

Vision 🐧	Intent	Implementation >>>	Impact
		Following the National Curriculum	
	At Bleak Hill, we understand that D&T	as a basis, teaching all statutory	
	allows pupils to solve problems, think	content, with a half term	
	creatively and develop ideas. Our	dedicated to D&T teaching every	
	curriculum offers children a chance to use	term (3 half terms per year group).	
Design 4 Technology is an	creative thinking and activity within a		
inspiring, praCtiCal,	defined purpose and tangible outcome.	Topics build systematically on	Retrieval based learning
creative subject. At Bleak	Bleak Hill is committed to nurturing	previous topics which contain	techniques for every
Hill, we wish to deepen	children's curiosity and creativity, as well	over-arching transferable	lesson in the sequence.
children's understanding of	as preparing them for living in a modern	concepts.	
the technological and	world where technology is rapidly changing		Evaluations for each
mechanical world in which	and advancing.	Skills to apply previous knowledge	lesson to provide
we live in and excite		to new learning (across topics and	formative assessment.
children on how products	In D∤T, we aim to help pupils to:	year groups).	
and ideas have been			Exit tasks to gain a
developed over time to	Develop their design and making skills	Specialised DAT days are planned	summative judgment.
react to the ever-changing	Work individually and collaborate with	to allow for enterprise	
world.	other pupils in a variety of contexts	opportunities.	
	Evaluate products, made by themselves,		
	their peer groups and companies.	Key historical figures considered	
	Learn the principles of nutrition, healthy	as wider curriculum links each	
	eating and how to cook.	term including famous creators	
		per year group.	



	Autumn	Spring	Summer
Reception	Models Joining techniques experimenting	Creating houses Planning and evaluating	Towers and Bridges
Year 1	Materials/Structure Moving Pictures	<b>Textiles</b> Fabric Faces	Food Technology Picnic snack
Year 2	Food Technology Dips and Dippers	<b>Textiles</b> Fabric Bunting	Mechanism/Structure Tudor Houses
Year 3	Mechanism/Structure Let's go fly a kite	<b>Textiles</b> Juggling Balls	Food Technology Edible Garden
Year 4	Mechanism/Structure Making Mini Greenhouses	Food Technology American Food	Electronics Battery operated lights
Year 5	Food Technology Bread	<b>Mechanism/Structure</b> Marble Runs	<b>Textiles</b> Felt Phone Cases
Year 6	Mechanism/Structure Building Bridges	Food Technology Global Food	Electronics Fairground ride

Materials/ Structure	Textiles	Food Technology	Electronics
<b>P</b>			



Threshold Concepts (the big ideas that form the basis of the schema)	Master practical sk	ills design	Make, Evaluate	e and improve	Take Inspiration f throughout histor	
Knowledge Categories	Mechanism/ Structure	Textiles	Purpose	Audience	Techniques	Vocabulary
(the facets of each threshold concept that help strengthen the schema)	CAD/ Electricity	Food				

<u>EYFS</u>	Physical development- <ul> <li>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</li> </ul>
Reception	<ul> <li>Expressive Arts and Design-</li> <li>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</li> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>Create collaboratively, sharing ideas, resources and skills.</li> </ul>
ELG	Physical development- Use a range of small tools, including scissors, paintbrushes and cutlery.  Expressive Arts and Design-  • 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.



Year 1	Food:	Design products that have a	Explore objects and designs to
Cur 1	Cut, peel or grate ingredients safely	Clearpurpose and an intended	identify likes and dislikes of the
	andhygienically.	user.	designs. Suggest improvements
	Measure or weigh using measuring		to existing designs.
	Cups		
	Materials:		
	Cut materials safely using tools		
	provided. Measure and mark out to		
	the nearest Centimetre.		
	Demonstrate a range of cutting and		
	shaping techniques (such as tearing,		
	cutting, folding and curling).		
	<u>Textiles:</u>		
	Shape textiles using templates.		
	Colour and decorate textiles using a		
	number of techniques (such as		
	dyeing, adding sequins or printing).		
	Computing:		
	Model designs using software.		
Year 2	Food:	Make products, refining the	Explore how products have
	Measure or weigh using electronic	designas work progresses.	beenCreated
	scales.	Use software to design	
	Assemble or cook ingredients.		
	Materials:		
	Demonstrate a range of joining		
	techniques (such as gluing, hinges or		
	combining materials to strengthen).		



