

Whole School Curriculum Overview for Design Technology 2020 – 2021

St Edward's Catholic Primary School

Miss S Hamilton and Mrs R Carney

Subject Content

KS1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an interactive 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].

When designing and making, pupils should be taught to:

Design:

- 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

Make:

- 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

Evaluate:

- 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.

KS2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an interactive 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].

When designing and making, pupils should be taught to:

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Design:

- 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

Make:

- 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

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

Technical knowledge:

- 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.

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity.

Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2:

- understand and apply the principles of a healthy and varied diet

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- 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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YEAR ONE PROGRAMME OF STUDY

A year one designer:

- can use their own ideas to make something.
- can describe how something works.
- can cut food safely.
- can make a product which moves.
- can make their model stronger.
- can explain to someone else how they want to make their product.
- can choose appropriate resources and tools.
- can make a simple plan before making.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<u>Understanding contexts, users and purposes</u> <ul style="list-style-type: none"> • work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for 	<u>Planning</u> <ul style="list-style-type: none"> • plan by suggesting what to do next • select from a range of tools and equipment, explaining their choices • select from a range of materials and components according to their characteristics <u>Practical skills and techniques</u> <ul style="list-style-type: none"> • follow procedures for safety and hygiene 	<u>Own ideas and products</u> <ul style="list-style-type: none"> • talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria • suggest how their products could be improved <u>Existing products</u> <ul style="list-style-type: none"> • what products are • who products are for • what products are for 	<u>Making products work</u> <ul style="list-style-type: none"> • about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable • that a 3-D textiles product can be assembled from two identical fabric shapes 	<u>Where food comes from</u> <ul style="list-style-type: none"> • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught <u>Food preparation, cooking and nutrition</u> <ul style="list-style-type: none"> • how to name and sort foods into the five groups in The Eatwell plate • that everyone should eat at least five portions

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<ul style="list-style-type: none"> • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas <p><u>Generating, developing, modelling and communicating ideas</u></p> <ul style="list-style-type: none"> • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mockups • use information and communication technology, where appropriate, to develop and communicate their ideas 	<ul style="list-style-type: none"> • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design 	<ul style="list-style-type: none"> • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products <p><u>Key events and individuals</u></p> <p>Not required in KS1</p>	<ul style="list-style-type: none"> • that food ingredients should be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking 	<p>of fruit and vegetables every day</p> <ul style="list-style-type: none"> • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating
<u>COVERAGE – CROSS CURRICULAR LINKS</u>				

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Autumn driver - Changes in living memory (History)		Spring driver - Significant people in history (Neil Armstrong, Christopher Columbus) (History)		Summer driver - Grace Darling (Local History)	
AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<u>Design, Make and Evaluate:</u> <u>Suggestions:</u> <ul style="list-style-type: none"> • An old fashioned toy e.g. cup and ball game or spinner top toy • Design and make a dinosaur plate 		<u>Design, make and Evaluate:</u> <u>Suggestions:</u> <ul style="list-style-type: none"> • A model boat in the style of Christopher Columbus • Bake/ice/decorate boat shaped biscuits • A model space craft • A papier mache space astronaut helmet • A collage of various materials to make a night sky picture 		<u>Design, Make and Evaluate:</u> <u>Suggestions:</u> <ul style="list-style-type: none"> • A model lighthouse • A collage of materials to make a sea/rocky image • Design and make lighthouses made from fruit. (Slices of banana and strawberries on a slice of apple) • Make picnic food and understand where the food has come from 	

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YEAR TWO PROGRAMME OF STUDY

A year two designer:

- can think of an idea and plan what to do next.
- can choose tools and materials and explain why they have chosen them.
- can join materials and components in different ways.
- can explain what went well with their work.
- can explain why they have chosen specific textiles.
- can measure materials to use in a model or structure.
- can describe the ingredients they are using.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<u>Understanding contexts, users and purposes</u> <ul style="list-style-type: none">• work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment• state what products they are designing and making• say whether their products are for themselves or other users• describe what their products are for	<u>Planning</u> <ul style="list-style-type: none">• plan by suggesting what to do next• select from a range of tools and equipment, explaining their choices• select from a range of materials and components according to their characteristics <u>Practical skills and techniques</u>	<u>Own ideas and products</u> <ul style="list-style-type: none">• talk about their design ideas and what they are making• make simple judgements about their products and ideas against design criteria• suggest how their products could be improved <u>Existing products</u>	<u>Making products work</u> <ul style="list-style-type: none">• about the simple working characteristics of materials and components• about the movement of simple mechanisms such as levers, sliders, wheels and axles• how freestanding structures can be made stronger, stiffer and more stable	<u>Where food comes from</u> <ul style="list-style-type: none">• that all food comes from plants or animals• that food has to be farmed, grown elsewhere (e.g. home) or caught <u>Food preparation, cooking and nutrition</u> <ul style="list-style-type: none">• how to name and sort foods into the five

