DT Knowledge, Skills and Vocabulary Overview

RECEPTION		CELEBRATIONS		OUR WORLD AND BEYOND	MINI-BEASTS
Area of DT		**Food & Nutrition**	**Textiles**	**Construction**	**Mechanisms**
Outcome		**Fruit Kebab & Toffee Apple**	**Christmas Tree Canvas**	**Transport out of reusable materials**	**Moving Mini-beast**
Term		**Autumn 2**	**Autumn 2**	**Spring 1**	**Summer 2**
EYFS objectives	**Design**	Articulate their ideas and thoughts in well-formed sentences.	Articulate their ideas and thoughts in well-formed sentences.	Learn new vocabulary. Articulate their ideas and thoughts in well-formed sentences.	Articulate their ideas and thoughts in well-formed sentences.
	Make	Ask questions to find out more and to check they understand what has been said to them	Ask questions to find out more and to check they understand what has been said to them	Show resilience and perseverance in the face of challenge	Show resilience and perseverance in the face of challenge
	Evaluate	See themselves as a valuable individual	See themselves as a valuable individual	Build constructive and respectful relationships	Build constructive and respectful relationships
	Technical knowledge				
Contextual knowledge		• Understand the importance of a balances diet. • Undestnad	• Why do we celebrate Christmas? • Why do we have Christmas trees?	• Understand how to look after our planet. • Why should we reuse items?	• What is a minibeast? • How can we keep minibeasts safe?
Repeated skills	**Design**	Create collaboratively, sharing ideas, resources and skills.	Create collaboratively, sharing ideas, resources and skills.	Create collaboratively, sharing ideas, resources and skills.	Create collaboratively, sharing ideas, resources and skills.
	Evaluate	Build constructive and respectful relationships	Build constructive and respectful relationships	Build constructive and respectful relationships	Build constructive and respectful relationships
Porotype and Product Specific Skills					
Vocabulary		Healthy Eating Melting Chop Slice	Christmas Thread	Materials Transport Reusable	Minibeasts Moving

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YEAR ONE		Seasonal Stockings	Marvellous Moving Pictures	Fabulous Fruit and Vegetables
Area of DT		**Textiles**	**Construction**	**Food**
Outcome		**Christmas Stocking**	**Moving Picture from a storybook.**	**Healthy Snacks**
Term		**Autumn 2**	**Spring 2**	**Summer 2**
NC objectives	**Design**	generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	Design purposeful, functional, appealing products for themselves and other users based on design criteria	Select from a wider range of materials including ingredients Understand where food comes from
	Make	select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing	explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	Use the basic principles of a healthy diet to prepare dishes.
	Evaluate	evaluate their ideas and products against design criteria	evaluate their ideas and products against design criteria	evaluate their ideas and products against design criteria
	Technical knowledge	build structures, exploring how they can be made stronger, stiffer and more stable	Design purposeful, functional, appealing products for themselves and other users based on design criteria	Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from
Contextual knowledge		• Understand why stockings remain popular around Christmas time. • Recognise a range of fabrics that can be used to create their stocking.	• Understand how moving pictures/ storybooks have developed • Identify the different styles of pop –ups that can be used. • Understand the reason they are making a Pop-Up Book.	• Understand the need for a variety of foods in a diet. • Understand how having a healthy balanced diet is important • Understand what products are already available •
DESIGNER		•	• Lothar Meggendorfer- Known as the father of the Pop- Up Book. He was the first creator of the Pop- Up book,.	• Innocent Smoothie Company – Discuss a range of their smoothies and how they make it a healthy snack.
Repeated skills	**Design**	1.Select materials from a limited range that will meet the design criteria 2. Colour fabrics using a range of techniques e.g fabric paints, printing, and painting. 3. Cut along lines, straight and curved.	1. Select materials from a limited range that will meet the design criteria 2. Use drawings to record ideas as they are developed ad talk about them 3. Talk about how structures can be made stronger 4. Use a range of materials to create models	1. Develop a food vocabulary using taste, smell, textures and feel. 2. Group familiar food products e.g fruit and vegetable's 3.Work safely and hygienically 4. Work with an adult to make food following a simple recipe. 5. Cut, peel, grate, chop a range of ingredients.
	Evaluate	4.Discuss their work as it progresses 5. Say what they like and don't like about items they have made and attempt to say why. 6.Talk about changes made during the making process	Discuss their work as it progresses Say what they like and don't like about items they have made and attempt to say why. Talk about changes made during the making process	6. Discuss their work as it progresses 7. Say what they like and don't like about items they have made and attempt to say why. 8. Talk about changes made during the making process
Porotype and Product Specific Skills		1. Produce a mock up with kits or reclaimed materials. 2. Colour fabrics using a range of techniques e.g fabric paints, printing, painting.	1. Talk about how structures can be made stronger 2. Use a range of materials to create models 3. Fold, tear and cut out card.	1. Develop a food vocabulary using taste, smell, textures and feel. 2. Group familiar food products e.g fruit and vegetable's. 3. Work safety and hygiene. 4. Understand where food comes from 5. Work with an adults to make food following a simple recipe.
Key vocabulary		Materials, needle fabric, running stitch, stocking, over, under,	Movement, card, leaver, construction, join, slider, leaver, pivot	Vegetables, fruit, grow, plant, diet, vitamins, salad, smoothie. Label, ingredients, healthy eating, chop, mix, blend, taste
Resources		Cardboard,	Cardboard	Knife