Year 3	Textiles: Join textiles using running stitch. Electricals and electronics: Diagnose faults in battery operated de-vices (such as low battery, water damageor battery terminal damage). Construction: Use materials to practise drilling, screwing, gluing and nailing materials to makeand strengthen products. Mechanics: Create products using levers, wheels andwinding mechanisms.  Food: Prepare ingredients hygienically using	Design with purpose by identifying opportunities to	Identify some of the great designers in all the areas of study
	appropriate utensils. Measure ingredients to the nearest gramaccurately.  Materials: Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Mechanics: Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a	design. Make products by working efficiently (such as by carefully selecting materials).	(including pioneers in horticultural techniques) to generate ideas for designs.  Improve upon existing designs, givingreasons for choices.



			PRIMARY SCHOOL -
	product (such as levers, winding		
	mechanisms, pulleys andgears).		
	Construction:		
	Choose suitable techniques to		
	construct products or to repair		
	items.		
Year 4	Food:	Refine work and techniques as	Disassemble products to
	Follow a recipe.	work progresses, continually	understandhow they work.
	Assemble or cook ingredients	evaluating the product design.	
	(Controlling the temperature of the	Use software to design	
	oven or hob, if cooking).	andrepresent product designs.	
	Materials:		
	Apply appropriate Cutting and		
	shapingtechniques that include cuts		
	within the perimeter of the material		
	(such as slots orcut outs).		
	Select appropriate joining techniques.		
	Textiles:		
	Understand the need for a seam		
	allowance.		
	Join textiles with appropriate		
	stitching. Select the most		
	appropriate techniquesto decorate		
	textiles.		
	Computing:		
	Control and monitor models using		
	software designed for this purpose.		
	Construction:		
	Strengthen materials using suitable		
	techniques.		



Electricals:	
Create series and parallel Circuits	



#### Year 5 Food:

Understand the importance correct storage and handling of product will offer (rather than throughout history, giving reasons ingredients (using knowledge of simply for profit). micro-organisms).

Measure accurately

Create and refine recipes, including refinements. ingredients, methods, cooking times and temperatures.

#### Materials:

Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly Cutting out a shape).

#### Mechanics:

Convert rotary motion to linear using cams.

Use innovative combinations of electronics (or computing) and mechanics in product designs.

#### Computing:

Write code to control and monitor models or products

#### Textiles:

Create objects (such as a cushion) thatemploy a seam allowance. Join textiles with a

Design with the user in mind, of motivated by the service a

> Make products through stages of prototypes, making continual improve upon existing products.

Combine elements of design from a range of inspirational designers forchoices.

Create innovative designs that



Combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).	



#### Year 6 Food:

Measure accurately and calculate quality finish, using art skills so asto suggest improvements to ratios of ingredients to scale up or where appropriate. down from arecipe.

Demonstrate a range of baking and diagrams and computer aided cooking techniques.

#### Materials:

Show an understanding of the qualities of materials to choose appropriate tools to Cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).

#### Textiles:

(Ise the qualities of materials to Create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).

#### Construction:

Develop a range of practical skills to Create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).

#### Electricals and electronics:

Create circuits using electronics kits thatemploy a number of components (such as LEDs, resistors, transistors

Ensure products have a high- Evaluate the design of products

Use prototypes, cross-sectional designs to represent designs.

the userexperience.



and Chips).	



EYFS	Autumn	Spring	Summer
Theme	During their time in the Early Years the Children will complete tasks in Continuous provision and planning will be interest led. Themes will vary to reflect this Children will be supported by staff and their knowledge and skills will be developed on an individual basis.  Development matters supports this – DT has strong links to the following areas: Making Relationships, Self Confidence & Self Awareness, Communication & Language, Moving & Handling, Health & Self Care,	During their time in the Early Years the Children will complete tasks in Continuous provision and planning will be interest led. Themes will vary to reflect this Children will be supported by staff and their knowledge and skills will be developed on an individual basis.  Development matters supports this – DThas strong links to the following areas: Making Relationships, Self Confidence & Self Awareness, Communication & Language, Moving & Handling, Health & Self Care, Expressive	During their time in the Early Years the Children will complete tasks in Continuous provision and planning will be interest led. Themes will vary to reflect this Children will be supported by staff and theirknowledge and skills will be developed on an individual basis. Development matters supports this – DT has strong links to the following areas: Making Relationships, Self Confidence & Self Awareness, Communication & Language, Moving & Handling, Health & Self Care, Expressive Arts & Design.
	* Handling, Health * Self Care, Expressive Arts * Design.	Arts & Design.	