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<ul style="list-style-type: none"> • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas <p><u>Generating, developing, modelling and communicating ideas</u></p> <ul style="list-style-type: none"> • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mockups • use information and communication technology, where appropriate, to develop and communicate their ideas 	<ul style="list-style-type: none"> • follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design 	<ul style="list-style-type: none"> • what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products <p><u>Key events and individuals</u></p> <p>Not required in KS1</p>	<ul style="list-style-type: none"> • that a 3-D textiles product can be assembled from two identical fabric shapes • that food ingredients should be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking 	<p>groups in The Eatwell plate</p> <ul style="list-style-type: none"> • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating
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COVERAGE – CROSS CURRICULAR LINKS

Autumn driver - Local History - Queen Victoria - Saltburn/ Preston Park/ Ormesby Hall		Spring driver - Changes within living memory The first aeroplane flight - The Wright Brothers		Summer driver - Significant People from Britain or abroad - Captain Cook	
AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2

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<u>Design, Make and Evaluate:</u>	<u>Design, Make and Evaluate:</u>	<u>Design, Make and Evaluate:</u>
<p>Suggestions:</p> <ul style="list-style-type: none">• make an old fashioned board game (history)• explore/research Victorian foods thinking of nutritional value of foods. (history)• make a fruit salad (science)• make musical instruments (science)	<p>Suggestions:</p> <ul style="list-style-type: none">• a model old fashioned paper aeroplane (history)• use plastic bottles to make model modern day planes (history)• bake/decorate biscuits shape of a plane (history)• mini model of our school (science)	<p><u>Suggestions:</u></p> <ul style="list-style-type: none">• a model boat in the style of Captain Cook (history)• make a salad looking at where the food comes from (science)

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YEAR THREE/FOUR PROGRAMME OF STUDY

A year three designer:

- can prove that their design meets some set criteria.
- can follow a step-by-step plan, choosing the right equipment and materials.
- can design a product and make sure that it looks attractive.
- can choose a textile for both its suitability and its appearance.
- can select the most appropriate tools and techniques for a given task.
- can make a product which uses both electrical and mechanical components.
- can work accurately to measure, make cuts and make holes.
- can describe how food ingredients come together.

A year four designer:

- can use ideas from other people when they are designing.
- can produce a plan and explain it.
- can evaluate and suggest improvements for their designs.
- can evaluate products for both their purpose and appearance.
- can explain how they have improved their original design.
- can present a product in an interesting way.
- can measure accurately.
- can persevere and adapt their work when their original ideas do not work.
- know how to be both hygienic and safe when using food.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<u>Understanding contexts, users and purposes</u> <u>Across KS2 pupils should:</u> <ul style="list-style-type: none">• work confidently within a range of contexts, such as the home, school, leisure,	<u>Planning</u> <u>Across KS2 pupils should:</u> <ul style="list-style-type: none">• select tools and equipment suitable for the task• explain their choice of tools and equipment in relation to the	<u>Own ideas and products</u> <u>Across KS2 pupils should:</u> <ul style="list-style-type: none">• identify the strengths and areas for development in their ideas and products• consider the views of others, including intended	<u>Making products work</u> <u>Across KS2 pupils should know:</u> <ul style="list-style-type: none">• how to use learning from science to help design and make products that work	<u>Where food comes from</u> <u>Across KS2 pupils should know:</u> <ul style="list-style-type: none">• that a recipe can be adapted a by adding or substituting one or more ingredients