DT Knowledge, Skills and Vocabulary Overview

	PlanBee worksheets Paint Scissors PVA glue glue gun	PlanBee worksheets Paint Scissors, PVA glue, Glue gun	Fruit Vegetables Peeler Juicer
Reading Texts	Puppets -	The Fantastic Fairy-tale Pop-up Book – Frances Thatcher	Handa's Surprise – Eileen Browne Oliver's Fruit Salad- Vivian French

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YEAR 2		Perfect Puppets	Vibrant Vehicle	Pleasant Pizzas
Area of DT		**Textiles**	**Construction**	**Food**
Outcome		**Puppet**	**Car model**	**Pizza**
Term		**Autumn 2**	**Spring 2**	**Summer 2**
NC objectives	**Design**	Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	Design purposeful, functional, appealing products for themselves and other users based on design criteria
	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.	Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
	Evaluate	Evaluate their ideas and products against design criteria	evaluate their ideas and products against design criteria	Explore and evaluate a range of existing products
	Technical knowledge	•	Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from
Contextual knowledge		• Understand why puppet have remained a popular toy. • Recognise where puppets will be used within people's daily lives e.g shows, to tell a story etc. • Recognise a range of fabrics that can be used to create their puppet.	• Understand how cars have developed since they were first invented • Understand the impact vehicles have had on the lives of people in terms of travel. • Identify different styles of cars and explain why they have chosen that style for their design	• Understand the need for a variety of foods in a diet. • Understand how having a healthy balanced diet is important • Understand what products are already available
DESIGNER		Jim Herton/ Frank Oz- Creator of the 'Muppets' and voice over.	Karl Benz- first car design and made by him. Look at how people have used his invention and adapted it.	Pizza Express: Discuss what they use to make their Pizzas. Look at menu's from Pizza Express to explore toppings. Where do ingredients come from.
Repeated skills	**Design**	1. Use pictures and words to convey what they are going to design and make 2. Describe their models and drawings of ideas and intentions. 3. Add notes to drawings to help explanations. 4. Produce a mock up with kits/reclaimed materials or ICT. 5. Design a product from a detailed design criterion.	1. Use pictures and words to convey what they are going to design and make 2. Describe their models and drawings of ideas and intentions. 3. Add notes to drawings to help explanations. 4. Produce a mock up with kits/reclaimed materials or ICT. 5. Design a product from a detailed design criterion.	1. Select appropriate technique explaining first…. Next…. Last. 2. Add notes to drawings to help explanations. 3. Design a product from a detailed design criterion.
	Evaluate	6. Talk about their designs as they develop and identify good and bad points	6. Explore and evaluate a range of existing products.	4. Explore and evaluate a range of existing products. 5. Discuss how closely their finished product meet their design criteria.
Porotype and Product Specific Skills		1. Cut out shapes which have been created by drawing round a template onto the fabric 2. Join appropriately different materials and situations e.g. glue, tape. 3. Join fabrics using a running stich, glue, staples, over sewing, tape. 4. Decorate fabrics with buttons, beads, sequins, braids, ribbons.	1. Attach wheels to a chassis using an axle 2. Use a range of materials to create models with wheels and axles e.g. tubes, dowels, cotton reels. 3. Join appropriately different materials and situations e.g. glue, tape. 4. Cut strips of wood/ dowel using hacksaw and bench hook. 5. Investigate how structures can be made stronger, stiffer and more stable.	1. Cut, peel grate, chop a range of ingredients. 2. Work safely and hygienically 3. Measure and weigh food items, non-statutory measures e.g. spoons, cups. 4. Follow a recipe to make food with increasing independence
Key vocabulary		needle, thread, template, woodland, puppet, fabric, cross stitch	design, chassis, wheels, dowel, cardboard, axels	pizza, diet, carbohydrates, crust, base, toppings, plants, animals, protein
Resources		Plastic needles Thread Card Fabric Practice templates Googly eyes Glue gun	Axels Glue gun Cardboard Craft knifes Paint Wooden wheels Boxes	Flour Yeast Eggs Rolling pin Pizza tray Toppings
