

Summerfields Primary School

Design Technology Curriculum Overview

Our Ultimate End Goal:

At Summerfields Primary School, we believe that design and technology helps to prepare children for the developing world and encourages them to become curious and creative problem-solvers, both as individuals and as part of a team. Through the study of design and technology, they combine practical skills with an understanding of aesthetic. Children are encouraged to engage with this subject both within lessons and with whole school home learning challenges. Previous challenges have included 'the egg drop' and a paper aeroplane challenge. We aim to develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making. We will enable children to talk about how things work, and to draw and model their ideas; whilst encouraging children to select appropriate tools and techniques for making a product, making sure they follow safe procedures.

This will foster enjoyment, satisfaction and purpose in designing and making.

Curriculum Coverage (NC)						
What are the most basic requirements from the National Curriculum?						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Key Stage 1</p> <p>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 [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria 			<p>Key Stage 2</p> <p>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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> 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, 			

<ul style="list-style-type: none"> generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> 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. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. 	<p>cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make</p> <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [for example, 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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 <p>Technical knowledge</p> <ul style="list-style-type: none"> 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. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> 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.
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A note about the pedagogy:

At Summerfields, we will use the six essentials of good practice in D&T:

-USER: Children should have a clear idea of who they are designing their project for – considering needs, wants, interests or preferences

-PURPOSE: children should know what the products they design and make are for. It should perform a clearly defined task that can be evaluated in use.

-FUNCTIONALITY: Children should design and make products that function in some way to be successful.

-DESIGN DECISIONS: Children need opportunities to select materials, components and techniques
 -INNOVATION: Children need scope to be original in their thinking and need open starting points
 -AUTHENTICITY: Children should design and make believable, real and meaningful products.
 Each of the learning experiences will ensure that the children have 3 stages of learning:
 1) Investigative and Evaluative Activities: Children learn from a range of existing products, learning about D&T in the wider world
 2) Focused Tasks: Where they are taught specific technical knowledge, designing skills and making skills
 3) Design, Make and Evaluate Assignment: where children create functional products with users and purposes in mind
 This Curriculum Map is supported by the Design and Technology Association's (DATA) Project on a Page which will give the teaching team a starting point for their planning.

Procedural Knowledge – What skills do we want our pupils to have to support [subject]?						
<i>How will these skills build on what went before and help prepare our children for what is coming next?</i>						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Can have own ideas and clarify them through discussion Can explain what my product is for, and how it will work Can use my own experiences when developing ideas Can use pictures and words to plan, beginning to use models Can research similar	Can explain what I want to do and describe how I may do it Can describe design using pictures, words, models, diagrams and begin to use ICT Can explain purpose of product, how it will work and how it will be suitable for the user Can design products	Can begin to consider and research others' needs when designing Can show that a design meets a range of requirements Can describe the purpose of a product Can follow a given design criteria	Can use research to develop design ideas Can show design meets a range of requirements and is fit for purpose Can begin to create own design criteria Can produce a plan and explain it to others Can include an annotated sketch in	Can use information sources including questionnaires and the internet to help develop design ideas Can begin to consider needs/wants of individuals/groups when designing to ensure product is fit for purpose Can create own design criteria	Can draw on market research to inform design Can use research of user's individual requirements for design Can identify features of a design that will appeal to the intended user Can create own design criteria and specification

