St Mark's CE Primary School

Design and Technology Curriculum Map

2023-2024



	Nursery		1/60	KS3
	Reception	KS1	KS2	What happens next?
National Curriculum Objectives	 Creating with Materials EL6 Children at the expected level of development will: design purposeful, functional, appealing products for themselves and other users based on design criteria safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function share their creations, explaining the process they have used Fine Motor Skills EL6 Children at the expected level of development will: hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases use a range of small tools, including scissors, paint brushes and cutlery Managing Self EL6 Children at the expected level of development will: be confident to try new activities and show independence, resilience and perseverance in the face of challenge manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices. 	 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. Cooking and Nutrition use the basic principles o healthy and varied diet to prepare dishes understand where food comes from. 	 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 electrical 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. 	 Use research and exploration, such as the study of different cultures, to identify and understand user needs identify and solve their own design problems and understand how to reformulate problems given to them develop specifications to inform the design o innovative, functional, appealing products that respond to needs in a variety of situations use a variety of approaches (for example, biominicry and user-centred design), to generate creative ideas and avoid stereotypical responses develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools Make select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aideumanufacture select from and use a wider, more complex range of materials, components and ingredients, taking into account their professionals and others to develop and broaden their understanding investigate new and emerging technologies test, evaluate and refine their ideas and others and other and the environment, and the responsibilities of designers, engineers and technology its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists technical knowledge understand and use the properties of materials and the performance of structural elements to achieve functioning solutions understand and use electronics to embed intervested forups anderstand and use the properties of materials and the performance of structural elements to achieve functioning solutions understand and use the properties of materials and the performance of structural elements to achieve functioning solutions understand and use electronics to embed intelectronic systems can be powered and used thein products (fo

		 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. become competent in a range of cooking techniques (for example, selecting and electrical equipment: applying heat in different ways: using awerness of taste, texture and smell to decide how to season dishes and combine ingredients: adapting and using their own recipes) understand the source, seasonality and characteristics of a broad range of ingredients.
	EYFS Design and Technology	y Opportunities
	Year A	Year B
Autumn 1	What do I know about me?	What do I know about me?
	Who are the characters inside my book?	Who are the characters inside my book?
Autumn 2	Cooking and Nutrition Looking at healthy and unhealthy toppings for gingerbread men (The Gingerbread Man) - which do they like / dislike? use a range of small tools, including scissors, paint brushes and cutlery. be confident to try new activities and show independence, resilience and perseverance in the face of challenge manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices. Making and decorating Christmas decorations design purposeful, functional, appealing products for themselves and other users based on design criteria safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function share their creations, explaining the process they have used hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases use a range of small tools, including scissors, paint brushes and cutlery be confident to try new activities and show independence, resilience and perseverance in the face of challenge	Cooking and Nutrition Looking at healthy and unhealthy toppings for porridge (Goldilocks) - which do they like / dislike? • use a range of small tools, including scissors, paint brushes and cutlery • be confident to try new activities and show independence, resilience and perseverance in the face of challenge • manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices.
Spring 1	Where do the wild animals live? Making wild animal masks using felt. Choosing the materials they will need to make their mask look "realistic" • design purposeful, functional, appealing products for themselves and other users based on design criteria • safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function • share their creations, explaining the process they have used • hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases • use a range of small tools, including scissors, paint brushes and cutlery • be confident to try new activities and show independence, resilience and perseverance in the face of challenge	What's above the sky? Building a rocket using junk modelling. Considering how to make the nose of the rocket • design purposeful, functional, appealing products for themselves and other users based on design criteria • safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function • share their creations, explaining the process they have used • hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases • use a range of small tools, including scissors, paint brushes and cutlery • be confident to try new activities and show independence, resilience and perseverance in the face of challenge
Spring 2	Does everything change as it grows? Cooking and Nutrition Chopping different foods from Oliver's Vegetables - which do they like / dislike? use a range of small tools, including scissors, paint brushes and cutlery be confident to try new activities and show independence, resilience and perseverance in the face of challenge	Who can I ask for help? Cooking and Nutrition Dental hygiene - looking at what is healthy and unhealthy for our teeth • manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices.

	 manage their own basic hygiene and personal needs, including understanding the importance of healthy food choices. 	
	Are all minibeasts scary?	What would I find on Old MacDonald's farm?
	Constructing a minibeast house out of junk. Thinking about the materials they want to put inside the minibeast house (Grass / stones / mud)	Making animal masks using felt. Choosing the materials they will need to make their mask look "realistic"
Summer 1	 design purposeful, functional, appealing products for themselves and other users based on design criteria safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function share their creations, explaining the process they have used hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases use a range of small tools, including scissors, paint brushes and cutlery be confident to try new activities and show independence, resilience and perseverance in the face of challenge 	 design purposeful, functional, appealing products for themselves and other users based on design criteria safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function share their creations, explaining the process they have used hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases use a range of small tools, including scissors, paint brushes and cutlery be confident to try new activities and show independence, resilience and perseverance in the face of challenge
Summer 2	Are we nearly there yet? Making boats Investigating floating and sinking design purposeful, functional, appealing products for themselves and other users based on design criteria safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function share their creations, explaining the process they have used hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases use a range of small tools, including scissors, paint brushes and cutlery be confident to try new activities and show independence, resilience and perseverance in the face of challenge	

Year 1 Autumn Term (Food)		
Fruit Salad / Fruit Kebab		
	Sticky Knowledge:	
	Cut food safely	
	NC Skills:	
	 Cut food safely 	
	 Describe the texture of foods 	
Food	 Wash their hands and make sure that surfaces are clean 	
Food	 Think of interesting ways of decorating food they have made 	
Technology	Key Vocabulary:	
Use the basic	• Apron	
principles of a healthy	• Chop	
and varied diet to	• Cut	
prepare dishes	 Equipment 	
Understand where	• Knife	
food comes from	• Texture	
	Decorate	
	• Safely	
	• Cutter	
	• Skewer	
	• Fruit	
• • •	Sticky Knowledge:	
Designing	 Use own ideas to design something 	
Design purposeful,	Explain to someone else how they want to make their product and make a simple plan before making	
functional, appealing	NC Skills:	
products for	 Think of some ideas of their own 	
themselves and other		
users based on design criteria	 Explain what they want to do Use minimum and the plan 	
cificitia	 Use pictures and words to plan Talk with at hard short how they want to construct their product. 	
Generate, develop,	 Talk with others about how they want to construct their product Make simple place to fine place to fine place to construct their product 	. h. f h. ildi.
model and	• Make simple plans before making objects, e.g. drawings, arranging pieces of constructio	n detore duilaing
communicate their	Key Vocabulary:	
deas through talking,	• Design	
drawing, templates,	• Plan	
mock-ups and, where appropriate,	• Make	
information and	Colour	
communication	• Taste	
technology	• Texture	
AA . I. •	Sticky Knowledge:	Equipment/materials:
Making	Use own ideas to make something	• Mango
Select from and use a	Choose appropriate tools	• Strawberry
	Cut food safely	• Blueberry
range of tools and		
range of tools and equipment to perform		• Grape
range of tools and equipment to perform practical tasks (for	NC Skills:	 Grape Banana
	NC Skills: • Explain what they are making • Explain which tools they are using	 Grape Banana Watermelon