Reading Texts		The Gruffalo – Julia Donaldson The Gruffalo's Child – Julia Donaldson	All Kinds of Cars- Carl Johanson Mr Grumpy's Motor Car- John Birningham	Where food comes from- Emily Bone

DT Knowledge, Skills and Vocabulary Overview

YEAR THREE		Luminous Lamps	Pillows	Moving Monsters
Area of DT		Electronics	Textiles	Mechanisms
Outcome		Night Lights	Party Hats	Pneumatics toy
Term		Autumn 2	Spring 2	Summer 2
NC objectives	Design	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided 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]	select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
	Evaluate	Understand how key events and individuals in design and technology have helped to shape the world.	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
	Technical knowledge	understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	Understand and use mechanical systems in their products e.g. gears, pulleys, cams leavers and linkages	apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Contextual knowledge		• Identify existing lamps that are available. Understand how this product has impacted the daily lives of the wider world.	• Tote bags are reusable and help us to save the environment. They can be used for a range of things. • Bonnie Cashin was the first designer of the tote bag but has been adapted by many over the years. • Computer Aided Design is used by many companies to how their designs before making them.	• Understand how Pneumatic toys have developed since they were first invented. • Understand different ways that you can use pneumatics when creating a toy. • Look at existing toys that are already available.
DESIGNER		Thomas Edison – Creator of the first light bulb	• Bonnie Cashin first designer of tote bags	•
Repeated skills	Design	1. Draw/ sketch products to help analyse and understand how products are made. 2. Think ahead about the order of their work and decide upon tools and materials 3. Communicate their ideas through discussion and add notes to drawing to help explanations. Design innovative, functional products that are fit for purpose that are aimed at particular individuals or groups.	1. Draw/ sketch products to help analyse and understand how products are made. 2. Think ahead about the order of their work and decide upon tools and materials 3. Communicate their ideas through discussion and add notes to drawing to help explanations. 4. Design innovative, functional products that are fit for purpose that are aimed at particular individuals or groups	1. Draw/ sketch products to help analyse and understand how products are made. 2. Think ahead about the order of their work and decide upon tools and materials 3. Communicate their ideas through discussion and add notes to drawing to help explanations. 4. Design innovative, functional products that are fit for purpose that are aimed at particular individuals or groups
	Evaluate	1. Identify the strengths and weaknesses of their design idea 2. Discuss how closely their finished product meet their design criteria	1. Identify the strengths and weaknesses of their design idea 2. Discuss how closely their finished product meet their design criteria.	1. Identify the strengths and weaknesses of their design idea 2. Discuss how closely their finished product meet their design criteria.
Porotype and Product Specific Skills		1.Prototype frame and shell structures 2. Use glue gun with close supervision. 3. Create nets 4. Know how simple electronic circuits and components can be used to create functional products	1. Create a simple pattern 2. Measure, cut and join fabric using a running stich with some accuracy. 3. Decorate fabrics with buttons, beads, sequins, braids, ribbons. 4. Create nets	1. use glue gun with close supervision 2. Choose materials based on their functional properties and aesthetic qualities. 3. Use lolly sticks/ card to make leavers and linkages 4. Make structures more stable by giving them a wide base.
Key vocabulary		Prototype, structure, alarm, circuit, design	materials, design, fabric, thread, cross stich, needle.	Leaver, pulleys, properties, linkages, structures, design
Resources		Battery, alarm, circuit board, wire, crocodile clips, battery,	Need, thread, felt, fabric, clue, zip, buttons, rulers, scissors,	Balloons, whistles, fabric, scissors, glue, rulers, paper, PVA,
Reading Texts		Orion and the Dark	Reduce, Reuse, Recycle- Rebecca Rissman	There's a Monster in your Book. - Tom Fletcher