	<p>existing products</p> <p>Can begin to talk about existing products, considering: use, materials, how they work, audience and where they might be used</p> <p>Can talk about existing products, identifying what is and isn't good</p>	<p>for myself and others following design criteria</p> <p>Can choose best tools and materials, explaining choices</p> <p>Can use knowledge of existing products to produce ideas</p> <p>Can talk about existing products, considering: use, materials, how they work, audience, where they might be used</p> <p>Can evaluate how good existing products are</p>	<p>Can create a plan which shows order, equipment and tools</p> <p>Can make drawings, labeled with appropriate vocabulary and describe how things work</p> <p>Can make design decisions, considering availability of resources</p> <p>Can begin to evaluate existing products considering how well they have been made, materials used, whether they work, how they have been made and whether they are fit for purpose</p> <p>Can begin to</p>	<p>their design</p> <p>Can explain how a product will work</p> <p>Can consider how realistic a plan is</p> <p>Can begin to use computers to show design</p> <p>Can evaluate existing products considering how well they have been made, materials used, whether they work, how they have been made and whether they</p> <p>Can discuss by whom, when and where products were designed</p> <p>Can name some inventors/designers</p>	<p>Can produce a logical, realistic plan and explain it to others</p> <p>Can use cross-sectional planning and annotated sketches</p> <p>Can make design decisions considering time and resources</p> <p>Can clearly explain how parts of a product will work</p> <p>Can model and refine design ideas using prototypes</p> <p>Can evaluate and discuss existing products, considering how well they've been made, materials, whether they work, how they have been</p>	<p>Can produce innovative design ideas</p> <p>Can follow and refine a logical plan</p> <p>Can use annotated sketches, cross-sectional planning and exploded diagrams</p> <p>Can clearly explain how parts of design will work, and how they are fit for purpose</p> <p>Can independently model and refine design ideas by making prototypes and using pattern pieces</p> <p>Can use computer-aided designs</p> <p>Can perform thorough</p>
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			<p>understand by whom, when and where products were designed</p> <p>Can learn about some inventors/designers /engineers/chefs/manufacturers of ground-breaking products</p>	<p>/engineers/chefs/manufacturers of ground-breaking products</p>	<p>made and whether they are fit for purpose</p> <p>Can talk about some key inventors/designers /engineers/chefs/manufacturers of ground-breaking products</p>	<p>evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made and whether they are fit for purpose</p> <p>Can research and discuss some key inventors/designers /engineers/chefs/manufacturers of ground-breaking products</p>
Make	<p>Can explain what I am making and why</p> <p>Can select tools and equipment to cut, shape, join and finish, explaining choices</p> <p>Can measure, mark out, cut and shape with support</p> <p>Can choose suitable materials and explain choices</p>	<p>Can explain what I am making and why it fits the purpose</p> <p>Can make suggestions for what I need to do next</p> <p>Can select from a range of tools, describing reasons for choices</p> <p>Can select suitable materials considering</p>	<p>Can select suitable tools and equipment, explaining choices</p> <p>Can begin use selected tools and equipment accurately</p> <p>Can select appropriate materials that are fit for purpose</p>	<p>Can select suitable tools and equipment, explaining choices in relation to required techniques</p> <p>Can use selected tools and equipment with increasing confidence and accuracy</p> <p>Can select</p>	<p>Can select appropriate materials that are fit for purpose, considering functionality</p> <p>Can produce a suitable list of tools, equipment and materials needed</p> <p>Can use selected tools and equipment with a good level of precision</p>	<p>Can select appropriate materials that fit for purpose, considering functionality and aesthetics</p> <p>Can select appropriate tools and equipment</p> <p>Can use selected tools and equipment precisely</p>

