2023 - 2024

Coates Primary School

Subject DT	Overview and goals	Knowledge & Skills	Concepts
EYFS	*Construct with a purpose in mind, using a variety of resources * Use simple tools and techniques competently and appropriately *Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary * Select the tools and techniques they need to shape, assemble and join materials they are using	**Exploring and using media and materials** Exploring and using media and materials Manipulates materials to achieve a particular 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. Being imaginative Create simple representations of events, people and objects **Being imaginative** Create simple representations of events, people and objects.	DT-related activities in the EYFS should be appropriate to the developmental stage of the children. Effective practice in the EYFS has the following characteristics: • Designing does not necessarily entail drawing • Designing can mean using hand gestures, arranging and re-arranging materials and components, talking and listening • Designing is usually intuitive • The designing and making process is fluid • Sometimes practical skills are taught directly • Children have frequent opportunities to develop practical skills with a range of materials • Children have frequent opportunities to explore construction kits • Children have frequent opportunities to explore existing products • Activities are appropriate to children's prior experience • Context is sometimes set by teacher, sometimes by the children.
Y1	**Processes - Designing, Making & Evaluating** • generate ideas and recognise characteristics of familiar products • use pictures and words to describe what he/she wants to do • select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing • choose materials and explain why they are being used • explore and evaluate a range of existing products	**Generating Ideas** Think of own ideas for design. Use pictures and words to plan. Design a product for myself, following design criteria. Work in a range of contexts (imaginary, home, school, wider community, story based). **Making** Explain what is being made and why. Select appropriate tools and equipment for the purpose. **Evaluation** Talk about own and pre-existing products, saying what is good or bad about them. Say whether their product does what it is meant to (fits the design brief) and how it could be improved.	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 Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction

	• build structures, exploring how they can be made stronger, stiffer and more stable • use levers and slide Being imaginative Create simple representations of events, people and objects.rs **Cooking & Nutrition** • cut food safely	**Food & Nutrition** Know how to peel, cut, grate, mix and mould foods (with close supervision) **Construction** Use sheet materials and construction tools with appropriate supervision. **Mechanisms** Know about movement of simple mechanisms such as levers, sliders, wheels and axels.	materials, textiles and ingredients, according to their characteristics. 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 [for example, levers, sliders, wheels and axles], in their products.
Y2	**Processes - Designing, Making & Evaluating** • design purposeful, functional, appealing products for himself/herself and other users based on design criteria • generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • choose materials and explain why they are being used depending on their characteristics • evaluate his/her ideas and products against design criteria • join materials together as part of a moving structure • explore and use mechanisms e.g. levers, sliders, wheels and axles, in his/her products **Cooking & Nutrition**	**Generating Ideas** Think of own ideas and plan what to do next. Describe designs using pictures, diagrams, models, mock-ups, words and ICT. Design a product for myself and others, following design criteria. Work confidently in a range of contexts (imaginary, home, school, wider community, story-based etc). **Making** Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, describing and explaining why they are being used. **Evaluation** Describe how their own and pre-existing products work, evaluating what went well and what could be done differently. Suggest what went well and what would be done differently when evaluating their own product. ***Food & Nutrition*** *Know how to peel, cut, grate, mix and mould foods (with supervision).* ***Construction*** *Use sheet materials and construction tools with appropriate supervision.* **Textiles** Cut, then join textiles using a running stitch, over sewing or glue. Decorate using a range of items (buttons, sequins, beads, ribbons etc).	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 Select from and use a range of tools and equipment to perform practical tasks [for example, 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. 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 [for example, levers, sliders, wheels and axles], in their products.