#### Key Stage End Points

To use one-handed tools and equipment, e.g. makes snips in paper with Child scissors.

To understand that equipment and tools have to be used safely. To show an interest in technological toys with knobs or pulleys, or real objects.

To show skill in making toys work by pressing parts or lifting flaps to achieve effects, such as sound, movements or new images.

use Various Construction materials.

To beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.

To join construction pieces together tobuild and balance.

To realise that tools can be used for apurpose.

To talk about a healthy range of foodstuffs and understands need for variety in food.

To use simple tools to effect changes to materials.

To handle tools, objects, construction and malleable materials safely and with increasing control.

To show understanding of the need for safety when tackling new challenges and consider and manage some risks. To show understanding of how to transport and store equipment safely.

To practise some appropriate safety measures without direct supervision.

To explore what happens when they mixcolours.

To experiment to Create different textures.

To understand that different media can be combined to create new effects.

To manipulate materials to achieve a planned effect.

To construct with a purpose in mind, using a Variety of resources. To use simple tools and techniques competently and appropriately.

To handle equipment and tools effectively, including pencils for writing.

To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

To use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

To talk about a healthy range of foodstuffsand understands need for variety in food.



To select appropriate resources
and adapt work where necessary.
To select tools and techniques
needed to shape, assemble and join
materials they are using.
To create simple representations
of events, people and objects.
To choose particular colours to
use for apurpose.
To talk about a healthy range of
food- stuffs and understands
need for variety in food.



#### Knowledge

To help to develop the skills they need to use equipment safely, e.g. cutting with scissors or using tools.

To help to develop the skills of how to use tools and materials effectively and safely and give them opportunities to do so. To support and extend the skills Children need to develop to enablethem to become familiar with simple equipment. To draw young children's attention topieces of ICT apparatus they see orthat they use with adult supervision support Children in thinking about whatthey want to make. the processes that may be involved and the materials and resources they might need, such as aphotograph to remind them what the climbing frame is like. To talk with children about where they can see models and plans in the environment To demonstrate and teach skills

and techniques associated with

To use tools in playdough to effectchange.

To be able to manipulate media tochange it.

To use tools, objects, construction, materials to construct.

be able to work safely with materials and tools

To be aware how to transport toolssafely.

know how the use scissors safely. To experiment colour, design, texture and form.

To know how to join materials together. To know that different materials have different properties.

To eat a healthy range of foodstuffs andtaste a variety in food.

To know how to use scissors, printing items and other media.

To be able to use a pencil effectively todraw and mark make. To know how the use scissors safely. To experiment colour, design, texture and form.

know how to join materials together. To know that different materials have different properties.

To eat a healthy range of foodstuffs and taste a variety in food.



food.	the thing's children are doing. To eat a healthy range of foodstuffs and taste a variety in food.	a	t a	t a	9	a	3	h	he	9	Ιt	:h>	y	r	<b>^</b> a	ng	ge	>	(																																																																												
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Vocabulary	Cut, snip, join, make, fold, draw, glue, stick, safe, scissors, materials, soft, hard, fluffy, smooth, rough, computer, iPad, laptop, colour, pencil, paint, print, rubbing, works, better, food, eat, like, dislike, new, exercise.	Cut, snip, join, make, fold, draw, glue, stick, safe, scissors, materials, soft, hard, fluffy, smooth, rough, computer, iPad, laptop, colour, pencil, paint, print, rubbing, works, better, food, eat, like, dislike, new, exercise.	Cut, snip, join, make, fold, draw, glue, stick, safe, scissors, materials, soft, hard, fluffy, smooth, rough, computer, iPad, laptop, colour, pencil, paint, print, rubbing, works, better, food, eat, like, dislike, new, exercise.						
Health & Consider the materials, tools and equipment being used. Scissor safety rules should always be followed and extra care and adult supervision will be required when using sharp objects.  Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and handswashed.									