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YEAR 4		Perfect Pies	Christmas Decorations	Glorious Greenhouses
Area of DT		Food and Nutrition	Textiles	Construction
Outcome		Perfect Pies	Christmas decoration	Greenhouse structure
Term		Autumn 2	Autumn 2	Spring 2
NC objectives	Design	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	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	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	select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
	Evaluate	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	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	Understand seasonality,and know where and how a variety of ingredients are grown, reared, caught and processed. understand and apply the principles of a healthy and varied die		apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
Contextual knowledge		• Look at the excisiting pies and identify which pies are popular choices and why, • Understand the importance of a variety of food within our diet,	• Discuss the importance of the product and why they are popular for Christmas. • Where are decoration available? •	• Discuss how greenhouses have impacted the lives of the wider world. • Identify the materials used to create a greenhouse
DESIGNER		• Pukka Pies- investigate the different pies they manufacture	• Hans Greiner- creator of the first Christmas decorations In Germany.	• Charles Lucien Bonaparte- created the first greenhouse
Repeated skills	Design	1. Investigate similar products to the one to be made to produce own design criteria. 2. Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups. **3.** Produce annotated sketches	1. Investigate similar products to the one to be made to produce own design criteria. 2. Propose realistic suggestion as to how they can achieve their design ideas. 3. Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups. **4.** Produce annotated sketches	1.Propose realistic suggestion as to how they can achieve their design ideas. 2. Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups. **3.** Produce annotated sketches
	Evaluate	4. Discuss how well the finished product meets the design criteria and how well it meets the need 5. Evaluate the appearance and usability of their product. Explaining how their design could be improved.	5. Discuss how well the finished product meets the design criteria and how well it meets the need 6. Evaluate the appearance and usability of their product. Explaining how their design could be improved.	4. Discuss how well the finished product meets the design criteria and how well it meets the need 5. Evaluate the appearance and usability of their product. Explaining how their design could be improved.
Porotype and Product Specific Skills		1.Measure and weigh ingredients appropriately 2.Prepare and cook a range of predominantly savoury dishes using a range of cook techniques	1. Join fabrics using running stich, over sewing, back stich with accuracy 2. Explore fastenings and recreate some e.g. sew on buttons	1.Make prototypes