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<p>culture, enterprise, industry and the wider environment</p> <ul style="list-style-type: none"> • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work <p><u>In early KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas <p><u>Generating, developing, modelling and communicating ideas</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • share and clarify ideas through discussion 	<p>skills and techniques they will be using</p> <ul style="list-style-type: none"> • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities <p><u>In early KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • order the main stages of making <p><u>Practical skills and techniques</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components <p><u>In early KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • measure, mark out, cut and shape materials and components with some accuracy 	<p>users, to improve their work</p> <p><u>In early KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products <p><u>Existing products</u></p> <p><u>Across KS2 pupils should investigate and analyse:</u></p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants 	<ul style="list-style-type: none"> • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking <p><u>In early KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products 	<ul style="list-style-type: none"> • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world <p><u>Food preparation, cooking and nutrition</u></p> <p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking <p><u>In early KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • that a healthy diet is made up from a variety
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<ul style="list-style-type: none">• model their ideas using prototypes and pattern pieces• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas• use computer-aided design to develop and communicate their ideas <p><u>In early KS2 pupils should also:</u></p> <ul style="list-style-type: none">• generate realistic ideas, focusing on the needs of the user• make design decisions that take account of the availability of resources	<ul style="list-style-type: none">• assemble, join and combine materials and components with some accuracy• apply a range of finishing techniques, including those from art and design, with some accuracy	<p><u>In early KS2 pupils should also investigate and analyse:</u></p> <ul style="list-style-type: none">• who designed and made the products• where products were designed and made• when products were designed and made• whether products can be recycled or reused <p><u>Key events and individuals</u></p> <ul style="list-style-type: none">• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	<ul style="list-style-type: none">• how to program a computer to control their products• how to make strong, stiff shell structures• that a single fabric shape can be used to make a 3D textiles product• that food ingredients can be fresh, pre-cooked and processed	<p>and balance of different food and drink, as depicted in The Eatwell plate</p> <ul style="list-style-type: none">• that to be active and healthy, food and drink are needed to provide energy for the body	
<u>COVERAGE – CROSS CURRICULAR LINKS</u>					
Autumn driver - Stone Age to Iron Age (History)		Spring driver - Rivers (Geography) / Alice in Wonderland (English)		Summer driver - Roman Empire (History)	
AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2

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<p><u>Design, Make and Evaluate:</u></p> <p>Suggestions:</p> <ul style="list-style-type: none"> • cave art hand prints • make Stone Age axe/ papier mache axe (history) • • make Stone Age jewellery (history) • • make model StoneHenge (history) 	<p><u>Design, Make and Evaluate:</u></p> <p>Suggestions:</p> <ul style="list-style-type: none"> • Create a 'tea party' picnic food • Model river (papier mache) (Geography) 	<p><u>Design, Make and Evaluate:</u></p> <p>Suggestions:</p> <ul style="list-style-type: none"> • Make Roman shield (history) • Make Roman sword (history) • Make Roman helmet (history) • Modelling clay - Roman coins (history) • Roman soldier paper models (history) • Model chariots (history)
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YEAR FIVE PROGRAMME OF STUDY

A year five designer:

- can come up with a range of ideas after collecting information from different sources.
- can produce a detailed, step-by-step plan.
- can suggest alternative plans; outlining the positive features and draw backs.
- can explain how a product will appeal to a specific audience.
- can evaluate appearance and function against original criteria.
- can use a range of tools and equipment competently.
- can make a prototype before make a final version.
- can be both hygienic and safe in the kitchen.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<p><u>Understanding contexts, users and purposes</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment 	<p><u>Planning</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using 	<p><u>Own ideas and products</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work 	<p><u>Making products work</u></p> <p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • how to use learning from science to help design and make products that work • how to use learning from mathematics to help 	<p><u>Where food comes from</u></p> <p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • that a recipe can be adapted a by adding or substituting one or more ingredients • that food is grown (such as tomatoes, wheat and

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<ul style="list-style-type: none"> • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • develop a simple design specification to guide their thinking <p><u>Generating, developing, modelling and communicating ideas</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • share and clarify ideas through discussion 	<ul style="list-style-type: none"> • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • produce appropriate lists of tools, equipment and materials that they need • formulate step-by-step plans as a guide to making <p><u>Practical skills and techniques</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components <p><u>In late KS2 pupils should also:</u></p>	<p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification <p><u>Existing products</u></p> <p><u>Across KS2 pupils should investigate and analyse:</u></p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes 	<p>design and make products that work</p> <ul style="list-style-type: none"> • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the 	<p>potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</p> <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking <p><u>Food preparation, cooking and nutrition</u></p> <p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing,
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<ul style="list-style-type: none">• model their ideas using prototypes and pattern pieces• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas• use computer-aided design to develop and communicate their ideas <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none">• generate innovative ideas, drawing on research• make design decisions, taking account of constraints such as time, resources and cost	<ul style="list-style-type: none">• accurately measure, mark out, cut and shape materials and components• accurately assemble, join and combine materials and components• accurately apply a range of finishing techniques, including those from art and design• use techniques that involve a number of steps• demonstrate resourcefulness when tackling practical problems	<ul style="list-style-type: none">• how well products meet user needs and wants <p><u>In late KS2 pupils should also investigate and analyse:</u></p> <ul style="list-style-type: none">• how much products cost to make• how innovative products are• how sustainable the materials in products are• what impact products have beyond their intended purpose <p><u>Key events and individuals</u></p> <ul style="list-style-type: none">• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	<p>environment and control their products</p> <ul style="list-style-type: none">• how to reinforce and strengthen a 3D framework• that a 3D textiles product can be made from a combination of fabric shapes• that a recipe can be adapted by adding or substituting one or more ingredients	<p>spreading, kneading and baking</p> <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none">• that recipes can be adapted to change the appearance, taste, texture and aroma• that different food and drink contain different substances - nutrients, water and fibre - that are needed for health	
<u>COVERAGE - CROSS CURRICULAR LINKS</u>					
Autumn driver - WW2 (History)		Spring driver - Brazil (Geography)		Summer driver - Ancient Egypt (History)	
AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2