	<p>Can try to use some finishing techniques to make products look good</p>	<p>characteristics and explain choices Can join materials/components together in different ways Can measure, mark out, cut and shape materials and components with support</p> <p>Can use some finishing techniques to make a product look good Can work in a safe manner</p>	<p>Can work through a plan in order</p> <p>Can consider how good a product will be</p> <p>Can begin to measure, mark out, cut and shape materials/components with some accuracy</p> <p>Can begin to assemble, join and combine materials and components with some accuracy</p> <p>Can begin to apply a range of finishing techniques with some accuracy</p>	<p>appropriate materials that are fit for purpose, explaining choices</p> <p>Can realise if a product is going to be good quality</p> <p>Can measure, mark out, cut and shape materials/components with some accuracy</p> <p>Can assemble, join and combine materials and components with some accuracy</p> <p>Can apply a range of finishing techniques with some accuracy</p> <p>Can refer to design criteria while making</p>	<p>Can create and follow detailed step-by-step plans Can, with increasing accuracy, measure, mark out, cut and shape materials/components</p> <p>Can, with increasing accuracy, assemble, join and combine materials/components</p> <p>Can, with increasing accuracy, apply a range of finishing techniques Can use techniques that involve a small number of steps</p> <p>Can begin to be resourceful with practical problems</p> <p>Can evaluate quality of design while designing and</p>	<p>Can create, follow and adapt detailed step-by-step plans Can make changes to improve quality</p> <p>Can accurately measure, mark out, cut and shape materials/components</p> <p>Can accurately assemble, join and combine materials/components</p> <p>Can accurately apply a range of finishing techniques Can use techniques which involve a number of steps</p> <p>Can be resourceful with practical problems</p> <p>Can evaluate quality of design while designing and making; is it fit for</p>
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					making	purpose?
Evaluate	<p>Can talk about my work, linking it to what I was asked to do</p> <p>Can begin to talk about what could make a product better</p>	<p>Can describe what went well, thinking about design criteria</p> <p>Can talk about what I would do differently if I were to do it again why</p>	<p>Can use criteria to evaluate finished product</p> <p>Can say what I would change to make the design better</p> <p>Can begin to identify strengths in own and other children's work, according to the criteria</p>	<p>Can use criteria to evaluate product</p> <p>Can begin to explain how I could improve the original design</p> <p>Can identify strengths in own and other children's work, according to the criteria</p>	<p>Can evaluate other children's work against original specification</p> <p>Can adapt their work according to their views and describe how they might develop it further</p> <p>Can evaluate ideas and finished product against specification, considering purpose and appearance</p> <p>Can evaluate their design ideas as these develop, bearing in mind the users and the purposes for which the product is intended, and indicating ways of improving their ideas</p>	<p>Can evaluate their own and others' products against the original specification, stating if it's fit for purpose</p> <p>Can test and evaluate final product; explain what would improve it and the effect different resources may have had</p> <p>Can consider the views of others to improve a piece of work</p> <p>Can consider the impact of products beyond their intended purpose</p>
Technical Knowledge	Can describe some different	Can join materials in	Can use appropriate	Can measure carefully to avoid	Can select materials carefully,	Can use techniques to reinforce and

<p>Materials/ structures</p>	<p>characteristics of materials</p>	<p>different ways</p> <p>Can use joining, rolling or folding to strengthen a product</p> <p>Can use own ideas to try to make products stronger</p> <p>Can measure and join materials, with some support</p>	<p>materials</p> <p>Can work accurately to make cuts and holes</p> <p>Can use techniques to join materials</p> <p>Can begin to make strong structures</p>	<p>mistakes</p> <p>Can use techniques to attempt to strengthen a product</p> <p>Can make a strong, stiff structure</p>	<p>considering the intended use of the product, the aesthetics and the functionality</p> <p>Can use different techniques to strengthen a product</p>	<p>strengthen a 3D frame</p> <p>Can measure accurately enough to ensure precision</p> <p>Can ensure product is strong and fit for purpose</p>
<p>Technical Knowledge</p> <p>Mechanisms</p>	<p>Can begin to use levers or slides</p> <p>Can begin to understand how to use wheels and axles</p>	<p>Can use simple levers and linkages to create movement</p>	<p>Can use pneumatics to create movement</p>	<p>Can use more complicated levers and linkages with both fixed and loose pivots to create movement</p>	<p>Can begin to use cams and gears to create movement</p>	<p>Can use cams, pulleys and gears to create movement</p> <p>Can incorporate hydraulics and pneumatics</p>
<p>Technical Knowledge</p> <p>Textiles</p>		<p>Can choose suitable textiles</p> <p>Can measure, cut and join textiles to make a product, with some support</p>	<p>Can measure and carefully cut textiles to produce accurate pieces with support</p> <p>Can join textiles together to make a product, explaining how</p>	<p>Can measure and carefully cut textiles to produce accurate pieces</p> <p>Can join textiles together using stitches to make a product</p> <p>Can explain choices</p>	<p>Can consider the user and final product when choosing textiles, considering appearance and functionality</p> <p>Can think about how to make a</p>	<p>Can use own template</p> <p>Can think about user and aesthetics when choosing textiles</p> <p>Can begin to understand that a single 3D textiles</p>