 Select appropriate resources and tools for their projects 	 Chopping board 	
 Cut food safely 	• Skewer	
	• Cutter	
• Fruit		
* Cut		
• Skewer		
• Colour		
 Inpredients 		
-		
·		
,		
 Describe their product 		
 Explain what worked well and not so well in the product they have made 		
NC Skills:		
 Talk about their own work and things that other people have done 		
Key Vocabulary:		
• Describe		
• Explain		
Vear 1 Spring Term (Mechanisms -	Sliders and levers)	
Loof Folling From Trees		
Leaf Falling From Tree	Slider	
Sticky Knowledge:	Slider	
Sticky Knowledge: • Use own ideas to design something and describe how their own idea works	Slider	
Sticky Knowledge: • Use own ideas to design something and describe how their own idea works • Design a product which moves		
Sticky Knowledge: • Use own ideas to design something and describe how their own idea works		
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan 		
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: 		
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own 		
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do 		
Sticky Knowledge: • Use own ideas to design something and describe how their own idea works • Design a product which moves • Explain to someone else how they want to make their product and make a simple plan NC Skills: • • Think of some ideas of their own • Explain what they want to do • Use pictures and words to plan		
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do 		
Sticky Knowledge: • Use own ideas to design something and describe how their own idea works • Design a product which moves • Explain to someone else how they want to make their product and make a simple plan NC Skills: • • Think of some ideas of their own • Explain what they want to do • Use pictures and words to plan	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design Plan 	before making	
 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design Plan Build Make 	before making efore building	
Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design Plan Build Make	before making efore building Equipment/materials:	
Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design Plan Build Make	before making efore building Equipment/materials: • Glue stick	
Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a simple plan NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of construction be Key Vocabulary: Design Plan Build Make	before making efore building Equipment/materials:	
	 Cut food safely Key Vocabulary: Fruit Cut Skewer Colour Ingredients Chop Knife Healthy Chopping board Unhealthy Hygiene Sticky Knowledge: Describe their product Explain what worked well and not so well in the product they have made NC Skills: Talk about their own work and things that other people have done Explain what worked well and not so well in the product they have made 	

practical tasks (for		• Ruler	
example, cutting,	NC Skills:	• Card	
shaping, joining and	 Explain what they are making 	Scissors	
finishing)	 Explain which tools they are using 	Crayons	
Select from and use a	 Select appropriate resources and tools for their building projects 	• Pens	
wide range of	Key Vocabulary:		
materials and	• Glue		
components, including construction materials,	• Make		
textiles and	 Mechanism 		
ingredients, according	• Slider		
to their	• Slot		
characteristics	• Lever		
	Sticky Knowledge:		
	Describe how something works		
Evaluating	 Explain what works well and not so well in the model they have made 		
Explore and evaluate a	· · · · · · · · · · · · · · · · · · ·		
range of existing	NC Skills:		
products	 Describe how something works 		
	 Talk about their own work and things that other people have done 		
Evaluate their ideas			
and products against	Key Vocabulary:		
design criteria	• Describe		
	• Explain		
	Sticky Knowledge: • Make their model stronger		
	NC Skills:		
	 Make a product which moves 		
	Cut materials using scissors		
Technical	 Describe the materials using different words 		
Technical	 Say why they have chosen moving parts 		
Knowledge	 Make a model using different materials 		
	 Make their work tidy 		
Build structures, exploring how they can	 Make their model stronger if it needs to be 		
be made stronger,	Key Vocabulary:		
stiffer and more	• Move		
stable	• Cut		
Explore and use	• Parts		
	• Materials		
mechanisms (for	• Strong		
mechanisms (for example, levers,			
example, levers, sliders, wheels and	-		
example, levers, sliders, wheels and axles), in their	• Push		
example, levers, sliders, wheels and	-		
example, levers, sliders, wheels and axles), in their	• Push		
example, levers, sliders, wheels and axles), in their	• Push		
example, levers, sliders, wheels and axles), in their	• Push		

Year 1 Summer Term (Structures - Freestanding Stable Structure)		
Bridge for 3 Billy Goats Gruff		
Designing 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	 Sticky Knowledge: Use own ideas to design something and describe how their own idea works Design a product which moves Explain to someone else how they want to make their product and make a structure NC Skills: Think of some ideas of their own Explain what they want to do Use pictures and words to plan Talk with others about how they want to construct their product Make simple plans before making objects, e.g. drawings, arranging pieces of cons Key Vocabulary: Design Plan Build Make 	simple plan before making
technology	Sticky Knowledge:	Equipment/materials:
Making 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	 Use own ideas to make something Make a product which moves Choose appropriate resources and tools NC Skills: Explain what they are making Explain which tools they are using Select appropriate resources and tools for their building projects Key Vocabulary: Glue Make Structure Stable Freestanding 	 Glue stick Gello tape Masking tape Ruler Card Scissors Crayons Pens Cardboard boxes Paperclips Plasticine Art straws Split pins Paints
Evaluating Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	 Sticky Knowledge: Describe how something works Explain what works well and not so well in the model they have made NC Skills: Describe how something works Talk about their own work and things that other people have done Key Vocabulary: Describe Explain 	

Sticky Knowledge:

• Make their model stronger

NC Skills:

Technical

Knowledge

exploring how they can

Build structures,

be made stronger,

stiffer and more

Explore and use

mechanisms (for

example, levers,

products

sliders, wheels and axles), in their

stable

- Cut materials using scissors
- Describe the materials using different words
- Make a model using different materials
- Make their work tidy
- Make their model stronger if it needs to be

Key Vocabulary:

- Move
- Cut
- Parts
- Materials
- Strong
- Strength

Year 2 Autumn Term (Food) Cupcakes for Queen's Coronation		
		scoronation
Food Technology Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from	Sticky Knowledge: • Weigh ingredients to use in a recipe • Describe the ingredients used when making a dish or cake NC Skills: • Describe the properties of the ingredients they are using • Explain what it means to be hygienic • Be hygienic in the kitchen Key Vocabulary: • Chopping board • Grater • Ingredients • Measure • Measuring jug • Method • Recipe • Baking tray • Scales • Sieve	
	 Weigh Wooden spoon Hygiene 	
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	 Sticky Knowledge: Think of an idea and plan what to do next NC Skills: Think of some ideas and plan what to do next Choose the best tools and ingredients Give reason why these are the best Describe their design using pictures, diagrams, models and words Develop their own ideas from initial starting points Key Vocabulary: Design Plan Bake Resources Tools 	
Making Select from and use a range of tools and equipment to perform practical tasks (for	Sticky Knowledge: • Choose tools and ingredients and explain why they have chosen them • Measure ingredients to use in their product NC Skills: • Measure ingredients	Equipment/materials: • Bread • Flour • Butter • Sugar

