

Great Gaddesden Church of England (VA) Primary School



Design and Technology Curriculum

Statement of Intent:

At Great Gaddesden School we intend to build a Design and Technology curriculum which is inspiring and practical. We want our children to use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We intend for all children to acquire appropriate subject knowledge, skills and understanding as set out in the National Curriculum and to create strong cross curricular links with other subjects such as Mathematics, Science, Computing and Art. We want our Design and Technology curriculum to promote the spiritual, moral, cultural, mental and physical development of our children and to prepare them for the opportunities, responsibilities and experiences of later life.

Aims:

EYFS:

In EYFS, Design and Technology is covered in both the prime areas and the specific areas.

We encourage the development of skills; knowledge and understanding that help EYFS children make sense of their world through asking questions, listening to instructions and explaining their understanding.

In the early years (EYFS) children are encouraged to explore and use a variety of media and materials during a combination of adult directed and child-initiated activities. Children are given opportunities to use different media and materials to express their own ideas. Children begin to make plans and construct with a purpose in mind, using a variety of resources. They are encouraged to use what they know about different media and materials in original ways, not being afraid to explore and try new things. The children learn how to use simple tools and techniques appropriately, effectively and safely. The children Identify and discuss foods that are healthy and learn how to prepare some foods safely and hygienically.

KS1:

Children are taught through creative and practical activities the knowledge, understanding and skills needed to engage in the designing and making process. They work in a range of relevant contexts that inspire and interest them.

When designing and making, pupils are taught to:

Design:

- Design purposeful, functional, appealing products for themselves and others 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, (or 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:

- Builds 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.

KS1 – Food and Nutrition:

As part of their work with food, pupils are taught how to prepare food and cook food. They 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 later in life.

Children are taught to:

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.
- Understand the need for a variety of foods.

KS2:

Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process and designing and making. They should work in a range of relevant contexts.

When designing and making, pupils should be taught to:

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 system.

Make:

- Select from and use a wider range of tools and equipment to perform practical tasks, such as 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).
- To apply their understanding of computing to programme, monitor and control their products.

KS2 – Food and Nutrition:

Pupils are taught to:

- 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.

Design and Technology Long-Term Overview

Cycle A 23-24; 25-26

Year group(s)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Early Years	All About Me/Harvest Junk modelling - Introduce joining techniques	Autumn/Festivals and Celebrations/Christmas	Winter/Uganda/Brazil/Birds/Pirates Manipulating materials to introduce a story into their play	Bees/Imagination/Spring	Topics based on children's interests Construct with a purpose in mind	Summer/Transitions
Year 1 & 2	Food Technology (Sandwiches) Lesson 1 - L. O. Understand how sandwiches fit into a healthy diet. <i>V - sandwiches, food groups, balanced diet, carbohydrates, protein, dairy, vegetables, fruits, bread, wrap, fillings, white, wholemeal</i> Lesson 2 - L.O. Taste a variety of different sandwiches. <i>V - sandwiches, wraps, fillings, taste, texture</i> Lesson 3 - L.O.. Design and plan a sandwich. <i>V - design, plan, sandwich, bread, wrap, filling</i> Lesson 4 - L.O. Create a sandwich. <i>V - make, assemble, sandwich, wrap, bread, filling</i> Lesson 5- L.O. Evaluate a finished product. <i>V - evaluate, taste, texture</i>	Mechanisms (Wind-up toys) Lesson 1 - L. O. To explore winding mechanisms and how they work. <i>V - winding mechanism, toy, axel, handle, join</i> Lesson 2 - L.O. Design a toy with a winding mechanism. <i>V - winding mechanism, toy, axel, handle, join, design, label, equipment, tools, material, product</i> Lesson 3 / 4 - L.O. Make a toy with a winding mechanism. <i>V - winding mechanism, toy, axel, handle, join, design, label, equipment, tools, material, product</i> Lesson 5 - L.O. Evaluate a product. <i>V - winding mechanism, toy, axel, handle, join, design, label, equipment, tools, material, product, evaluate</i>		Structures (Castles) <i>*History link Castles</i> Lesson 1 - L. O. Sketch shapes within buildings. <i>V - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i> Lesson 2 - L.O.. Create walls of a structure. <i>V - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i> Lesson 3 - L.O. Create cylinders and cones. <i>V - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i> Lesson 4 - L.O. Create a drawbridge. <i>V - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i> Lesson 5 - L.O. Paint a structure. <i>VV - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i> Lesson 6		

