DT Milestones

Design

EYFS	Milestone 1	Milestone 2	Milestone 3
Expressive Arts and Design (Creating with materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used.	**KS1 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.

Physical Development (Fine Motor Skills) • Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases. • Use a range of small tools, including scissors, paintbrushes and cutlery.	• use their knowledge of existing products and their own experience to help generate their ideas. • design products that have a purpose and are aimed at an intended user • explain how their products will look and work through talking and simple annotated drawings. • design models using simple computing software. • plan and test ideas using templates and mock-ups. • understand and follow simple design criteria. • work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	• identify the design features of their products that will appeal to intended customers. • design innovative and appealing products that have a clear purpose and are aimed at a specific user. • explain how particular parts of their products work. • use annotated sketches and cross-sectional drawings to develop and communicate their ideas. • when designing, explore different initial ideas before coming up with a final design. • when planning, start to explain their choice of materials and components including function and aesthetics. • test ideas out through using prototypes. • develop and follow simple design criteria.	• use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market. • use their knowledge of a broad range of existing products to help generate their ideas. • design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user. • explain how particular parts of their products work. • use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas. • generate a range of design ideas and clearly communicate final designs. • consider the availability and costings of resources when planning out designs.
VOCABULARY			
	purpose, develop, model, template, information, materials, mock up, function, product, media, appeal, prototype, audience	appeal, criteria, research, preference, purpose, intended user, parts, idea, needs and wants, product, annotate, sketch, prototype, patterns, annotations, notes, cross sections, drawings, sketches, realistic, decide, diagram, model	leisure, culture, enterprise, industry, surveys, interviews, appealing, fit for purpose, questionnaires, preference, individuals, groups, design features, needs, wants, functional, research, value, prototype, cross section, sketch, generate, model, develop, step by step, annotate, discuss, decisions,

			time, plans, guide, cost, resources, clarify, ideas, constraints

Make

EYFS	Milestone 1	Milestone 2	Milestone 3
Expressive Arts and Design (Creating with materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**KS1 Design and Technology National Curriculum** 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 making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	**KS2 Design and Technology National Curriculum** 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 making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. They 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.	**KS2 Design and Technology National Curriculum** 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 making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. They 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.

Expressive Arts and Design (Being Imaginative and Expressive) • Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. **Physical Development (Fine Motor Skills)** • Hold a pencil effectively. • Use a range of small tools, including scissors, paintbrushes and cutlery.	**Planning:** • 1.begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer. • 2. with support, follow a simple plan or recipe **Practical skills and techniques:** • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures. • use a range of materials and components, including textiles and food ingredients. • demonstrate how to cut, shape, and join fabric to make a simple product. • begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. • with help, measure, and mark out. • cut, peel, and grate ingredients, including measuring and weighing ingredients using measuring cups.	**Planning:** • with growing confidence, carefully select from a range of tools and equipment, explaining their choices. • place the main stages of making in a systematic order. **Practical skills and techniques:** • learn to use a range of tools and equipment safely, appropriately, and accurately and learn to follow hygiene procedures. • use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components. • with growing independence, measure and mark out to the nearest cm and millimetre. • cut, shape, and score materials with some degree of accuracy.	**Planning:** • independently plan by suggesting what to do next. • with growing confidence, select from a wide range of tools and equipment, explaining their choices. • select from a range of materials and components according to their functional properties and aesthetic qualities. • create step-by-step plans as a guide to making. **Practical skills and techniques:** • learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures. • independently take exact measurements and mark out, to within 1 millimetre. • use a full range of materials and components, including construction materials and kits, textiles, and mechanical components. • cut a range of materials with precision and accuracy. • shape and score materials with precision and accuracy. • assemble, join and combine materials and components with accuracy. • demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product. • join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch. • refine the finish using techniques to improve the appearance of their product, such as sanding, or a more precise scissor cut after roughly cutting out a shape.

Vocabulary			
	Structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder	Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating	Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief

Evaluate

EYFS	Milestone 1	Milestone 2	Milestone 3
Expressive Arts and Design (Creating with materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**KS1 Design and Technology National Curriculum** 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. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria.	**KS2 Design and Technology National Curriculum** 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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world.	**KS2 Design and Technology National Curriculum** 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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world.