				<p>of textile</p> <p>Can understand that a 3D textile structure can be made from two identical fabric shapes</p> <p>Can make and/or use a simple paper pattern/template</p>	<p>product strong</p> <p>Can begin to devise a template</p> <p>Can explain how to join things in a different way</p> <p>Can understand that a simple fabric shape can be used to make a 3D textiles project</p>	<p>project can be made from a combination of fabric shapes</p> <p>Can demonstrate a range of ways to join materials</p>
<p>Technical Knowledge</p> <p>Electrical systems</p>				<p>Can use a simple circuit in a product</p>	<p>Can use a number of components in a circuit in a product</p>	<p>Can confidently use a number of components in a circuit to improve a product</p> <p>Can incorporate a switch into a product</p> <p>Can use different types of circuit in a product (series, parallel)</p> <p>Can think of ways in which adding a circuit would</p>

						improve a product
Technical Knowledge	Can understand basic food handling, hygienic practices and personal hygiene, including how to control risk by following simple instructions	Can explain the importance of hygienic food preparation and storage	Can carefully select ingredients	Can explain how to be safe and hygienic around food	Can handle food safely and hygienically	Can understand a recipe can be adapted by adding/substituting ingredients
Food and nutrition	Can discuss how fruit and vegetables are healthy and an important part of our diet	Can identify where different foods come from – underground, animal etc.	Can use equipment safely	Can think about presenting products in interesting/attractive ways	Can prepare and cook some savoury dishes safely and hygienically including, where appropriate, the use of a heat source	Can explain seasonality of foods
	Can say where some foods come from – plant or animal	Can describe how food is farmed, home-grown, caught	Can begin to understand that food comes from the wider world as well as the UK	Can understand ingredients can be fresh, pre-cooked or processed	Can begin to understand seasonality of foods	Can explain some food processing methods
	Can identify and describe differences between some food groups	Can apply their understanding of the eat well plate when planning and preparing food	Can prepare and cook some dishes safely and hygienically	Can begin to understand about food being grown, reared or caught in the UK or the wider world	Can consider how to present a product well – fit for purpose, interesting, attractive	Can names some types of food that are grown, reared or caught in the UK and the wider world
	Can cut, peel and grate safely, with support	Can cut, peel and grate foods with increasing confidence	Can begin to use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading kneading and baking	Can prepare and cook some dishes safely and hygienically	Can describe how recipes can be adapted to change appearance, taste, texture, aroma	Can adapt recipes to change appearance, taste, texture or aroma
		Can think of ways to decorate foods		Can use some of the following techniques: peeling, chopping, slicing, grating, mixing,	Can understand	Can prepare and cook a variety of savoury dishes safely and hygienically including, where

				spreading, kneading and baking	how food can be grown, reared or caught in the UK and the wider world Can use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	appropriate, the use of a heat source Can use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
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Propositional Knowledge – What key concepts or knowledge will we need? <i>What knowledge do we want to emphasise? How will knowledge be built on what went before and prepare our children for what is coming next?</i>						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Mechanisms – sliders and levers (Christmas cards) *Know the correct technical vocabulary for the projects that they are undertaking * Know about the simple working characteristics of materials and components *Know about the movement of simple mechanisms such as levers, sliders, wheels and axles</p> <p>Mechanisms - wheels and axles (toy car)</p>	<p>Structures – freestanding structures (enclosures for farm or zoo animals) * Know the correct technical vocabulary for the projects that they are undertaking * Know about the simple working characteristics of materials and components * Know how to make freestanding structures stronger, stiffer and more stable.</p> <p>Textiles – Templates and joining techniques (glove puppets)</p>	<p>Textiles – 2-D shape to 3-D product (pouch) * Know the correct technical vocabulary for the projects that they are undertaking * Know that a 3-d textiles product can be assembled from two identical fabric shapes * Know how to strengthen, stiffen and reinforce existing fabrics. * know how to securely join two pieces of fabric together. * know about the need for patterns and seam</p>	<p>Food – Healthy and varied diet (sandwiches) * Know the correct technical vocabulary for the projects that they are undertaking * Know how to use appropriate equipment and utensils to prepare and combine food. * Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught</p> <p>Mechanical systems – Levers and linkages (mechanical poster)</p>	<p>Structures – frame structures (kite) * Know the correct technical vocabulary for the projects that they are undertaking * Know how to strengthen, stiffen and reinforce 3-D frameworks</p> <p>Mechanical systems – Cams (moving planet toy) * Know the correct technical vocabulary for the projects that they are undertaking * Know that mechanical</p>	<p>Food – celebrating culture and seasonality (savoury scone) * Know the correct technical vocabulary for the projects that they are undertaking * Know how to use utensils and equipment including heat sources to prepare and cook food * Know about seasonality in relation to food products and the source of different food products</p> <p>Electrical systems – More complex switches</p>