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<u>Design, Make, Research and Evaluate:</u>	<u>Design, Make, Research and Evaluate:</u>	<u>Design, Make, Research and Evaluate:</u>
<p>Suggestions:</p> <ul style="list-style-type: none"> • a war medal • ww2 Anderson shelter • paper spit fire planes • papier mache gas masks • research and explore war time rations in terms of food and nutrition 	<p>Suggestions:</p> <ul style="list-style-type: none"> • make a carnival tshirt • make a carnival mask • make a paper plate parrot • make carnival jewellery • multi-material collage of Brazil flag • brazil themes multi-material collage photo frame • make carnival themed picnic food • make/blend a fruit smoothie 	<p>Suggestions:</p> <ul style="list-style-type: none"> • make ancient Egyptian mask • make a model canopic jar • make paper plate Egyptian jewellery • make model pyramids • make papier mache mummies

YEAR SIX PROGRAMME OF STUDY

A year six designer:

- can use market research to inform their plans and ideas.
- can follow and refine their plans.
- can justify their plans in a convincing way.
- can show that they consider culture and society in their plans and designs.
- can test and evaluate their products.
- can explain how products should be stored and give reasons.
- can work within a budget.
- can evaluate their product against a clear criteria.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<u>Understanding contexts, users and purposes</u>	<u>Planning</u>	<u>Own ideas and products</u>	<u>Making products work</u>	<u>Where food comes from</u>
	<u>Across KS2 pupils should:</u>	<u>Across KS2 pupils should:</u>		

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<p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • develop a simple design specification to guide their thinking <p><u>Generating, developing, modelling and communicating ideas</u></p>	<ul style="list-style-type: none"> • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • produce appropriate lists of tools, equipment and materials that they need • formulate step-by-step plans as a guide to making <p><u>Practical skills and techniques</u></p> <p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, 	<ul style="list-style-type: none"> • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification <p><u>Existing products</u></p> <p><u>Across KS2 pupils should investigate and analyse:</u></p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen 	<p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and 	<p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • that a recipe can be adapted a by adding or substituting one or more ingredients • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking <p><u>Food preparation, cooking and nutrition</u></p> <p><u>Across KS2 pupils should know:</u></p> <ul style="list-style-type: none"> • how to prepare and cook a variety of predominantly savoury
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<p><u>Across KS2 pupils should:</u></p> <ul style="list-style-type: none"> • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost 	<p>food ingredients, mechanical components and electrical components</p> <p><u>In late KS2 pupils should also:</u></p> <ul style="list-style-type: none"> • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems 	<ul style="list-style-type: none"> • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants <p><u>In late KS2 pupils should also investigate and analyse:</u></p> <ul style="list-style-type: none"> • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose <p><u>Key events and individuals</u></p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	<p>components can be used to create functional products</p> <ul style="list-style-type: none"> • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients 	<p>dishes safely and hygienically including, where appropriate, the use of a heat source</p> <ul style="list-style-type: none"> • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking <p><u>In late KS2 pupils should also know:</u></p> <ul style="list-style-type: none"> • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health
<u>COVERAGE – CROSS CURRICULAR LINKS</u>				
Autumn driver - WW1 (History)		Spring driver - Water cycle (Geography)		Summer driver - Vikings (History)

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AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<u>Design, Make, Research and Evaluate:</u> Suggestions: <ul style="list-style-type: none">• war medals (history)• papier mache poppies• paper plate poppies• papier mache war helmets		<u>Design, Make, Research and Evaluate:</u> Suggestions: <ul style="list-style-type: none">• make 3D water cycle model (geography)• pin wheel water cycle (geography)• war medals (history)•		<u>Design, Make, Research and Evaluate:</u> Suggestions: <ul style="list-style-type: none">• make a model Viking boat (history)• make a model Viking shield (history)• make a Viking style helmet (history)• make papier mache horns for helmets (history)• Viking style bread recipe (history)• Make Viking style coins (history)	