LUDDENDEN CE SCHOOL Design & Technology CURRICULUM PLAN

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
	INTENT – Luddenden CE School is committed to providing an environment which promotes creativity and innovation. We aim to inspire children through a broad range of practical experiences to create innovative designs based on real and relevant contexts. Each unit encourages children to identify problems, critically evaluate existing products and then take risks and innovate when designing their own products. Core values in Design and Technology are curiosity, endurance, compassion and courage. **IMPLEMENTATION:** Children are given the opportunity across every year group to design, plan, make & evaluate through practical lessons. They will practise skills, utilise prior knowledge and be introduced to new ideas as they move through school. Cooking skills and understanding of nutrition are also developed in every year group. **IMPACT**: Children build on their wealth of skills and understanding, now and in the future. Children show competences in improving their resilience and perseverance by continually evaluating and improving their work. Children develop gross and fine motor skills impacting positively on muscle development and coordination.					
Early Years	***Covered throughout the year by exploring events and through following children's interests.*** • Use a range of small tools, including scissors and paint brushes • Begin to show accuracy and care when drawing • Safely use and explore a variety of materials, techniques and small tools, including scissors and paintbrushes • Experimenting with colour, design, texture, form and function • Share creations, explaining the process used					
Year 1		**Christmas cards** • plan and test ideas using templates and mock-ups • understand and follow simple design criteria • select from a range of materials and components according to their characteristics • learn to use hand tools safely	**Fruit & vegetable faces** • begin to select from a range of hand tools and equipment, such as graters, zesters & safe knives • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures • cut, shape and score materials with some accuracy • understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why	**Design and make mask/cape** • use their knowledge of existing products and their own experience to help generate their ideas • understand and follow simple design criteria • select from a range of materials, textiles and components according to their characteristics • use a range of materials and components, including textiles • with help, measure and mark out • demonstrate how to cut, shape and join fabric to make a simple product • 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	**Make a puppet** • 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 • select from a range of materials, textiles and components according to their characteristics • with support, follow a simple plan • use a range of materials and components including textiles • with help, measure and mark out • cut materials with some accuracy • assemble, join and combine materials & components • demonstrate how to cut, shape and join fabric to make a simple product • manipulate fabrics in simple ways to create the desired effect • 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 • evaluate their products and ideas against their simple design criteria	
Year 1/2		**Make a Christmas gift** • design products that have a purpose and are aimed at an intended user • plan and test ideas using templates and mock-ups • select from a range of materials, textiles and components according to their characteristics • cut, shape and score materials with some accuracy • begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations	**Make a product using levers, sliders or wheels** • explain how their products will look and work through talking and simple annotated drawings • plan and test ideas using templates and mock-ups understand and follow simple design criteria • with support, follow a simple plan • assemble, join and combine materials & components • explore what materials products are made from • talk about their design ideas and what they		**Sculptures from clay & recycled materials** • explain how their products will look and work through talking and simple annotated drawings • cut, shape and score materials with some accuracy • assemble, join and combine materials & components • explore what materials products are made from • talk about their design ideas and what they are making	**Create healthy snacks** • explain where in the world different foods originate from • understand that all food comes from plants or animals • understand that food has to be farmed, grown elsewhere (e.g. home) or caught • name and sort foods into the five groups in the Eatwell Guide • understand that everyone should eat at least five portions of fruit and vegetables every day and start to