				- L.O. Evaluate a finished product. <i>V - buildings, structures, shapes, cones, cylinder, castle, turret, tower, drawbridge, battlements, fixing, joining, cutting</i>		
Year 3 & 4		Torches <i>*Science link Electricity</i> Lesson 1 - L. O. To identify the difference between natural/manmade light sources and reflectors. <i>V - light source, natural, artificial, manmade, reflector</i> Lesson 2 - L.O. To investigate a range of torches. <i>V - torch, light source, material, plastic, metal, rubber, glass, bulb, switch, battery, wind-up, durability.</i> Lesson 3 - L.O. To investigate different types of switches. <i>V - switch, foil, wood, card, paper, paper fasteners, wire, split pin, paperclip, drawing pin, bulb, tape, circuit.</i> Lesson 4 - L.O. To design a torch. <i>V -witch, foil, wood, card, paper, paper fasteners, wire, split pin, paperclip, drawing pin, bulb, tape, circuit.</i> Lesson 5 - L.O. To make my own torch. <i>V -witch, foil, wood, card, paper, paper fasteners, wire, split pin, paperclip, drawing pin, bulb, tape, circuit.</i> Lesson 6 - L.O. To evaluate my torch design. <i>V - like, dislike, change, improve.</i>		Food Technology (Smoothies) Lesson 1 - L. O. To taste and evaluate a range of shop bought smoothies. <i>V - smoothie, fruit, vegetable, appearance smell, taste, texture, like, dislike.</i> Lesson 2 - L.O. To design the packaging for my own smoothie. <i>V - .carton, bottle, label, ingredients, materials.</i> Lesson 3 - L.O. To design and plan my own smoothie. <i>V - smoothie, fruit, ingredients, equipment. Design, plan.</i> Lesson 4 - L.O. To create a smoothie <i>V - make, cut, chop, blend, stick blender, pour , taste.</i> Lesson 5 - L.O. To evaluate my finished product. <i>V - evaluate, taste, texture, like, dislike, change, improve.</i>		Picture Frames Lesson 1 - L. O. - generate ideas by drawing on our own and other people's experiences. - identify a purpose for what we intend to design and make. - look at a range of existing products explain what we like and dislike about products and why. <i>V - frame, hook, free-standing</i> Lesson 2 - L.O. understand how to identify a target group for what we intend to design and make based on design criteria. <i>V - target group, intended customer, purpose</i> Lesson 3 - L.O. begin to develop our design ideas through discussion, observation, drawing and modelling.- develop our ideas through talk and drawings and label parts. <i>V - design, ideas, sketch, label</i> Lesson 4 - L.O. make templates and mock ups of our ideas in card and paper or using ICT- with help measure, cut and score with some accuracy- begin to select tools and materials; use correct vocabulary to name and describe them. - learn to use hand tools safely and appropriately. <i>V - template, mock up, measure, cut, score</i> Lesson 5 - L.O. learn to use hand tools safely and appropriately.- start to assemble, join and combine materials in order to make a product. - demonstrate how to cut, shape and join fabric to make a simple product. - use basic sewing techniques.- start to choose and use appropriate finishing techniques based on own ideas. <i>V - tools, materials, join, combine, cut, shape, sew, finishing techniques.</i> Lesson 6 - L.O. evaluate our work against the design criteria. <i>V - like, dislike, change, adapt</i>

Year 5 & 6		Fairground Rides Lesson 1 - L. O. To investigate existing products. <i>V - pulley, gear, direction, speed, rotation</i> Lesson 2 - L.O. To practice skills. <i>V - pulley, gear</i> Lesson 3 - L.O. Design a fairground ride. <i>V - pulley, gear, direction, speed, rotation</i> Lesson 4 - L.O. Make a fairground ride. <i>V - pulley, gear, direction, speed, rotation</i> Lesson 5 & 6 - L.O. Evaluate my work <i>V -evaluate</i>		Mechanisms (Moving Pictures) Lesson 1 LO: Research product design <i>V: mechanism, lever, pivot, linkage</i> Lesson 2 LO: Research levers and pivots <i>V: mechanism, lever, pivot, linkage</i> Lesson 3 - L.O. : Create different mechanisms <i>V - mechanism, slider, system. Fixed pivot, loose pivot, components</i> Lesson 4 - L.O..Plan product <i>V - Mock up, draft, criteria, technique</i> Lesson 5 - L.O.Build product following design criteria <i>V - quality, finish, modify</i> Lesson 6 - L.O. Evaluate finished product <i>V - design criteria, modify</i>		Structures (Anderson Shelters) <i>*History link WW2</i> Lesson 1 - L. O. Research history of product and design <i>V - Anderson, Morrison</i> Lesson 2 - L.O. To design initial product <i>V - making : rolling, strengthening, reinforcing</i> Lesson 3 - L.O. Test and evaluate materials <i>V - tension, compression, bending, twisting</i> Lesson 4 - L.O. Modify Design ideas <i>V - modelling, scale model, fair test • stable, strength, framework, material, tube, rigid, section, water resistance</i> Lesson 5 - L.O. Build product following design criteria <i>V -sequencing build, stable, strength, framework, material</i> Lesson 6 - L.O. Evaluate finished product <i>V - design criteria, modify</i>
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Cycle B 24-25; 26-27