example, cutting,		• Eggs	
shaping, joining and	Key Vocabulary:	 Fruit (Raisins) 	
finishing)	 Sandwiches 	• Cream	
	Scones	• Jam	
Select from and use a	• Cut	 Strawberries 	
wide range of	• Colour		
materials and	 Ingredients 	• Cheese	
components, including construction materials,	• Mix	• Cream Cheese	
textiles and		• Cucumber	
ingredients, according	• Bake		
to their	• Oven		
characteristics	• Knife		
	 Healthy 		
	 Chopping board 		
	• Unhealthy		
	• Hygiene		
	Sticky Knowledge:		
	 Explain what went well with their work 		
– 1	NC Skills:		
Evaluating	 Explain what went well with their work 		
Explore and evaluate a	 Explain what they would improve 		
range of existing			
products	 Consider how to improve their food 		
	Key Vocabulary:		
Evaluate their ideas	 Evaluate 		
and products against			
design criteria	• Improve		
	Positive		
	Negative		
	NegativeNext time		
	Negative	ape to 3D product)	
	 Negative Next time Year 2 Spring Term (Textiles 2D state) 		
• • •	 Negative Next time Year 2 Spring Term (Textiles 2D states) Ticket holder for Titanic Sticky Knowledge: 		
Designing	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the states of t		
Designing	 Negative Next time Year 2 Spring Term (Textiles 2D states) Ticket holder for Titanic Sticky Knowledge: 		
Design purposeful,	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the states of t		
Design purposeful, functional, appealing	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the states of t		
Design purposeful, functional, appealing products for	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the states of t		
Design purposeful, functional, appealing products for themselves and other	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the states of t		
Design purposeful, functional, appealing products for themselves and other	 Negative Next time Year 2 Spring Term (Textiles 2D states of the second sec		
Design purposeful, functional, appealing products for themselves and other users based on design	 Negative Next time Year 2 Spring Term (Textiles 2D states of the second secon		
Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop,	 Negative Next time Year 2 Spring Term (Textiles 2D states of the second sec		
Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and	 Negative Next time Year 2 Spring Term (Textiles 2D states of the second sec		
Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their	 Negative Next time Vear 2 Spring Term (Textiles 2D states to the second s		
Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through talking,	 Negative Next time Year 2 Spring Term (Textiles 2D states of the state of the state of the states of the state		
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,	 Negative Next time Vear 2 Spring Term (Textiles 2D states to the second s		
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	 Negative Next time Vear 2 Spring Term (Textiles 2D staticket holder for Titanic Sticky Knowledge: Think of an idea and plan what to do next Explain why they have chosen specific textiles NC Skills: Think of ideas and plan what to do next Choose the best tools and materials Give a reason why these are the best Describe how different textiles feel Explain why they chose a certain textile Describe their design by using pictures, diagrams, models and words Add some kind of design to their product Develop their own ideas from initial starting points 		
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,	 Negative Next time Vear 2 Spring Term (Textiles 2D staticky Knowledge: Think of an idea and plan what to do next Explain why they have chosen specific textiles NC Skills: Think of ideas and plan what to do next Choose the best tools and materials Give a reason why these are the best Describe how different textiles feel Explain why they chose a certain textile Describe their design by using pictures, diagrams, models and words Add some kind of design to their product Develop their own ideas from initial starting points 		
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	 Negative Next time Vear 2 Spring Term (Textiles 2D staticket holder for Titanic Sticky Knowledge: Think of an idea and plan what to do next Explain why they have chosen specific textiles NC Skills: Think of ideas and plan what to do next Choose the best tools and materials Give a reason why these are the best Describe how different textiles feel Explain why they chose a certain textile Describe their design by using pictures, diagrams, models and words Add some kind of design to their product Develop their own ideas from initial starting points 		
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,	 Negative Next time Vear 2 Spring Term (Textiles 2D staticky Knowledge: Think of an idea and plan what to do next Explain why they have chosen specific textiles NC Skills: Think of ideas and plan what to do next Choose the best tools and materials Give a reason why these are the best Describe how different textiles feel Explain why they chose a certain textile Describe their design by using pictures, diagrams, models and words Add some kind of design to their product Develop their own ideas from initial starting points 		

Construct

axles), in their

products

Strong

	Sticky Knowledge:	Equipment/materials:
Making	 Choose tools and materials and explain why they have chosen them 	• Ruler
Making	 Join materials and components in different ways 	• Materials
Select from and use a	 Measure materials to use in a model or structure 	Scissors
range of tools and		• PVA glue
equipment to perform	NC Skills:	Fabric crayons / Pens
practical tasks (for example, cutting,	 Join things (materials / components) together in different ways 	
shaping, joining and	 Measure textile 	
finishing)	 Join textiles together to make something 	
	 Make a product from textiles by gluing 	
Select from and use a	• Cut textiles	
wide range of materials and	 Make sensible choices as to which material to use for their construction 	
components, including	Key Vocabulary:	
construction materials, textiles and	Scissors	
ingredients, according	• Felt	
to their	• Centimetre	
characteristics	 Fabric crayons/ pens 	
	• Pattern	
	Sticky Knowledge:	
	 Explain what went well with their work 	
	NC Skills:	
Evaluating		
Evaluating	 Explain what went well with their work Eventain what they would improve 	
Explore and evaluate a	 Explain what they would improve Consider how to improve 	
range of existing products	Consider how to improve their work	
producis	Key Vocabulary:	
Evaluate their ideas	• Evaluate	
and products against	• Explain	
design criteria	• Improve	
	• Positive	
	• Negative	
	• Next time	
Technical	Sticky Knowledge:	
rechnical	 Make their product stronger 	
Knowledge	NC Skiller	
Build structures,	NC Skills:	
exploring how they can	 Cut materials using scissors Describe the materials using different words 	
be made stronger,	 Describe the materials using different words Make a model using different materials 	
stiffer and more	 Make a model using different materials Make their work tidy 	
stable	,	
Explore and use	 Use joining, folding or rolling to make it stronger 	
mechanisms (for	Key Vocabulary:	
example, levers,	• Cut	
sliders, wheels and	 Materials 	

	 Stretch 			
	• Strength			
	• Soft			
Year 2 Summer Term (Mechanisms – Wheels and Axels)				
Cars				
Decionino	Sticky Knowledge:			
Designing	 Think of an idea and plan what to do next 			
Design purposeful,				
functional, appealing products for	NC Skills: • Think of ideas and plan what to do next			
themselves and other				
users based on design	 Choose the best tools and materials Give a reason why these are best Describe their design by using pictures, diagrams, models and words 			
criteria				
Generate, develop,	Add some kind of design to their product			
model and communicate their	 Develop their own ideas from initial starting points 			
ideas through talking,	Key Vocabulary:			
drawing, templates,	• Design			
mock-ups and, where	Plan			
appropriate,	 Materials 			
information and communication	• Colour			
technology				
	Sticky Knowledge:	Equipment/materials:		
	 Choose tools and materials and explain why they have chosen them 	* Dowel		
	 Join materials and components in different ways 	• Wheel		
Making	 Measure materials to use in a model or structure 	• Plastic tubing		
Select from and use a		• Card		
range of tools and	NC Skills:	• Scissors		
equipment to perform	• Join things (materials/ components) together in different ways	• Glue		
practical tasks (for example, cutting,	 Join materials together as part of a moving product 	• Saw		
shaping, joining and	Measure materials to use in a model or structure Tain materials in different must			
finishing)	 Join materials in different ways Make sensible choices as to which material to use for their constructions 			
	Make sensible choices as to which material to use for their constructions			
Select from and use a	Key Vocabulary:			
wide range of materials and	• Join			
components, including	• Material			
construction materials,	• Measure			
textiles and	• Attach			
ingredients, according	• Wheel			
to their characteristics	• Axel			
Churucteristics	• Washer			
	• Chassis			
	• Decorate			
Evaluating	Sticky Knowledge:			
Explore and evaluate a	 Explain what went well with their work 			
range of existing	NC Skills:			
products	 Explain what went well with their work 			

	 Explain what they would improve
Evaluate their ideas and products against design criteria	Consider how to improve their construction
	Key Vocabulary:
	 Evaluate
	• Improve
	• Positive
	• Negative
	• Next time
	Sticky Knowledge:
	Make a model stronger and more stable
Technical	• Use wheels and axels, when appropriate to do so
	NC Skills:
Knowledge	 Use joining, folding or rolling to make it stronger
Build structures, exploring how they can	 Incorporate some type of movement into models
be made stronger,	Key Vocabulary:
stiffer and more stable	• Join
stable	• Fold
Explore and use	• Roll
mechanisms (for	• Movement
example, levers,	• Stable
sliders, wheels and	• Wheels
axles), in their products	• Axels
producio	Mechanism
	• Stiff
	• Soft