Expressive Arts and Design (Being Imaginative and Expressive) Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. **Physical Development (Fine Motor Skills)** Hold a pencil effectively. Use a range of small tools, including scissors, paintbrushes and cutlery.	• explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations. • explain positives and things to improve for existing products. • explore what materials products are made from. • talk about their design ideas and what they are making. • as they work, start to identify strengths and possible changes they might make to refine their existing design. • 6. evaluate their products and ideas against their simple design criteria.	• explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose. • explore what materials/ingredients products are made from and suggest reasons for this. • 3.consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product. • evaluate their product against their original design criteria. • 5. evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.	• complete detailed competitor analysis of other products on the market. • critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make. • 3. evaluate their ideas and products against the original design criteria, making changes as needed.
Vocabulary			
	evaluate, improve, design, product, criteria, judge	criteria, evaluate, product, purpose, user, needs, design, construction, methods, strengths, areas for development, view, preference, reasons, improve, inventor, designer, manufacturer, products, names of inventors:	suitable, manufacture, innovate, sustainability, construction, effective, designed, suitable, successful, improvement, intended, impact, materials, products, functional, investigate, methods, analyse, existing, strengths, areas for development, views, developing, criteria, improve, evaluate, quality, inventor, designer, manufacturer, inventors names,

Technical knowledge

EYFS	Milestone 1	Milestone 2	Milestone 3
Expressive Arts and Design (Creating with materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**KS1 Design and Technology National Curriculum** Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. .	**KS2 Design and Technology National Curriculum** Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products.	**KS2 Design and Technology National Curriculum** Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products.
Expressive Arts and Design (Being Imaginative and Expressive) Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. **Physical Development (Fine Motor Skills)** Hold a pencil effectively. Use a range of small tools, including scissors, paintbrushes and cutlery.	• build simple structures, exploring how they can be made stronger, stiffer and more stable. • talk about and start to understand the simple working characteristics of materials and components. • explore and create products using mechanisms, such as levers, sliders and wheels.	• apply their understanding of how to strengthen, stiffen and reinforce more complex structures to create more useful characteristics of products. • understand and demonstrate how mechanical and electrical systems have an input and output process. • explain how mechanical systems such as levers and linkages create movement. • use mechanical systems in their products. • understand that materials have both functional properties and aesthetic qualities. • make and represent simple electrical circuits, such as a series and parallel,	• apply their understanding of how to strengthen, stiffen and reinforce more complex structures to create more useful characteristics of products. • understand and demonstrate that mechanical and electrical systems have an input, process and output. • explain how mechanical systems, such as cams, create movement and use mechanical systems in their products. • apply their understanding of computing to program, monitor and control a product.

		and components to create functional products.	
Vocabulary			
	Mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull/push, down, straight, work, design, evaluate, purpose	Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality

Cooking and Nutrition

EYFS	Milestone 1	Milestone 2	Milestone 3
Expressive Arts and Design (Creating with materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**KS1 Design and Technology National Curriculum** Children use the basic principles of a healthy and varied diet to prepare dishes. They understand where food comes from.	**KS2 Design and Technology National Curriculum** Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.	**KS2 Design and Technology National Curriculum** Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
Expressive Arts and Design (Being Imaginative and Expressive)	1.explain where in the world different foods originate from.	1.start to know when, where and how food is grown (such as herbs, tomatoes and	

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. **Physical Development (Fine Motor Skills)** Hold a pencil effectively. Use a range of small tools, including scissors, paintbrushes and cutlery.	2.understand that all food comes from plants or animals. 3.understand that food must be farmed, grown elsewhere (e.g., home) or caught. 4.name and sort foods into the five groups in the Eatwell Guide. 5.understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why. 6. use what they know about the Eatwell Guide to design and prepare dishes.	strawberries) in the UK, Europe and the wider world. 2. understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically. 3. use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking. 4.explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes. 5. understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body. prepare ingredients using appropriate cooking utensils. 6. start to independently follow a recipe. 7. measure and weigh ingredients to the nearest gram and millilitre.	1. know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world. 2. understand about seasonality, how this may affect the food availability and plan recipes according to seasonality. 3. understand that food is processed into ingredients that can be eaten or used in cooking. 4. demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. 5. demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling. 6. explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes. 7. adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma. 8. alter methods, cooking times and/or temperatures.
Vocabulary			
	healthy, unhealthy, source, fruit, vegetables, clean, safe, dirty, unsafe, amount, ingredients, recipe, weight, nutrients, vegetarian, dietary requirements	Healthy & Varied Diet: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested.	Celebrating Culture & Seasonality: Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, knead, whisk, beat, combine, fold, rubbing in

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cut	Axel	Designer	Accuracy	Components	Affordable
Design	Joining	Evaluate	Bake	Features	Appropriate
Join	Lever	Folding	Boil	Ingredients	Commercial
Made	Rolling	Healthy	Folding	Plaiting	Connections
Make	Scissors	Mixing	Hacksaw	Research	Desirable
Measure	Stitch	Product	Hygiene	Strength	Durable
Neat	Strong	Purpose	Measure	Structural	Embroidery
Tidy	Turning	Structure	Properties	Technique	Experiment
Tools	Wheels	Utensil	Scoring	Visual	Influence
Work			Column	Weaving	Template