	<p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Know about the simple working characteristics of materials and components</p> <p>* know the difference between fixed and freely moving axles</p> <p>* know about wheels, axles and axle holders</p> <p>Food – preparing fruit and vegetables (fruit salad and kebabs)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Food and nutrition: -that all food comes from plants or animals -that food has to be farmed, grown elsewhere or caught -how to name and sort foods into the five groups -everyone should eat at least 5 portions of fruit and veg a day -how to prepare simple dishes safely and hygienically, without using a heat source -how to use techniques such as cutting, peeling</p>	<p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Know about the simple working characteristics of materials and components</p> <p>* Know how simple 3-D textile products are made, using a template to create two identical shapes.</p> <p>* Know how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p> <p>* Know about different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</p> <p>* Food – preparing fruit and vegetables (fruit smoothies)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Food and nutrition: -that all food comes from plants or animals -that food has to be farmed, grown elsewhere or caught -how to name and sort</p>	<p>allowances</p> <p>Food – Healthy and varied diet (salad snacks)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>* Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught</p> <p>Mechanical systems – pneumatics (moving toy)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* know what pneumatic mechanisms are and where they are used in real life</p>	<p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Know how mechanical systems make movement</p> <p>Structures - Shell structures using computer-aided design (CAD) (gift box)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* Know what CAD is</p> <p>* know about nets of cubes and cuboids and, where appropriate, more complex 3D shapes</p> <p>* know how to construct strong, stiff shell structures</p>	<p>systems have an input, process and an output.</p> <p>* Know how cams can be used to produce different types of movement and change the direction of movement.</p> <p>Textiles – computer aided design (shopping bags)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* know that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <p>* know that fabrics can be strengthened, stiffened and reinforced where appropriate</p>	<p>and circuits (automatic night light)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p> <p>* know about and use electrical systems in their products.</p> <p>* know how to use computing to program, monitor and control their products</p> <p>*</p> <p>Textiles – combining different fabric shapes (corner book mark)</p> <p>* Know the correct technical vocabulary for the projects that they are undertaking</p>
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	and grating -that food ingredients should be combined based on their sensory characteristics	foods into the five groups -everyone should eat at least 5 portions of fruit and veg a day -how to prepare simple dishes safely and hygienically, without using a heat source -how to use techniques such as cutting, peeling and grating -that food ingredients should be combined based on their sensory characteristics				
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What key vocabulary will our designers need? *Vocabulary is important because it embodies and communicates concepts.*

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Mechanisms – sliders and levers slider, lever, pivot, slot, bridge/guide</p> <p>card, masking tape, paper fastener, join</p> <p>pull, push, up, down, straight, curve, forwards, backwards</p> <p>design, make, evaluate,</p>	<p>Structures – freestanding structures cut, fold, join, fix</p> <p>structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved</p> <p>metal, wood, plastic</p>	<p>Textiles – 2-D shape to 3-D product fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance</p> <p>user, purpose,</p>	<p>Food – Healthy and varied diet name of products, names of equipment, utensils, techniques and ingredients</p> <p>texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury</p>	<p>Structures – frame structures frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent</p> <p>design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research,</p>	<p>Food – celebrating culture and seasonality ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</p> <p>fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy,</p>