Year 3 Autumn Term (Structures – Shell Structures inc. CAD)		
Box to contain Egyptian Object		
Designing Use research and develop design criteria o 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	 Sticky Knowledge: Prove that a design meets a set criteria Design a product and make sure that it looks attractive Choose a material for both its suitability and its appearance NC Skills: Show that their design meets a range of requirements Put together a step-by-step plan which shows the order and also what equipment and tools Describe their design using an accurately labelled sketch and words Say how realistic their plan is Key Vocabulary: Design Plan Label Sketch Draw Computer Aided Design 	they need
computer-aided design Making 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	 Sticky Knowledge: Follow a step-by-step plan, choosing the right equipment and materials Select the most appropriate tools and techniques for a given task Work accurately to measure, make cuts and make holes NC Skills: Use equipment and tools accurately Use the most appropriate materials Work accurately to make cuts and holes Join materials Key Vocabulary: Join Material Measure Attach Glue gun Appearance Quality 	Equipment/materials: • Card • Decorations - Sequins etc • Lollypop sticks • Matchsticks • Scissors • Glue • Glue gun • TechSoft Primary V3 • Tinkercad
Evaluating Investigate and analyse a range of existing products Evaluate their ideas and products against their own design	Sticky Knowledge: Explain how to improve a finished model Know why a model has, or has not, been successful NC Skills: Explain what they changed which made their design even better 	

criteria and consider	Key Vocabulary:
the views of others to	 Evaluate
improve their work	
	• Improve
Understand how key	• Successful
events and individuals	 Unsuccessful
in design and	• Next time
technology have	
helped shape the	
world	
Technical	Sticky Knowledge:
	• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure
Knowledge	• Use a simple IT program within a design
Apply their	NC Skills:
understanding of how	 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
to strengthen, stiffen	
and reinforce more	• Apply their understanding of computing to program, monitor and control their products
complex structures	
Understand and use	Key Vocabulary:
mechanical systems in	• Strengthen
their products (for	• Reinforce
example, gears,	 Computer Aided Design
pulleys, cams, levers	computer Alded Design
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	
	Year 3 Spring Term (DT Key Events and Individuals – Isambard Kingdom Brunel)
	Bridges
	Sticky Knowledge:
Designing	 Prove that a design meets a set criteria
Use research and	• Choose a material for both its suitability and its appearance
develop design	
criteria o inform the	NC Skills:
design of innovative,	 Show that their design meets a range of requirements
functional, appealing	• Put together a step-by-step plan which shows the order and also what equipment and tools they need
products that are fit	• Describe their design using an accurately labelled sketch and words
ton nunnoca simod -t	• Say how realistic their plan is
for purpose, aimed at particular individuals	
	Key Vocabulary:

Gananata davalan		
Generate, develop, model and	• Plan	
communicate their	• Label	
ideas through	• Sketch	
discussion, annotated	• Draw	
sketches, cross-		
sectional and exploded		
diagrams, prototypes,		
pattern pieces and		
computer-aided design		
	Sticky Knowledge:	Equipment/materials:
	 Follow a step-by-step plan, choosing the right equipment and materials 	 Art straws
Making	 Select the most appropriate tools and techniques for a given task 	 Lollypop sticks
	 Work accurately to measure, make cuts and make holes 	Matchsticks
Select from and use a wider range of tools		• Card
and equipment to		Scissors
perform practical	NC Skills:	
tasks (for example,	 Use equipment and tools accurately 	• Glue
cutting, shaping,	• Use the most appropriate materials	• Glue gun
joining and finishing),	 Work accurately to make cuts and holes 	 Sellotape
accurately	 Join materials 	 Masking tape
,	Join materials	• Weight
Select from and use a	Key Vocabulary:	
wider range of	• Join	
materials and		
components, including	• Material	
construction	• Measure	
materials, textiles and	• Attach	
ingredients, according	• Glue gun	
to their functional	• Appearance	
properties and	• Quality	
aesthetic qualities	• Strength	
	Triangulation	
	Sticky Knowledge:	
Evaluating	 Explain how to improve a finished model 	
	 Know why a model has, or has not, been successful 	
Investigate and		
analyse a range of	NC Skills:	
existing products	 Explain what they changed which made their design even better 	
Evaluate their ideas	 Understand how key events and individuals in design and technology have helped to shape 	, the world
and products against	onder stand now key events and individuals in design and technology have helped to shape	Sine world
their own design	Key Vocabulary:	
criteria and consider	Evaluate	
the views of others to		
improve their work	• Improve	
	• Successful	
Understand how key	• Unsuccessful	
events and individuals	• Next time	
in design and		
technology have		
helped shape the		
world		

Technical	Sticky Knowledge:
	• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure
Knowledge	NC Skills:
Apply their	 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
understanding of how	
to strengthen, stiffen	
and reinforce more complex structures	Key Vocabulary:
complex structures	• Strengthen
Understand and use	* Reinforce
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	
men products	Veen 2 Summer Term (Levers and Linkeees)
	Year 3 Summer Term (Levers and Linkages)
	Moving Body Picture Linking to Science
Designing	Sticky Knowledge:
Use research and	 Prove that a design meets a set criteria
develop design	 Design a product and make sure that it looks attractive
criteria o inform the	 Choose a material for both its suitability and its appearance
design of innovative,	
functional, appealing	
products that are fit	NC Skills:
for purpose, aimed at	• Show that their design meets a range of requirements
particular individuals	• Put together a step-by-step plan which shows the order and also what equipment and tools they need
or groups	Describe their design using an accurately labelled sketch and words
Cononata davalan	• Say how realistic their plan is
Generate, develop, model and	Kay Vacabulany
communicate their	Key Vocabulary:
ideas through	• Design
discussion, annotated	• Plan
sketches, cross-	• Label
sectional and exploded	* Sketch
discrame prototypes	• Draw

• Draw

diagrams, prototypes,

pattern pieces and computer-aided design

Making Sticky Knowledge: Equipment/materials: Select from and use a wider range of tools and equipment tools and techniques for a given task · Card Make a product which uses both electrical and mechanical components · Scissors Make a product which uses both electrical and mechanical components · PVA glue tasks (for example, cutting, shaping, joining and finishing), accurately · Use equipment and tools accurately Vork accurately to make cuts and holes · Work accurately to make cuts and holes Select from and use a wider range of materials · Work accurately to make cuts and holes Select from and use a wider range of materials and components, including construction · Join Material · Join		
Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately • Select the most appropriate tools and techniques for a given task • Ruler NC Skills: • Work accurately to measure, make cuts and make holes • PVA glue • Use equipment and tools accurately • Use equipment and tools accurately • Pens • Use the most appropriate materials • Use the most appropriate materials • Pens • Work accurately to make cuts and holes • Join materials • Pans		
wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately • Make a product which uses both electrical and mechanical components • Work accurately to measure, make cuts and make holes • Scissors • Make a product which uses both electrical and mechanical components • Work accurately to measure, make cuts and make holes • PVA glue • Make a propriate materials • Scissors • Work accurately to measure, make cuts and holes • PVA glue • Use equipment and tools accurately • Pens • Work accurately to make cuts and holes • Pens • Work accurately to make cuts and holes • Pens • Select from and use a wider range of materials and components, including construction • Join • Join • Join • Material • Material		
and equipment to • Make a product which uses both electrical and mechanical components • Scissors perform practical • Work accurately to measure, make cuts and make holes • PVA glue tasks (for example, • Use equipment and tools accurately • Split pins cutting, shaping, • Use equipment and tools accurately • Pens • Use the most appropriate materials • Pens • Work accurately to make cuts and holes • Join materials select from and use a • Join materials wider range of • Join materials and Key Vocabulary: components, including • Join construction • Material		
perform practical tasks (for example, cutting, shaping, joining and finishing), accurately • Work accurately to measure, make cuts and make holes • PVA glue • Use equipment and tools accurately • Split pins • Use equipment and tools accurately • Pens • Use the most appropriate materials • Pens • Work accurately to make cuts and holes • Join materials select from and use a wider range of materials and components, including construction • Join • Join • Join		
Itsis (i) = Example, cutting, shaping, joining and finishing), accurately NC Skills: • Use equipment and tools accurately • Use the most appropriate materials • Work accurately to make cuts and holes • Pens Select from and use a wider range of materials and components, including construction • Join Key Vocabulary: • Material • Join		
ioining and finishing), • Use equipment and tools accurately joining and finishing), • Use the most appropriate materials accurately • Use the most appropriate materials • Work accurately to make cuts and holes Select from and use a • Join materials wider range of materials and Key Vocabulary: components, including • Join construction • Material		
Joining and Timshing), accurately • Use the most appropriate materials • Work accurately to make cuts and holes • Work accurately to make cuts and holes • Select from and use a wider range of materials and components, including construction • Join • Material • Join		
 Work accurately to make cuts and holes Select from and use a wider range of materials and components, including construction Key Vocabulary: Join Material 		
Select from and use a • Join materials wider range of • Materials materials and Key Vocabulary: components, including • Join construction • Material		
materials and Key Vocabulary: components, including · Join construction · Material		
components, including construction • Material		
construction • Material		
 Material 		
materials, textiles and material		
ingredients, according • Measure		
to their functional • Attach		
properties and • Appearance		
aesthetic qualities • Quality		
Sticker Knowladaa		
Evaluating . Explain how to improve a finished model		
Investigate and Know why a model has, or has not, been successful 		
analyse a range of		
existing products NC Skills:		
Evaluate their ideas * Explain what they changed which made their design even better		
and products against Key Vocabulary:		
their own design		
	Successful	
Independence how how	• Unsuccessful	
events and individuals • Next time		
in design and		
technology have		
helped shape the		
world		
Technical Sticky Knowledge:		
Technical . Know how to strengthen a product by stiffening a given part or reinforce a part of the structure		
Knowledge NC skills	Now now to strengthen a product by still tening a given part of theinforce a part of the structure	
Apply their • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures		
understanding of now		
to strengthen, stiffen and reinforce more		
and reinforce more • Strengthen complex structures		
• Reinforce		
Understand and use		
mechanical systems in		
their products (for		
example, gears,		