Year group(s)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Early Years	All About me/Harvest/Autumn	Remembrance/Dogs/Vets/Christmas	Winter/Chinese New Year Manipulating materials to introduce a story into their play	Spring/Plants/Easter	Growing and Changes Selecting appropriate resources to suit individual projects	Summer/Transition Constructing with a purpose in mind
Year 1 & 2		Textiles (Puppets) <i>*History link Toys</i> Lesson 1 - L. O. To consider that there are many different types of puppet and look at the ways that they have been made. <i>V - different types of puppet e.g. sock, hand, stick, string etc.</i> Lesson 2 - L.O. To practise basic joining and sewing techniques. <i>V - pin, needle, material, thread, cotton, join, knot, running stitch, felt.</i> Lesson 3 - L.O. To design a puppet.	Food Technology (Fruit Salad) Lesson 1 - L. O. To explore a range of fruit and vegetables. <i>V - fruit names, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth etc.</i> Lesson 2 - L.O. To develop ideas for making a fruit salad. <i>V - As above. Names of equipment and utensils e.g. knife, grater, chopping board, bowl etc.</i> Lesson 3 - L.O. To plan a recipe using a design sheet.			Mechanisms (Vehicles) <i>*History link Transport</i> Lesson 1 - L. O. To explore moving vehicles through play. <i>V - vehicle, wheel, moving parts.</i> Lesson 2 - L.O. To generate ideas and simple design criteria through talking and using own experiences. <i>V - design, vehicle, wheel, axle.</i> Lesson 3 and 4 - L.O. To select from a range of tools and equipment. To select from a range of materials. <i>V - assembling, cutting, joining, shaping, finishing, fixed, free, moving,</i>