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	3.Make healthy eating choices from and understanding a balanced diet 4. Understand seasonality and know where ad how ingredients are grown and captured 4, understand seam allowances	3. use appropriate decoration techniques e.g. applique (glued or simples stiches) 4, understand seam allowances	2. Measure and mark square selection strip and dowel accordingly to 1cm 3. Create shell or frame structures, strengthen frames wit diagonal struts 4. Incorporate a circuit with a bulb or buzzer in a model. 5. Choose materials based on their functional properties and aesthetic qualities.
Key vocabulary	Annotate, ingredients, healthy eating, cut, grate, chop, portion, taste, appearance, freshness, texture	Annotate, design brief, fabrics, cross stitch, straight stitch, fabric, needle, thread, cotton	Structure, design brief, annotated sketch, computer-aided design, dowel, cellophane, craft knife, plants, greenhouses
Resources	Seasonal meat, seasonal vegetables, knife, grater, chopping board, Wisk, eggs, oven, baking dish..	Fabric, sewing needles. Thread, buttons, computer-aided design,	Dowel, craft knife, plastic, straws, wooden sticks, computer-aided design,
Reading Texts	Oliver's Vegetables- Vivian French	The Christmas Stockings – Matthew Price	

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YEAR 5		Brilliant Bird Houses	Perfect Pencil cases	Fantastic Fairgrounds
Area of DT		**Construction**	**Textiles**	**Mechanisms**
Outcome		**Bird Houses**	**Re-useable bag**	**Fairground ride with pulleys.**
Term		**Autumn 2**	**Spring 2**	**Summer 2**
NC objectives	**Design**	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided 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
	Make	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	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	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	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	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]
Contextual knowledge		• Why is it important that we have bird houses. • How do bird houses help animals to survive during the winter. • Provides animals a safe place to nest. • Discuss the habitat of birds.	• Discuss the use of Pencil cases and why they were invented • How have pencil cases impacted the lives of people. • Discuss how pencil cases are re-suable and sustainable for the environment.	• How do fairgrounds effect lives of people today. • Look into the importance of fairgrounds for the entertainment industry.
DESIGNER		• **Charles Waterton**	• Verona Pearl Amoth- created the first pencil case.	• Fredrick Savage- inventor who's inventions became the industry for playgrounds.
Repeated skills	**Design**	1. Sketch and model alterative ideas. 2. Develop one idea in depth. 3. Combine modelling and drawing to refine ideas. 4. Use found information to inform decisions	1. Sketch and model alterative ideas. 2. Develop one idea in depth. 3. Combine modelling and drawing to refine ideas.	1. Investigate products/ images to collect ideas and create own design criteria. 2. Sketch and model alterative ideas. 3. Develop one idea in depth
	Evaluate	5. Identify what does and does not work in the product 6. Make suggestion as how their or others design could be improved. 7. Investigate and analyse a range of existing products.	4.Identify what does and does not work in the product 5. Make suggestion as how their or others design could be improved.	4. Make suggestion as how their or others design could be improved. 5. Investigate and analyse a range of existing products. 6. Justify their decisions about materials and methods of construction

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Porotype and Product Specific Skills	1. Use computer aided design to model ideas. 2. Cut accurately and safely to a marked line. 3. Use models, kits and drawings to help formulate design ideas. 4. Cut strip wood, dowel, square section wood accurately to 1mm.	1. Join fabrics using appropriate methods. 2. Cut accurately and safely to a marked line. 3. Joining and combining materials with temporary, fixed or moving joinings. 4. Decorate textiles appropriately often before joining components. 5. Combine fabrics to create more useful properties.	1. Use hand drill to drill tight and loosen holes. 2. Choose materials based on their functional properties and aesthetic qualities. 3. Cut accurately and safely to a marked line. 4. Use the design criteria to inform their decisions about ways to proceed.
Key vocabulary	Wood, tape, straws, computer-aided design, craft knife, structure.	Fabrics, annotated sketch, design brief, existing products, cross stich, straight stich, zigzag stich, blanket stich, hem, cotton, needle, thread	Annotate, pattern, appearance, sound, computer-aided design,
Resources	Wooden sticks, glue gun, craft knife, tape, weights,	Fabric, cotton, thread, needles, measuring tape, buttons,	Cardboard, CAMS, motor, wires, circuit switch, axel,
Reading Texts		The Day the Crayons Quit – Drew Daywalt	Ned;s Circus of Marvels.- Justin Fisher