	• understand the need for a variety of food in a diet • group familiar food groups e.g. fruit and vegetables • measure and weigh food items – using informal methods		
Y3	**Processes - Designing, Making & Evaluating** demonstrate that his/her design meets a range of requirements • complete a plan that shows the order and also what equipment and tools he/she needs • use equipment and tools accurately • explain how he/she has selected appropriate materials and components to create a finished product that will be of good quality • investigate and analyse a range of existing products • strengthen frames using diagonal struts • use a simple circuit in his/her product **Cooking & Nutrition** • say what to do to be hygienic and safe • begin to be able to read and understand food labels • measure and weigh ingredients appropriately	**Generating Ideas** Create a design that meets a range of requirements. Consider the equipment and tools needed when planning. Describe a design using an accurately labelled diagram, and in words. **Making** Use a range of tools and equipment accurately. Measure, mark out, assemble and join materials and components with some accuracy. **Evaluation** Evaluate own and pre-existing products. Suggest what could be changed to improve a design, beginning to link this to the design brief. ***Food & Nutrition*** *Know how to peel, cut, grate, mix, mould and begin to cook foods (using toasters and microwaves with supervision).* ***Construction*** *Use sheet materials and construction tools with appropriate supervision.* ***Mechanisms*** *Know about movement of simple mechanisms such as levers and linkages.*	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 Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 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 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 [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products.
Y4	**Processes - Designing, Making & Evaluating** • investigate similar products to the one to be made to give starting points for a design • generate alternative plans and expound on the good points and drawbacks of his/her original design • select from and use a wider range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing, accurately • explain how his/her choices of materials and components have contributed to the aesthetic qualities of his/her finished product • consider how the finished product might be improved and how well it meets the needs of the user • join and combine materials and components accurately in temporary and permanent way • understand and use mechanical systems in his/her products e.g. gears, pulleys, cams, levers and linkages **Cooking & Nutrition** • understand what makes a healthy and balanced diet and that different foods and drinks provide different substances the body needs to be healthy and active •	**Generating Ideas** Generate more than one idea for how to create a product. Gather information to help design a successful product (i.e. by asking others' views). Produce a detailed plan with labelled diagrams, a written explanation and step-by-step guide. Suggest improvements to develop and refine a planned idea. **Making** Use a range of tools and equipment with accuracy. Measure, mark out, join, and assemble materials and components with accuracy. **Evaluation** Evaluate the appearance and usability of own and pre-existing products. Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief. ***Food & Nutrition*** *Know how to peel, cut, grate, mix, mould and begin to cook foods (using toasters and microwaves with supervision).* ***Construction*** *Use sheet materials and construction tools with appropriate supervision.* ***Textiles*** *Cut, then join textiles using a running stitch, over sewing, back stitch or fastenings. Understand seam allowances, create simple patterns and appropriate decoration techniques (e.g. applique).*	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 Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 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 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures

	understand seasonality and know how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat		Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products.
Y5	**Processes - Designing, Making & Evaluating** • 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 • create prototypes to show his/her ideas • use tools and materials precisely • 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 his/her ideas and products against his/her own design criteria and consider the views of others to improve his/her work • apply his/her understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use electrical systems in his/her products e.g. series circuits incorporating switches, bulbs, buzzers and motors **Cooking & Nutrition**	**Generating Ideas** Generate a range of ideas after collating relevant information (i.e. users' views). Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each. **Making** Use a range of tools and equipment expertly. Consider the aesthetic qualities and functionality of my work when making. **Evaluation** Evaluate the appearance and function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose. Suggest improvements that could be made, considering materials and methods that have been used. ***Food & Nutrition*** *Cut, mix, mould and begin to use hobs to heat food with appropriate supervision.* **Construction** Use sheet and construction materials appropriately. **Mechanisms** Understand how mechanical systems such as cams, pulleys or gears create movement.	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 Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 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

	• know appropriate portion sizes and the importance of not skipping meals, including breakfast • understand some of the basic processes to get food from farm to plate • taste a range of ingredients and food items to develop a food vocabulary when designing		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 [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products.
Y6	**Processes - Designing, Making & Evaluating** • use market research to inform plans • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design • make modifications to the original design as he/she proceeds • cut and join with accuracy to ensure a high quality finish to his/her product • understand how key events and individuals in design and technology have helped shape the world • construct products using different joining techniques • apply his/her understanding of computing to program, monitor and control his/her product **Cooking & Nutrition** • understand the main food groups and the different nutrients that are important for health •	**Generating Ideas** Use a range of information to inform a design (i.e. market research using surveys, interviews, questionnaires or web based resources). Produce a detailed plan, with cross-sectional diagrams and computer generated designs). Work within constraints, refining and justifying plans as necessary. **Making** Use a range of tools and equipment precisely. Consider the aesthetic qualities and functionality of my product as making it, refining details as necessary. **Evaluation** Evaluate the appearance and test the function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose. Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make. ***Food & Nutrition*** *Cut, mix, mould and use hobs to heat food, developing independence with this as appropriate.* ***Construction*** *Use sheet and construction materials appropriately.* **Textiles** Pin and tack fabrics, use patterns and seam allowances and join fabrics to make quality products.	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 Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 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

	use information on food labels to inform choices • join and combine ingredients appropriately e.g. beating, rubbing in		Understand how key events and individuals in design and technology have helped shape the world 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 [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products.

Jo Kitchener September 2023