		<p><i>V - design, sketch, front, back, material, outline, drawing.</i></p> <p>Lesson 4</p> <p>- L.O. To apply practised skills to make a puppet.</p> <p><i>V - design, front, back, right side, wrong wide, outline, running stitch, thread, material, fabric.</i></p> <p>Lesson 5</p> <p>- L.O. To complete my puppet design.</p> <p><i>V - As Above.</i></p> <p>Lesson 6</p> <p>- L.O. To evaluate my design.</p> <p><i>V - Strengths, weaknesses, evaluation.</i></p>	<p><i>V - As above. Slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning.</i></p> <p>Lesson 4</p> <p>- L.O. To make a fruit salad.</p> <p><i>V - As above. Slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning.</i></p> <p>Lesson 5</p> <p>- L.O. To evaluate the finished fruit salad.</p> <p><i>V - evaluate, like, dislike.</i></p>			<p><i>mechanism, names of tools and equipment.</i></p> <p>Lesson 5</p> <p>- L.O. To evaluate my own moving vehicle.</p> <p><i>V - evaluate, like, dislike, improve.</i></p>
Year 3 & 4		<p>Textiles (packaging)</p> <p><i>*Christmas link</i></p> <p>Lesson 1</p> <p>- L. O. Understand how packaging is designed for a specific purpose</p> <p><i>V - Barcode, Purpose</i></p> <p>Target audience</p> <p>Lesson 2</p> <p>- L.O.Understand that 3D shapes can be constructed from nets</p> <p><i>V - Net, deconstruct, cube, cuboid, prism</i></p> <p>Lesson 3</p> <p>- L.O. to create different styles of writing for a purpose</p> <p><i>V - style, font, bold,</i></p> <p>Lesson 4</p> <p>- L.O. to generate ideas for an item of packaging, considering its purpose and user/s</p> <p><i>V - Target audience, purpose, mock-up, evaluate</i></p> <p>Lesson 5</p> <p>- L.O. To follow and construct a design brief</p> <p><i>V - Net, score, tabs/ flaps</i></p> <p>Lesson 6</p> <p>- L.O.To evaluate the finished product</p> <p><i>V -evaluation</i></p>	<p>Food Technology (Bread)</p> <p><i>*Geography link Europe</i></p> <p>Lesson 1</p> <p>- L. O. Understand how packaging is designed for a specific purpose</p> <p><i>V - Barcode, Purpose</i></p> <p>Target audience</p> <p>Lesson 2</p> <p>- L.O.Understand that 3D shapes can be constructed from nets</p> <p><i>V - Net, deconstruct, cube, cuboid, prism</i></p> <p>Lesson 3</p> <p>- L.O. to create different styles of writing for a purpose</p> <p><i>V - style, font, bold,</i></p> <p>Lesson 4</p> <p>- L.O. to generate ideas for an item of packaging, considering its purpose and user/s</p> <p><i>V - Target audience, purpose, mock-up, evaluate</i></p> <p>Lesson 5</p> <p>- L.O. To follow and construct a design brief</p> <p><i>V - Net, score, tabs/ flaps</i></p> <p>Lesson 6</p> <p>- L.O.To evaluate the finished product</p> <p><i>V -evaluation</i></p>		<p>Textiles (Money Containers)</p> <p>Lesson 1</p> <p>- L. O. To evaluate a range of existing money containers.</p> <p><i>V - materials, fastenings, leather, felt, plastic, wool, press studs, velcro, buttons, clips/clasps.</i></p> <p>Lesson 2</p> <p>- L.O. To know how to sew using a range of different stitches.</p> <p><i>V - stitch, needle, thread, knot, running stitch, back stitch.</i></p> <p>Lesson 3</p> <p>- L.O. To generate ideas for a design.</p> <p><i>V - plan, template, sketch, ideas,</i></p> <p>Lesson 4</p> <p>- L.O. To plan how to make a money container.</p> <p><i>V - design, material, fastening, outline.</i></p> <p>Lesson 5</p> <p>- L.O. To make a money container (sewing)</p> <p><i>V - pin, cut, join, material, stitch, fastening, needle, thread, decoration</i></p> <p>Lesson 6</p> <p>- L.O.To evaluate my money container.</p> <p><i>V - evaluate, improve.</i></p>	
Year 5 & 6	<p>Textiles (Slippers)</p> <p>Lesson 1</p> <p>- L. O. To investigate the appearance, function and safety of slippers</p> <p><i>V - user, appearance, function, safety, non-slip, sole, uppers, inners, heel, toe, lining</i></p> <p>Lesson 2</p>		<p>Food Technology (Soup)</p> <p><i>*Geography link</i></p> <p>Lesson 1</p> <p>- L. O. To research soups from other countries and cultures.</p> <p><i>V - liquid, ingredients, stock, savoury, broth, soup, chowder, gazpacho</i></p> <p>Lesson 2</p>		<p>Mechanisms (Moving toys)</p> <p>Lesson 1</p> <p>- L. O. To investigate moving toys</p> <p><i>V - cam, follower, mechanism, spindle, axle</i></p> <p>Lesson 2</p> <p>- L.O. To understand that different shaped cams produce different movements</p>	

	<p>- L.O. To identify the different parts and materials of slippers <i>V -sole, uppers, inners, heel, toe, lining, pattern parts, fabric</i></p> <p>Lesson 3 - L.O. To design a pair of slippers <i>V -user, style, step by step plan/flow chart, design,</i></p> <p>Lesson 4 & 5 - L.O. To make a pair of slippers <i>V -seam, right side, wrong side, blanket stitch, running stitch,</i></p> <p>Lesson 6 - L.O. To evaluate <i>V -strengths, weaknesses, design criteria, appearance, functionality, safety, construction</i></p>		<p>- L.O. To taste and evaluate a range of soups. <i>V - See evaluation vocabulary bank</i></p> <p>Lesson 3 - L.O. To understand the seasonality of fruit and vegetables found in the UK. <i>V -Seasonality, vegetables, fruit, climate, weather conditions, produced</i></p> <p>Lesson 4 - L.O. To use research to design a soup recipe. <i>V - See evaluation vocabulary bank</i></p> <p>Lesson 5 - L.O. To prepare and cook soup. <i>V - chop, slice, peel, cut, simmer, boil, blend,</i></p> <p>Lesson 6 - L.O. To evaluate soup against the design criteria. <i>V -strengths, weaknesses, design criteria, appearance, flavour, texture</i></p>		<p><i>V - cam, follower, mechanism, spindle, axle</i></p> <p>Lesson 3 - L.O. To design a moving toy <i>V - cam, follower, mechanism, spindle, axle, user, features, design criteria</i></p> <p>Lesson 4 & 5 - L.O. To create a moving toy <i>V - cam, follower, mechanism, spindle, axle, revise, resilience, collaboration, compromise</i></p> <p>Lesson 6 - L.O. To evaluate <i>V -strengths, weaknesses, design criteria, appearance, functionality,construction</i></p>	
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Knowledge, Skills & Vocabulary Progression