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YEAR 6		Terrific Tote Bags	Amazing Alarms	Burgers from Around the World
Area of DT		Textiles	Electronics	Food and Nutrition
Outcome		Tote Bags	Cars with alarm circuit.	Burgers
Term		Autumn 2	Spring 2	Spring 3
NC objectives	Design	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided 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
	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	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	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	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	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
	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.	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.
Contextual knowledge		• Look into how tote bags are a re-usable item. • They have been around for many years and are still enjoyed by many today. Discuss why they are still popular. • How have tote- bags developed over the years • Talk about the importance of reusable items.	• Show an understanding of how the light bulb changed the wider world. • Look into how programming has developed over the years. • Understand how lights have developed over the years.	• Look at the existing burgers and identify popular choices • Understand the importance of a variety of food within our diet. • Look into a range of countries for children to decide which country will influence their burger.
DESIGNER		• Bonnie Caskin- Designer of first tote bag..	• Thomas Edison – creator of the first light bulb	• Gourmet Burger Kitchen – Look at the range of burgers they sell in their restaurants.
Repeated skills	Design	1. Investigate products. Images to collect ideas and create own design criteria. 2. Sketch and model alternative ideas. 3. Develop one idea in depth.	1. Sketch and model alternative ideas. 2. Develop one idea in depth. 3. Make prototypes 4. Design innovative, functional, appealing produces that are fir for purpose that are aimed at particular individuals or groups.	1. Design innovative, functional, appealing produces that are fir for purpose that are aimed at particular individuals or groups. 2. Combine modelling and drawing to refine ideas. 3. Investigate and analyse a range of existing products
	Evaluate	4. Make quality products 5. Reflect on their work using their design criteria stating how well the design fits the needs of the user. 6. Make prototypes	5. Make quality products 6. Make suggestion as how their or others design could be improved. 7. Identify what does and does not work in the product	4.Make quality products 5. Reflect on their work using their design criteria stating how well the design fits the needs of the user.
Porotype and Product Specific Skills		1. Join fabrics using over sewing, back stich, blanket stich or machine stitching.	1. Give a report using correct technical vocabulary	1. Prepare food products taking into account the properties of ingredients and sensory characteristics.

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	2. Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms. 3. Choose materials based on their functional properties and aesthetic qualities. 4. Apply understanding of how to strengthen, stiffen structures that are more complex. 5. Create 3D products using pattern pieces and seam allowances.	2. Understand and use mechanical systems in their products e.g. gears, pulleys, cams, levers and linkages. 1. Create a mechanical and electrical system that has an input, process and output.	2. Understand how to feed themselves and other affordable now and in future.
Key vocabulary	Materials, pattern, string, stitching, cross stitch, straight stitch, zigzag stitch, fabric, structure, needle, thread, appearance, purpose, strength, challenges.	Prototypes, algorithm, flow chart, annotated sketch, computer-aided design, research, programmer, software, buttons, bulbs, monitor, control, motion sensor.	Shape, annotate, ingredients, healthy eating, mix, chip, cut, cook, mould, portion, taste, appearance, texture.
Resources	Fabric, computer-aided design, sewing needles, thread, wood, card, plastic,	Computer-aided design, Switch programme, motors, batteries, wires, crocodile clips.	Ingredients, grater, chopping board, oven, knife, buns, flour, eggs,
Reading Texts	Kites- Simon Mole (May not be age appropriate)		The Perfect Hamburger- Alexander McCall Smith