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	

Year 4 Autumn Term (Textiles - Combining Different fabric shapes inc. CAD)			
Greek Bag or Purse			
Designing Use research and develop design criteria o 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	Sticky Knowledge: Use ideas from other people when designing products Produce a plan and explain it Persevere and adapt work when original ideas do not work Communicate ideas in a range of ways, including by sketches and drawings which are annot Design a product and make sure that it looks attractive Choose a material for both its suitability and its appearance NC Skills: Come up with at least one idea for a product Devise a template Take account of the ideas of others when designing Produce a plan and explain it to others Key Vocabulary: Design Plan Label Sketch Annotate Adapt Product	ated	
Making 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	Sticky Knowledge: • Know which tools to use for a particular task and show knowledge of handling the tool • Know which material is likely to give the best outcome • Measure accurately to make cuts and make holes NC Skills: • Show a good level of expertise when using a range of tools and equipment • Join textiles of different types in different ways • Choose textiles both for their appearance and also qualities • Think about what the used would want when using textiles • Think about how to make their product strong • Devise a template • Explain how to join things in different ways • Sew • Scissors • Felt • Centimetre • Fabric crayons/ pens • Needle • Pattern • Stitch	Equipment/materials: Ruler Materials Scissors PVA glue Needles Thread Fabric crayons / Pens	

	• Thread
	Accurate
	• Outcome
	Sticky Knowledge:
	 Evaluate and suggest improvements for design
	 Evaluate products for both their purpose and appearance
Evaluating	 Explain how the original design has been improved
-	 Present a product in an interesting way
Investigate and analyse a range of	
existing products	NC Skills:
existing products	 Consider how they will check if the line is successful
Evaluate their ideas	 Evaluate their work with regards to appearance and functionality
and products against	 Suggest improvements, and say what is good and not so good about their original design
their own design	• Work on their product even though their original idea may not have worked
criteria and consider	 Take time to consider how to make their idea better
the views of others to	 Evaluate their product, thinking about the appearance and the way it works
improve their work	
	Key Vocabulary:
Understand how key	• Evaluate
events and individuals	• Improve
in design and technology have helped	Successful
shape the world	• Unsuccessful
	• Next time
	• Appearance
	Functionality
	Sticky Knowledge:
Technical	 Know how to strengthen a product by stiffening a given part or reinforce a part of the structure
Knowladaa	 Use IT where appropriate, to add to the quality of the product
Knowledge	
Apply their	NC Skills:
understanding of how	 Attempted to make their product strong
to strengthen, stiffen	
and reinforce more complex structures	
complex structures	Key Vocabulary:
Understand and use	• Strengthen
mechanical systems in	 Reinforce
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,	

	Year 4 Spring Term (Electrical Systems – Simple Circuit	ts and Switches Programming and Control)	
	Burglar Alarm		
	Sticky Knowledge:		
Designing	 Use ideas from other people when designing 		
Jse research and			
develop design criteria	Produce a plan and explain it		
o inform the design of	 Persevere and adapt work when original idea does not work 		
nnovative, functional,	 Communicate ideas in a range of ways, including by sketches and drawings which are annot 	tated	
appealing products	NC Skills:		
that are fit for	 Come up with at least one idea for a product 		
ourpose, aimed at			
particular individuals	Devise a template		
or groups	• Take account of the ideas of others when designing		
Generate, develop,	 Produce a plan and explain it to others 		
nodel and	Key Vocabulary:		
communicate their	 Design 		
deas through			
discussion, annotated	• Plan		
sketches, cross-	• Label		
sectional and exploded	• Sketch		
diagrams, prototypes,	 Annotate 		
pattern pieces and	• Adapt		
computer-aided design	• Product		
Making	Sticky Knowledge:	Equipment/materials:	
-	 Know which tools to use for a particular task and show knowledge of handling the tool 	• Card	
Select from and use a	 Know which material is likely to give the best outcome 	• Wood	
vider range of tools and equipment to	 Measure accurately 	 Lollypop sticks 	
perform practical		 Matchsticks 	
tasks (for example,	NC Skills:	• Glue	
cutting, shaping,	 Show a good level of expertise when using a range of tools and equipment 	• Glue gun	
oining and finishing),	 Explain how to join things in different ways 	* Saw	
accurately	Kay Maaabulang	• Buzzer	
	Key Vocabulary:	• Bulb	
Select from and use a	• Join	• Wire	
vider range of	• Material	• Switch	
naterials and components, including	• Measure	• Batteries	
construction materials,	• Attach		
textiles and	• Glue gun		
ngredients, according	• Appearance		
o their functional	• Quality		
roperties and	 Accurate 		
aesthetic qualities	• Outcome		
F undation	Sticky Knowledge:		
Evaluating	 Evaluate and suggest improvements for design 		
	 Evaluate products for both their purpose and appearance 		
Investigate and			
Investigate and analyse a range of existing products	 Explain how the original design has been improved 		

Evaluate their ideas	NC Skills:
and products against	 Consider how they will check if the design is successful
their own design	 Evaluate their work, with regards to appearance, and functionality
criteria and consider the views of others to	 Suggest improvements, and say what is good and not so good about their original design
improve their work	• Work on their product even though their original idea may not have worked
	 Take time to consider how to make their idea better
Understand how key	 Evaluate their product, thinking about the appearance and the way it works
events and individuals	•
in design and	Key Vocabulary:
technology have helped shape the world	• Evaluate
shape the world	* Improve
	 Successful
	• Unsuccessful
	• Next time
	* Appearance
	• Functionality
Technical	Sticky Knowledge:
	 Links scientific knowledge by using lights, switches or buzzers
Knowledge	 Use electrical systems to enhance the quality of the product
Apply their	 Use IT, where appropriate, to add to the quality of the product
understanding of how	NC Skills:
to strengthen, stiffen	
and reinforce more	 Attempted to make their product strong Add this statute
complex structures	 Add things to their circuits
complex structures	
Understand and use	Key Vocabulary:
	Key Vocabulary: • Lights
Understand and use mechanical systems in their products (for example, gears,	
Understand and use mechanical systems in their products (for	• Lights