Strand	Design	Make	Evaluate	Technical Knowledge	Cooking and nutrition
EYFS	Explore: • Experiment and build with a range of construction resources, find out about the properties and functions of different construction materials. Design: • Talk about ideas, choose resources, tools and techniques with a purpose in mind.	-Construct with a purpose, using a variety of resources. -Use simple tools and techniques. -Build and construct with a wide range of objects. -Select tools, techniques to shape, assemble and join -Replicate structures with materials/components -Discuss how to make an activity safe and hygienic -Record experiences by drawing and writing. Understand different media can be combined for a purpose.	Talk about what they like/dislike about their models/constructions, say why and how they would change them.	• Name some of the tools they use • Describe using vocabulary they have learned	• Name a variety of fruit and vegetables • Prepare fruit and vegetables for snack time Washing, peeling, chopping • Select and name a variety of tools, knife, peeler, chopping board • Know the importance of hygiene when preparing food including washing hands and surfaces • Choose fruits and other foods for snack
Knowledge	Discuss what they are going to make	Choose the materials that they would like to use.	Discuss what they like and dislike about the product.	Use appropriate vocabulary	Name a range of fruit and vegetables.
KS1 Skills	<ul style="list-style-type: none"> • Use pictures and words to convey what they want to design/ make • Explore ideas by rearranging materials • Select pictures to help develop ideas • Use mock-ups e.g. recycled material trial models to try out their ideas • Propose more than one idea for their product • Use ICT to communicate ideas • Use drawings to record ideas as they are developed • Add notes to drawings to help explanations 	<ul style="list-style-type: none"> • Select materials from a limited range • Explain what they are making • Name the tools used • Discuss their work as it progresses • Select and name tools needed to work materials • Explain which materials they are using and why 	<ul style="list-style-type: none"> • Explore existing products and investigate how they have been made (including teacher made examples) • Talk about their design as they develop and identify good and bad points • Say what they like and do not like about items they have made. • Decide how existing products do/do not achieve their purpose • Discuss how closely their finished product meets their own design criteria 	<ul style="list-style-type: none"> • Start to use technical vocabulary • Cut out shapes which have been drawn using a template • Join materials in a variety of ways • Decorate using a variety of techniques • Know some ways of making structures stronger • Show how to stiffen some materials • Know how to make a simple structure more stable • Attach wheels to a chassis using an axle • Know some different ways of making things move in a 2D plane 	<ul style="list-style-type: none"> • Group familiar food products e.g. fruit and vegetables • Cut and chop a range of ingredients • Work safely and hygienically • Know about the needs of a variety of food in a diet • that everyone should eat at least five portions of fruit and vegetables every day • Cut, peel grate, chop a range of ingredients • Work safely and hygienically • Know about the eatwell plate • how to name and sort foods into the five groups in The • eatwell plate • Understand where food comes from • 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 • Measure or weigh using cups or electronic scales.
Knowledge	<ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through talking, mock-ups and drawings. 	<ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices. • Select materials, components, reclaimed materials and construction kits to build and create their products. 	<ul style="list-style-type: none"> • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. 	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function	Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.
LKS2 Skills	<ul style="list-style-type: none"> • Develop more than one design or adaptation of an initial design • Plan a sequence of actions to make a 	<ul style="list-style-type: none"> • Select from arrange of tools for cutting, shaping, joining and finishing • Use tools with accuracy 	<ul style="list-style-type: none"> • Investigate similar products to the one to be made to give starting points for a design • Research the needs of the user 	<ul style="list-style-type: none"> • Use an increasingly appropriate technical vocabulary for tools • Materials and their properties 	<ul style="list-style-type: none"> • Follow instructions, recipes • Join and combine a range of ingredients • Begin to