<p>user, purpose, ideas, design criteria, product, function</p> <p>Mechanisms - wheels and axels</p> <p>vehicle, wheel, axle, axle holder, chassis, body, cab</p> <p>assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism</p> <p>names of tools, equipment and materials used</p> <p>design, make, evaluate, purpose, user, criteria, functional</p> <p>Food – preparing fruit and vegetables</p> <p>fruit and vegetable names, names of equipment and utensils</p> <p>sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning,</p>	<p>circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p> <p>Textiles – Templates and joining techniques</p> <p>names of existing products, joining and finishing techniques, tools, fabrics and components</p> <p>template, pattern pieces, mark out, join, decorate, finish</p> <p>features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p> <p>Food – preparing fruit and vegetables</p> <p>fruit and vegetable names, names of equipment and utensils</p> <p>sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p>	<p>design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces</p> <p>Food – Healthy and varied diet</p> <p>name of products, names of equipment, utensils, techniques and ingredients</p> <p>texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury</p> <p>hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet</p> <p>planning, design criteria, purpose, user, annotated sketch, sensory evaluations</p> <p>Mechanical systems – pneumatics</p> <p>components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener pneumatic system, input</p>	<p>hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet</p> <p>planning, design criteria, purpose, user, annotated sketch, sensory evaluations</p> <p>Mechanical systems – Levers and linkages</p> <p>mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output</p> <p>linear, rotary, oscillating, reciprocating</p> <p>user, purpose, function prototype, design criteria, innovative, appealing, design brief</p> <p>Structures - Shell structures using computer-aided design (CAD)</p> <p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff,</p>	<p>functional</p> <p>Mechanical systems – Cams</p> <p>cam, snail cam, off-centre cam, peg cam, pear shaped cam</p> <p>follower, axle, shaft, crank, handle, housing, framework</p> <p>rotation, rotary motion, oscillating motion, reciprocating motion</p> <p>annotated sketches, exploded diagrams</p> <p>mechanical system, input movement, process, output movement</p> <p>design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief</p> <p>Textiles – computer aided design</p> <p>computer aided design (CAD), computer aided manufacture (CAM) font, lettering, text, graphics, menu, scale, modify, repeat, copy, flip</p>	<p>intolerance, savoury, source, seasonality</p> <p>utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p> <p>design specification, innovative, research, evaluate, design brief</p> <p>Electrical systems – More complex switches and circuits</p> <p>series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart</p> <p>function, innovative, design specification, design brief, user, purpose</p> <p>Textiles – combining different fabric shapes</p> <p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces</p> <p>name of textiles and fastenings used, pins,</p>
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	investigating tasting, arranging, popular, design, evaluate, criteria	flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria	movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight linear, rotary, oscillating, reciprocating user, purpose, function, prototype, design criteria, innovative, appealing, design brief, research, evaluate, ideas, constraints, investigate	strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype	design brief, design criteria, design decisions, innovative, prototype seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces names of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper annotate, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype	needles, thread, pinking shears, fastenings, iron transfer paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype
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What experience do we want our students to have had? What other opportunities will our students have had in.....?						
	<p><i>Children should learn about inventors, designers, engineers chefs and manufacturers who have developed ground-breaking products and in doing so, made the world a better place.</i></p> <p>Year 3: Stella McCartney / Robert Thomson Year 4: Isambard Kingdom Brunel / Jamie Oliver Year 5: Galileo Galilei / Vivienne Westwood Year 6: Nikola Tesla / Hugh Fearnley-Whittingstall</p>					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Mechanisms – sliders and levers Year 1 will make moving Christmas cards to share with their families.</p> <p>Mechanisms - wheels and axels The children will design and make their own toy</p>	<p>Structures – freestanding structures The children will design and make an enclosure for zoo animals</p> <p>Textiles – Templates and joining techniques Year 1 will learn sewing skills to make glove</p>	<p>Textiles – 2-D shape to 3-D product The children will build on the skills they learned in year to design and make a pouch</p> <p>Food – Healthy and varied diet Year 3 will prepare and</p>	<p>Food – Healthy and varied diet Year 4 will prepare and make nutritious sandwiches for their families</p> <p>Mechanical systems – Levers and linkages The children will design</p>	<p>Structures – frame structures Year 5 will design and make a kite</p> <p>Mechanical systems – pulleys and gears The children will make their own mini orrery</p>	<p>Food – celebrating culture and seasonality Year 6 will prepare and make nutritious savoury scones</p> <p>Electrical systems – More complex switches and circuits The children will use</p>

	<p>car.</p> <p>Food – preparing fruit and vegetables The children will prepare and make delicious and healthy fruit salad kebabs</p>	<p>puppets</p> <p>Food – preparing fruit and vegetables The children will prepare and make delicious and healthy fruit smoothies</p>	<p>make nutritious salad snacks</p> <p>Mechanical systems – pneumatics The children will learn about pneumatics and use this knowledge to design and make a moving toy</p>	<p>and make moving, informative posters</p> <p>Structures - Shell structures using computer-aided design (CAD) The children will use their first experience of CAD to design and make a gift box</p>	<p>Textiles – computer aided design Year 5 will build on their CAD knowledge to make a shopping bag</p>	<p>programming to make an automatic night light</p> <p>Textiles – combining different fabric shapes The children will combine all of their textiles knowledge to design and make a corner book mark</p>
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