• Circuit

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

Year 4 Summer Term (Food - Seasonality)		
	African Tagine	
Food Technology 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	 Sticky Knowledge: Describe how food ingredients come together Weigh out ingredients and follow a given recipe to create a dish Talk about which food is healthy and which food is not Know when food is ready for harvesting Know how to be both hygienic and safe when using food Bring a creative element to the food product being designed NC Skills: Choose the right ingredients for a product Use equipment safely Make sure that their product looks attractive Describe how their combined ingredients come together Key Vocabulary: Grams/ kilograms Millilitre/ Litre Knife Blender Temperature 	
5 1	• Whisk	
	Creative Sticky Knowledge:	
Designing Use research and develop design criteria o 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	 Use ideas from other people when designing Produce a plan and explain it Persevere and adapt work when original idea does not work Communicate ideas in a range of ways, including by sketches and drawings which are annot NC Skills: Come up with at least one idea for a product Devise a template Take account of the ideas of others when designing Produce a plan and explain it to others Key Vocabulary: Design Plan Label Sketch Annotate Adapt Product 	αted
Making Select from and use a wider range of tools and equipment to perform practical	Sticky Knowledge: Know which tools to use for a particular task and show knowledge of handling the tool Measure accurately NC Skills:	Equipment/materials: 1 tbsp olive oil 1 medium onion, peeled and finely sliced 2 thin leeks, trimmed and cut into thick slices 2 large garlic cloves, peeled and finely sliced

tasks (for example,		
cutting, shaping,	 Show a good level of expertise when using a range of tools and equipment 	• 2 tsp ground coriander
joining and finishing),	Kau Maashulamu	 2 tsp ground cumin
accurately	Key Vocabulary:	 ¹/₂ tsp dried chilli flakes
	• Measure	 ¹/₄ tsp ground cinnamon
Select from and use a	• Appearance	 400g can of chopped tomatoes
wider range of	* Quality	 1 red pepper, deseeded and cut into chunks
materials and	 Accurate 	 1 yellow pepper, deseeded and cut into chunks
components, including	• Outcome	 400g can of chickpeas, drained and rinsed
construction materials,		 100g dried split red lentils
textiles and		 375g sweet potatoes, peeled and cut into chunks
ingredients, according		 Juice of 1 large orange plus peel thickly sliced
to their functional		
properties and aesthetic qualities		 500g mixed nuts, such as brazils, hazelnuts, pecans and walnuts, toasted and roughly chopped (optional - beware of allergies)
		 400ml water
		 Small bunch of coriander, chopped
		• Natural bio-yoghurt (optional)
		• Peeler
		Knives
		• Grater
		Chopping boards
		• Colander
		• Jug
		• Juicer
	Sticky Knowledge:	
	 Evaluate and suggest improvements for design 	
	 Evaluate products for both their taste and appearance 	
Evaluating	 Explain how the original design has been improved 	
	 Present a product in an interesting way 	
Investigate and		
analyse a range of	NC Skills:	
existing products	 Consider how they will check if the design is successful 	
Evaluate their ideas	 Evaluate their work, with regards to appearance, and functionality 	
and products against	• Suggest improvements, and say what is good and not so good about their original design	
their own design	 Take time to consider how to make their idea better 	
criteria and consider	 Evaluate their product, thinking about the appearance and the way it works 	
the views of others to		
the views of others to improve their work	Key Vocabulary:	
	Key Vocabulary: • Evaluate	
	• Evaluate	
improve their work Understand how key events and individuals	EvaluateImprove	
improve their work Understand how key events and individuals in design and	EvaluateImproveSuccessful	
improve their work Understand how key events and individuals in design and technology have helped	 Evaluate Improve Successful Unsuccessful 	
improve their work Understand how key events and individuals in design and	 Evaluate Improve Successful Unsuccessful Next time 	
improve their work Understand how key events and individuals in design and technology have helped	 Evaluate Improve Successful Unsuccessful Next time Appearance 	
improve their work Understand how key events and individuals in design and technology have helped	 Evaluate Improve Successful Unsuccessful Next time 	

Year 5 Autumn Term (Structures and Mechanics - Frame Structures, Triangulation and Hydraulics) Moving Bridge Sticky Knowledge: Designing • Come up with a range of ideas after collecting information from different sources Use research and • Produce a detailed step-by-step plan develop design criteria • Explain how a product will appeal to a specific audience to inform the design • Design a product which requires pulleys or gears of innovative, functional, appealing NC Skills: products that are fit • Come up with a range of ideas after they have collected information for purpose, aimed at

particular individuals	Produce a detailed step-by-step plan	
or groups	 Explain why their finished product is going to be of good quality 	
Generate, develop,	Key Vocabulary:	
model and communicate their	• Design	
ideas through	• Plan	
discussion, annotated	 Sources 	
sketches, cross-	• Step-by-step	
sectional and exploded	• Appeal	
diagrams, prototypes,	Quality	
pattern pieces and		
computer-aided design		
	Sticky Knowledge:	Equipment/materials:
Making	 Use a range of tools and equipment competently 	• Wood
Select from and use a	 Make a prototype before making a final version 	• Saws
wider range of tools	 Make a product that relies on pulleys and gears 	• Wires
and equipment to		• Bulbs
perform practical	NC Skills:	• Buzzers
tasks (for example,	• Persevere through different stages of the making process	 Batteries
cutting, shaping,	• Use a range of tools and equipment expertly	• Switches
joining and finishing),	Use a range of joining techniques	• Mitre boxes
accurately	 Measure accurately enough to ensure that everything is precise 	• Motors
Select from and use a	Kau Maashulamu	 Pulley systems
wider range of	Key Vocabulary:	• Art straws
materials and	• Join	 Lollypop sticks
components, including	• Measure	Matchsticks
construction materials,	• Marking out	Scissors
textiles and	• Gears	• Glue
ingredients, according	• Pulley	• Glue gun
to their functional	 Prototype 	• Rulers
properties and aesthetic qualities	• Precise	• String
destrictie quarties		Crumble microcontroller
	Sticky Knowledge:	
Evoluating	 Suggest alternative plans; outlining the positive features and draw backs 	
Evaluating	 Evaluate appearance and function against original criteria 	
Investigate and		
analyse a range of	NC Skills:	
existing products	Refine their product after testing it	
Evaluate their ideas	 Check whether anything can be improved 	
and products against	 Keep checking that their design is the best it can be 	
their own design	 Evaluate appearance and function against the original criteria 	
criteria and consider	• Be motivated enough to refine and further improve their product using mouldable mate	rials
the views of others to	• Suggest some alternative plans and say what the good points and drawbacks are about	each
improve their work		
Indepatend how to	Key Vocabulary:	
Understand how key events and individuals	• Evaluate	
in design and	• Test	
technology have helped	 Drawbacks 	
	 Refine 	
shape the world	• Refine	

Sticky Knowledge:

• Links scientific knowledge to design by using pulleys or gears

• Uses a more complex IT program to help enhance the quality of the product produced

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

Year 5 Spring Term (Food - Seasonality) Norman Banguet			
Food Technology Understand and apply the principles of a healthy and varied diet	Sticky Knowledge: • Be both hygienic and safe in the kitchen • Know how to prepare a meal by collecting the ingredients in the first place • Know which season various foods are available for harvesting • Work within a budget to create a meal NC Skills:		
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	 Describe what they do to be both hygienic and safe Explain how their product should be stored with reasons Key Vocabulary: Budget Savoury Meal 		

dae. NC Skills:

- Incorporate a switch into their product
- Explain how they made their product attractive and strong
- Explain how they ensured that their product is strong and fit for purpose

Key Vocabulary:

- Strengthen
- Reinforce
- Attractive

are grown, reared, caught and processed

Designing

Use research and develop design criteria o 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, crosssectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Making

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

Sticky Knowledge: • Suggest alternative plans; outlining the positive features and draw backs

Evaluating Investigate and

existing products

Evaluate their ideas their own design

• Come up with a range of ideas after collecting information from different sources

Sticky Knowledge:

- Produce a detailed step-by-step plan
- Explain how a product will appeal to a specific audience

NC Skills:

- Come up with a range of ideas after they have collected information
- Produce a detailed step-by-step plan
- Explain why their finished product is going to be of good quality

Key Vocabulary:

- Design
- Plan
- Sources
- Step-by-step
- Appeal
- Quality

Sticky Knowledge:

• Use a range of tools and equipment competently

NC Skills:

- Persevere through different stages of the making process
- Use a range of tools and equipment expertly
- Measure accurately enough to ensure that everything is precise

Key Vocabulary:

- Spinning (NEEDS UPDATING)
- Yarn
- Weaving
- Measure
- Marking out
- Prototype Precise

Equipment/materials:

- Drop spindle (NEEDS UPDATING)
- 1.00m
- Fleece
- Shuttles
- Tapestry needles
- Different coloured yarns
- Hessian
- Coloured paper
- Card
- Masking tape

analyse a range of

and products against criteria and consider

Evaluate appearance and function against original criteria

NC Skills:

- Refine their product after testing it
- Check whether anything can be improved
- Keep checking that their design is the best it can be
- Evaluate appearance and function against the original criteria
- Be motivated enough to refine and further improve their product using mouldable materials

the views of others to improve their work	 Suggest some alternative plans and say what the good points and drawbacks are Understand how key events and individuals in design and technology have helped 		
	onderstand now key events and individuals in design and rectinology have helped	shape the worka	
Understand how key	Key Vocabulary:		
events and individuals in design and	• Evaluate		
technology have helped	• Test		
shape the world	• Drawbacks		
	• Refine		
	Year 5 Summer T	erm (Textiles)	
	Carnival Clothing		
Designing	Sticky Knowledge:		
Use research and	• Come up with a range of ideas after collecting information from different source	25	
develop design criteria	 Produce a detailed step-by-step plan 		
o inform the design of	 Explain how a product will appeal to a specific audience 		
innovative, functional,	NC Skills:		
appealing products			
that are fit for	Come up with a range of ideas after they have collected information		
purpose, aimed at	 Produce a detailed step-by-step plan Evelop when their finished product is gains to be of good public. 		
particular individuals or groups	 Explain why their finished product is going to be of good quality 		
or groups	Key Vocabulary:		
Generate, develop,	• Design		
model and	• Plan		
communicate their	• Sources		
ideas through	• Step-by-step		
discussion, annotated sketches, cross-	• Appeal		
sectional and exploded	• Quality		
diagrams, prototypes,			
pattern pieces and			
computer-aided design			
Making	Sticky Knowledge:	Equipment/materials:	
	 Use a range of tools and equipment competently 	 Material 	
Select from and use a wider range of tools	 Make a prototype before making a final version 	• Ruler	
and equipment to	 Work accurately to measure, make cuts and make holes 	 Scissors 	
perform practical	NC Skills:	• Thread	
tasks (for example,		• Needles	
cutting, shaping,	• Persevere through different stages of the making process	• Pins	
joining and finishing),	Use a range of tools and equipment expertly	* Buttons	
accurately	 Measure accurately enough to ensure that everything is precise 	 Dressmaker's chalk/ fabric pens 	
Select from and use a	 Join textiles of different types in different ways Characteristics had for their measurement along publicities 	 Decorations - Ribbons, Sequins etc 	
wider range of	 Choose textiles both for their appearance and also qualities Use the most energy is to material. 	• Felt	
materials and	 Use the most appropriate materials Music support of the sector and balance 	 T-shirts 	
components, including	 Work accurately to make cuts and holes 		
construction materials,	Key Vocabulary:		
textiles and	• Sew		
ingredients, according	• Needle		
to their functional properties and	 Pattern 		
aesthetic qualities			

aesthetic qualities

Stitch

	Running stitch	
	• Thread	
	• Measure	
	• Marking out	
	• Pattern piece	
	• Prototype	
	• Precise	
	Sticky Knowledge:	
– 1	 Suggest alternative plans; outlining the positive features and draw backs 	
Evaluating	 Evaluate appearance and function against original criteria 	
Investigate and analyse a range of	NC Skills:	
existing products	 Refine their product after testing it 	
51	 Check whether anything can be improved 	
Evaluate their ideas	keep checking that their design is the best if can be	
and products against	• Evaluate appearance and function against the original criteria	
their own design criteria and consider	• Be motivated enough to refine and further improve their product using mouldable materials	
the views of others to	 Suggest some alternative plans and say what the good points and drawbacks are about each 	
improve their work	• Understand how key events and individuals in design and technology have helped shape the world	
Understand how key	Key Vocabulary:	
events and individuals	• Evaluate	
in design and	• Test	
technology have helped shape the world	• Drawbacks	
Shape the world	• Refine	
	• Mouldable	

	Year 6 Autumn Term (Food – Food pairing)
	Woolton Pie Ration book cooking with a focus on food pairing and recovering seasonality
Food	Sticky Knowledge:
Food	 Be both hygienic and safe in the kitchen
Technology	 Know how to prepare a meal by collecting the ingredients in the first place
.	 Know which season various foods are available for harvesting
Understand and apply the principles of a	 Explain how food ingredients should be stored and give reasons
healthy and varied diet	 Work within a budget to create a meal
	 Understand the difference between a savoury and sweet dish
Prepare and cook a	
variety of	NC Skills:
predominantly savoury	 Describe what they do to be both hygienic and safe
dishes using a range of	 Explain how their product should be stored with reasons
cooking techniques	 Set out to grow their own products with a view to using within the pie, taking account of the time required to grow different foods

Understand	Key Vocabulary:	
seasonality, and know where and how a	Grams/ kilograms	
variety of ingredients	 Millilitre/Litre 	
are grown, reared,	• Knife	
caught and processed	 Temperature 	
5 1	• Meal	
	• Stored	
	Sticky Knowledge:	
	 Use market research to inform plans and ideas 	
Nadionina	 Follow and refine original plans 	
Designing	 Justify planning in a convincing way 	
Use research and develop design criteria	 Show that culture and society is considered in plans and designs 	
o inform the design of	NC Skills:	
innovative, functional,	 Use a range of information to inform their design 	
appealing products	 Use market research to inform plans 	
that are fit for	· ·	
purpose, aimed at	 Follow and refine their plan if necessary Tustify their plan to compare plan 	
particular individuals	 Justify their plan to someone else Surplain have their product chould be strend with account 	
or groups	 Explain how their product should be stored with reasons Consider address and explanation their designs 	
Generate, develop,	Consider culture and society in their designs	
model and	Key Vocabulary:	
communicate their	• Design	
ideas through	Plan	
discussion, annotated	Market research	
sketches, cross-	Refine	
sectional and exploded		
diagrams, prototypes, pattern pieces and	JustifyCulture	
computer-aided design		
comparer alded acolyn	• Society	
	• Step-by-step	
Making	Sticky Knowledge:	Equipment/materials:
	 Know which tool to use for a specific task 	• Peeler
Select from and use a	 Know how to use any tool correctly and safely 	Mixing bowl
wider range of tools	 Know what each tool is used for 	• Pie dish
and equipment to perform practical	 Explain why a specific tool is best for a specific action 	Rolling pin
tasks (for example,		• Saucepan
cutting, shaping,	NC Skills:	• Fridge
joining and finishing),	 Use tools and materials precisely 	• Oven
accurately		• Knives
	Key Vocabulary:	Chopping boards
Select from and use a	• Measure	 500g each potatoes, cauliflower, swede and carrot, all chopped
wider range of	• Appearance	 4 spring onions chopped
materials and	• Quality	 4 spring onions chopped 1tsp vegetable extract or 1 stock cube
components, including construction materials,	Specification	
textiles and	• Specific	 1tbsp rolled oats For the method
ingredients, according		• For the pastry
to their functional		• 150g wholemeal flour
properties and		 75g butter cold and chopped into cubes
		 8tbsp cold water