			are making • as they work, start to identify strengths and possible changes they might make to refine their existing design • evaluate their products and ideas against their simple design criteria			explain why • use what they know about the Eatwell Guide to design and prepare dishes • cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures • combine ingredients
Year 3	**Moving skeleton** • place the main stages of making in a systematic order • learn to use a range of tools and equipment safely, appropriately and accurately • cut, shape and score materials with some degree of accuracy • assemble, join and combine material and components with some degree of accuracy	**Design & make a magnetic game** • identify the design features of their products that will appeal to intended customers • use their knowledge of a broad range of existing products to help generate their ideas • design innovative and appealing products that have a clear purpose • explain how particular parts of their products work • use annotated sketches and cross-sectional drawings to develop and communicate their ideas • when planning, start to explain their choice of materials and components including function and aesthetics • test ideas out through using prototypes • with growing independence, measure and mark out to the nearest cm and millimetre • evaluate their product against their original design criteria	**Make a kite** • use their knowledge of a broad range of existing products to help generate their ideas • 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 • 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 • use a wider range of materials and components, including construction materials and textiles • when planning, start to explain their choice of materials and components including function and aesthetics • with growing independence, measure and mark out to the nearest cm and millimetre • cut, shape and score materials with some degree of accuracy • assemble, join and combine material and components with some degree of accuracy		**Cooking food from Europe** • learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures • understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically • with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven • use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking • 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 • 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 • measure and weigh ingredients to the nearest gram and millilitre	**Make a Viking long ship** • when designing, explore different initial ideas before coming up with a final design • select from a range of materials and components according to their functional properties and aesthetic qualities • assemble, join and combine material and components with some degree of accuracy
Year 4	**Make an instrument** • select from a range of materials and components according to their functional properties and aesthetic qualities • place the main stages of making in a systematic order • assemble, join and combine material and components with some degree of accuracy • 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 • use their knowledge of a broad range of existing products to help generate their ideas • 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	**Make a cushion** • identify the design features of their products that will appeal to intended customers • when planning, start to explain their choice of materials and components including function and aesthetics • with growing confidence, carefully select from a range of tools and equipment, explaining their choices • demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product • join textiles with an appropriate sewing technique • begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints • explore what materials/ingredients products are made from and suggest reasons for this • 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	**Sculpture** • learn to use a range of tools and equipment safely, appropriately and accurately • use annotated sketches and cross-sectional drawings to develop and communicate their ideas • cut, shape and score materials with some degree of accuracy		**Electrical item** • use their knowledge of a broad range of existing products to help generate their ideas • 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 • test ideas out through using prototypes • develop and follow simple design criteria • place the main stages of making in a systematic order • assemble, join and combine material and components with some degree of accuracy • 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 products are made from and suggest reasons for this • evaluate their product against their original design criteria	**Seasonal cooking/baking** • start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world • use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking • prepare ingredients using appropriate cooking utensils • measure and weigh ingredients to the nearest gram and millilitre • start to independently follow a recipe • start to understand seasonality

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Year 5	**Creating a scaled model of the planets** • use annotated sketches to develop and communicate their ideas • create step-by-step plans as a guide to making • independently take exact measurements and mark out, to within 1 millimetre • shape and score materials with precision and accuracy • assemble, join and combine materials and components with accuracy	**Cooking: Greek food** • learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures • 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 Europe • demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • measure accurately and calculate ratios of ingredients to scale up or down from a recipe • independently follow a recipe		**Design & make a phone case** • 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 • consider the availability and costings of resources when planning out designs • 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 • independently take exact measurements and mark out, to within 1 millimetre • use a full range of materials and components • assemble, join and combine materials and components with accuracy • 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 • evaluate their ideas and products against the original design criteria, making changes as needed		**Marble run Rollercoaster** • explain how particular parts of their products work • generate a range of design ideas and clearly communicate final designs • independently plan by suggesting what to do next • use a full range of materials and components • assemble, join and combine materials and components with accuracy • apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products
Year 6	**Make a moving animal** • 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 to develop and communicate their ideas • learn to use a range of tools and equipment safely and appropriately • use a full range of materials and components, including construction materials • assemble, join and combine materials and components with accuracy • refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut • evaluate their ideas and products against the original design criteria, making changes as needed	**Textiles – remembrance pieces** • generate a range of design ideas and clearly communicate final designs • select from a range of materials and components according to their functional properties and aesthetic qualities • independently take exact measurements and mark out, to within 1 millimetre • cut a range of materials with precision and 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	**Cooking Skills** • understand about seasonality, how this may affect the food availability and plan recipes according to seasonality • understand that food is processed into ingredients that can be eaten or used in cooking • demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling • 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 • independently follow a recipe • adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma • alter methods, cooking times and/or temperatures		**Design & make a night light** • 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 • 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 • assemble, join and combine materials and components with accuracy	