Cut (firm foods) using:* *- Fork secure* *- Claw grip* *- Bridge hold (and mini bridge)*	
Hygiene and safety	Can get themselves ready to cook <u>with help and reminders</u>.		Can <u>get themselves ready to cook and remember</u> what they need to do.		Can get themselves ready to cook, <u>talk about and demonstrate</u> what they should do during and after cooking.	
		Is able to give <u>some examples</u> of foods which should be kept in the fridge, cupboard or freezer.		Knows that there are <u>storage instructions</u> on most food packaging and can identify and use these.		Is aware that there are <u>date marks</u> ('use by' and 'best before') on foods, can identify and use these.
Where food comes from	Knows all food comes from plants and animals and can give some basic examples.		Can name foods which grow above ground (on bushes, trees and vines) and those which grow below ground.		Can say which part of a plant or animal different foods come from.	
		Is able to sort a number of foods into plant or animal groups.		Can name the sources of common ingredients found in different dishes and meals.		Finds out about the ingredients used in different dishes, where ingredients come from and how they are produced/processed.