	Sticky Knowledge:	
	 Know how to test and evaluate designed products 	
Evaluating	 Explain how products should be stored and give reasons 	
Investigate and	• Evaluate product against clear criteria	
analyse a range of	NC Skills:	
existing products	 Change the way they are working if needed 	
Evaluate their ideas	 Test and evaluate their final product 	
and products against	 Check that their product is fit for purpose 	
their own design	 See what would improve their product 	
criteria and consider the views of others to	 Suggest whether different resources could have improved their product 	
improve their work	 Check if they need more or different information to make it even better 	
improve men work	 Assess if their product meets all design criteria 	
Understand how key	Key Vocabulary:	
events and individuals in design and	 Evaluate 	
technology have helped	• Improve	
shape the world	• Next time	
	• Appearance	
	• Taste	
Year	Year 6 Spring Term (Electrical Systems – Complex switches and circuits – programming, monitoring and control)	
	Everest Rescue Vehicle	
	Sticky Knowledge:	
	 Use market research to inform plans and ideas 	

Designing

Use research and develop design criteria o 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, crosssectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

NC Skills: • Use a range of information to inform their design • Use market research to inform plans

- Follow and refine their plan if necessary
- Justify their plan to someone else

Follow and refine original plansJustify planning in a convincing way

• Explain how their product should be stored with reasons

• Show that culture and society is considered in plans and designs

• Consider culture and society in their designs

Key Vocabulary:

- Design
- Plan
- Market research
- Refine
- Justify
- Culture
- Society
- Step-by-step

	Sticky Knowledge:	Equipment/materials:
	 Know which tool to use for a specific task 	• Wood
Makina	 Know how to use any tool correctly and safely 	• Saws
Making	 Know what each tool is used for 	• Wires
Select from and use a	 Explain why a specific tool is best for a specific action 	• Bulbs
wider range of tools		• Buzzers
and equipment to perform practical	NC Skills:	• Batteries
tasks (for example,	 Use tools and materials precisely 	Switches
cutting, shaping,	 Consider the use of the product when selecting materials 	Mitre boxes
joining and finishing),		• Motors
accurately	Key Vocabulary:	• Wheels
	• Measure	• Rubber
Select from and use a	• Appearance	Plastic tubing
wider range of	• Quality	• Art straws
materials and components, including	 Specification 	
construction materials,	• Specific	Lollypop sticks
textiles and		• Materials
ingredients, according		• Matchsticks
to their functional		• Scissors
properties and		• Glue
aesthetic qualities		• Glue gun
		• Rulers
		Crumble microcontroller
	Sticky Knowledge:	
	 Know how to test and evaluate designed products 	
Evaluating	 Explain how products should be stored and give reasons 	
Investigate and	 Evaluate product against clear criteria 	
analyse a range of		
existing products	NC Skills:	
51	• Change the way they are working if needed	
Evaluate their ideas	• Test and evaluate their final product	
and products against	Check that their product is fit for purpose	
their own design	 See what would improve their product 	
criteria and consider the views of others to	 Suggest whether different resources could have improved their product 	
improve their work	 Check if they need more or different information to make it even better 	
Improve men work	 Assess if their product meets all design criteria 	
Understand how key	Kay Vacabulany	
events and individuals	Key Vocabulary:	
in design and	• Evaluate	
technology have helped		
shape the world	• Improve	
	• Next time	
	Appearance Chicks Knowledge	
Technical	Sticky Knowledge:	
rechnical	• Use electrical systems correctly and accurately to enhance a given product	
Knowledge	 Know which IT product would further enhance a specific product 	
	• Use knowledge to improve a made product by strengthening, stiffening and reinforcing	
منهما مناهد المساه		
Apply their understanding of how to strengthen, stiffen	NC Skills: • Use different kinds of circuit in their product	

and reinforce more complex structures	• Think of ways in which adding a circuit would improve their product
complex structures	Key Vocabulary:
Understand and use	• Strengthen
mechanical systems in	Reinforce
their products (for	• Enhance
example, gears,	
pulleys, cams, levers	Lights
and linkages)	• Switches
Understand and use	• Buzzers
electrical systems in	• Electric
their products (for	• Circuit
example, series	
circuits incorporating	
switches, bulbs,	
buzzers and motors)	
Apply their	
understanding of	
computing to program,	
monitor and control	
their products	
	Year 6 Summer Term (Mechanisms - Pulleys and gears)
	Crane to lower packages into camp
	Sticky Knowledge:
	 Use market research to inform plans and ideas
Designing	 Follow and refine original plans
Use research and	 Justify planning in a convincing way
develop design criteria	 Show that culture and society is considered in plans and designs
o inform the design of	
innovative, functional,	NC Skills:
appealing products	• Use a range of information to inform their design
that are fit for	• Use market research to inform plans
purpose, aimed at particular individuals	 Follow and refine their plan if necessary
or groups	Justify their plan to someone else
J	 Explain how their product should be stored with reasons
Generate, develop,	Consider culture and society in their designs
model and communicate their	Key Vocabulary:
ideas through	• Design
discussion, annotated	• Plan
sketches, cross-	 Market research
sectional and exploded	• Refine
diagrams, prototypes,	• Justify
pattern pieces and	• Culture
computer-aided design	• Society
	• Step-by-step

Making	Sticky Knowledge:	Equipment/materials:	
-	 Know which tool to use for a specific task 	 Newton meter 	
Select from and use a	 Know how to use any tool correctly and safely 	• Weights	
wider range of tools	 Know what each tool is used for 	• Card	
and equipment to	 Explain why a specific tool is best for a specific action 	• Dowel	
perform practical tasks (for example,	- F	• Wood	
cutting, shaping,	NC Skills:	• Saws	
joining and finishing),	 Use tools and materials precisely 	• Mitre boxes	
accurately	Consider the use of the product when selecting materials		
	· · · · · · · · · · · · · · · · · · ·	• Pulley systems	
Select from and use a	Key Vocabulary:	• Lollypop sticks	
wider range of	• Measure	• Matchsticks	
materials and	• Appearance	• Scissors	
components, including	• Quality	• Glue	
construction materials,	Specification	• Glue gun	
textiles and	• Specific	 Rulers 	
ingredients, according	Specific	• String	
to their functional			
properties and aesthetic gualities			
desthetic qualities	Sticky Knowledge:		
	· -		
	Know how to test and evaluate designed products		
Evaluating	 Explain how products should be stored and give reasons 		
Investigate and	 Evaluate product against clear criteria 		
analyse a range of			
existing products	NC Skills:		
	 Change the way they are working if needed 		
Evaluate their ideas	 Test and evaluate their final product 		
and products against	 Check that their product is fit for purpose 		
their own design	 See what would improve their product 		
criteria and consider	 Suggest whether different resources could have improved their product 		
the views of others to	 Check if they need more or different information to make it even better 		
improve their work	 Assess if their product meets all design criteria 		
	······································		
Understand how key	Key Vocabulary:		
events and individuals	• Evaluate		
in design and	• Purpose		
technology have helped shape the world	• Improve		
Shape the world	• Next time		
	Appearance Sticky Knowledge:		
Technical			
	• Use electrical systems correctly and accurately to enhance a given product		
Knowledge	• Know which IT product would further enhance a specific product		
Apply their	 Use knowledge to improve a made product by strengthening, stiffening and reinforcing 		
understanding of how			
to strengthen, stiffen	NC Skills:		
and reinforce more	• Use different kinds of circuit in their product		
complex structures	 Think of ways in which adding a circuit would improve their product 		
Understand and use	Key Vocabulary:		
Understand and use mechanical systems in	• Strengthen		
their products (for	• Reinforce		
men products (101			

example, gears, pulleys, cams, levers and linkages)	 Enhance Lights Switches
Understand and use electrical systems in	BuzzersElectric
their products (for example, series circuits incorporating	• Circuit
switches, bulbs, buzzers and motors)	
Apply their understanding of computing to program,	
monitor and control their products	