	<p>product</p> <ul style="list-style-type: none"> • Think ahead about the order of their work and decide upon tools and materials • Propose realistic suggestions to how they can achieve their ideas • Record the plan by drawing annotated sketches • Use prototypes to develop and share ideas • Consider aesthetic qualities of materials chosen • Use CAD where appropriate 	<ul style="list-style-type: none"> • Select from materials according to their functional properties • Use appropriate finishing techniques <p>Prepare pattern pieces as templates for their design</p> <ul style="list-style-type: none"> • Select from techniques for different parts of the process 	<ul style="list-style-type: none"> • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets their design criteria • Investigate key individuals in design technology 	<ul style="list-style-type: none"> • Understand seam allowance • Prototype and product • Sew on buttons and make loops • Strengthen frames and diagonal struts • Measure and mark square sections • Strip and dowel accurately to 1cm • Incorporate a circuit into a model • Use electrical systems such as switches, bulbs and buzzers • Use ICT to control products • Use linkages to make movements larger and more varied 	<p>understand the food groups on the eatwell plate • Understand where food comes from • that everyone should eat at • at least five portions of fruit and • vegetables every day • • how to prepare simple dishes • safely and hygienically, without • using a heat source • Measure or weigh using cups or electronic scales. • Make healthy eating choices • Use the eatwell plate • Know that to be active and healthy, food and drink are needed to provide energy for the body • Understand seasonality • Know where and how ingredients are reared and caught • Prepare and cook food using different cooking techniques • Measure and weigh ingredients appropriately. • Follow a recipe. • Measure ingredients using scales. • Prepare ingredients hygienically and using the appropriate utensils following a recipe.</p>
Knowledge	<ul style="list-style-type: none"> • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes, to develop and communicate ideas. 	<ul style="list-style-type: none"> • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products. • Explain their choice of materials according to functional properties and aesthetic qualities. • Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties 	<ul style="list-style-type: none"> • Test and evaluate their own products against design criteria and the intended user and purpose. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<p>evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations</p>	<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food.
UKS2 Skills	<ul style="list-style-type: none"> • Record ideas using annotated diagrams • Use models, kits, and drawings to help formulate design ideas • Sketch and model alternative ideas • Decide which design idea to develop • Plan the sequence of work • Devise step by step plans which can be read/ followed by someone else • Use exploded diagrams and cross-sectional diagrams to communicate ideas 	<ul style="list-style-type: none"> • Develop one idea in depth • Select and use a wide range of tools • Cut accurately and safely to a marked line • Select from and use a wide range of materials. • Make prototypes • Use researched information to inform decisions • Produce detailed lists of ingredients/components/materials and tools • Refine their products – review-rework and improve 	<ul style="list-style-type: none"> • Identify the strength and weaknesses of their design ideas • Report using correct technical vocabulary • Discuss how well the finished product meets the design criteria having tested outcomes with the user • Understand how key people have influenced design in a variety of contexts 	<ul style="list-style-type: none"> • Use the correct vocabulary appropriate to the product • Join materials using appropriate methods • Create 3D textile products using pattern pieces • Understand pattern layout with textiles • Cut, strip wood, dowel square section accurately to 1mm • Build frameworks to support mechanisms • Stiffen and reinforce complex structures • Use mechanical systems such as cams, pulleys, and gears • Use electrical systems such as switches and motors • Program, monitor and control using ICT 	<ul style="list-style-type: none"> • Join and combine a widening range of ingredients • Select and prepare food for a particular purpose • Know where and how ingredients are grown and processed • Measure ingredients to the nearest gram and millilitre and calculate ratios of ingredients to scale up or down from a recipe. • Understand the importance of correct storage and handling of ingredients. • Combine ingredients appropriately e.g. beating or rubbing • Understand and apply the principles of a varied and healthy diet • Know that different food and drink contain

					different substances – nutrients, water and fibre – that • are needed for health • Choose ingredients to support healthy eating choices when designing their food products • Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques • Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Knowledge	<ul style="list-style-type: none"> • Use research using surveys, interviews, questionnaires and web-based resources. to develop a design specification for a range of functional products. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. 	<ul style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products. • Use finishing and decorative techniques suitable for the product they are designing and making. 	<ul style="list-style-type: none"> • Continually evaluate and modify the working features of the product to match the initial design specification. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. 	function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype	<ul style="list-style-type: none"> • Know how to use utensils and equipment including heat sources to prepare and cook food.