Year 1	Autumn	Spring	Summer
	Moving Pictures	Our Fabric Faces	Picnic Snacks
Theme	(Mechanics)	(Textiles)	(Food)
	Create products using levers and	Demonstrate a range of joining	Cut, peel or grate ingredients
	wheels and winding mechanisms.	techniques.	safely andhygienically.
Key	Make products refining the design	Join textiles using a running stitch.	Measure or weigh using measuring
Stage 1	as work progresses.	Make products, refining the design	cups. Design products that have a
End	Use software to design.	as work progresses.	Clear purposeand an intended user.
Points	Explore how products have been created.	Explore how products have been created.	Suggest improvements to existing designs.
	Explore and use mechanisms such	Select a material and shape it.	Select from and use a range of
Knowledge	as sliders, wheels, axels and levers	Join textiles using running stitch.	tools and equipment to perform
	in a product.	Select from and use a range of	practical tasks.
	Design purposeful, functional and appealing products based on	tools and equipment to perform practical tasks such as joining,	Follow a simple recipe.  Prepare a tasty salad.
	design Criteria.	using templates and Cutting.	Prepare and make a healthy salad
	Design a working product thinking	Join fabrics together and attach	madefrom root Vegetables.
	about who it is for and what it	different materials.	Use the basic principles of a health
	needs.	Cut on a line.	andvaried diet to design and prepar
	Generate, develop, model and	Select appropriate fabric materials	dishes. Understand where food
	Communicate their ideas through	for a product from a range.	Comes from in the context of
	talking, drawing, templates and	Design purposeful, functional,	looking at different fruits and
	mock-ups.	appealing products.	vegetables.
	Make decisions about a product	Create and follow a design Criteria.	Explain where some food grows.
	design and use an annotated	Generate, develop, model and	Explore and evaluate existing
	sketch to show them.	communicate ideas through talking,	products.



Evaluate	ideas	against	design
Criteria.			

Explore and evaluate a range of existing products.

## drawing and templates. Follow a design Carefully.

Explore and evaluate a range of existing products, fabrics, hair on fabric dolls and fabric dolls/Characters.

Explain why I need to eat fruit and vegetables.

Name different fruits and vegetables. Handle, taste, talk and learn about different foods

Explore and evaluate a range of existing products in the context of tasting salads made mainly from root vegetables.



Vocabulary	Card, disc with holes in the centre, split pins, moving part, lever, wheel, axel, slider	Wool, threads, needle, ribbon, fabrics, felt fabric, beads, sequins, buttons, embroidery threads, plastic, large metal darning needles, scissors, small staplers, PVA glue.	Safe knives, forks, spoons, chopping boards, mixing bowls, kitchen scissors, kitchen scales, peelers, graters, food scissors, teaspoons, tablespoons above ground, below ground
Health → Safety	Consider the materials, tools and equipment being used. Scissor safety rules should always be followed. Adult supervision will be required when using sharp objects. Take care with the storage of sharp objects. In addition take care with the storage of sharp objects.	Scissor safety rules should always be followed and extra care and adultsupervision will be required when using sharp objects. Take care with the storage of sharp objects. In addition take care with the storage of sharp objects e.g. needles. Felt pads with lines drawn on are useful for storing and checking needles. Ongoing work with needles attached should be stored in resealable bags. It is advisable that children wear aprons when using PVA glue and wash hands after use.	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Foodpreparation should be done hygienically, surfaces need to be wiped down and hands washed.



Year 2	Autumn	Spring	Summer
Theme	Dips and Dippers Food	Bunting (Textiles/Computing)	Tudor Houses (Materials/Construction)
Key Stage 1 End Points	Measure or weigh using electronic scales.  Assemble or cook ingredients.  Make and design products  Explore products that have been created.	Colour and decorate textiles using atechnique Cut materials safely using tools pro-vided. Shape textiles using templates. Model designs using software. Design products that have a clear purpose Explore objects and designs	Measure and mark out to the nearestcentimetre. Demonstrate cutting and shaping techniques Demonstrate a range of cutting andshaping techniques Design products that have a clear purpose an intended user. Explore objects and designs to identifylikes and dislikes of the designs.
Knowledge	Select and use a range of tools and equipment to perform practical tasks.  Measure or weigh using electronic scales.  Make products following a design or plan.  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate ideas through talking and drawings.	Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping and finishing) in the context of cutting a template and using it to shape a piece of fabric. Use a paper template to help cut out a fabric shape. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, information and	Safely perform practical tasks such as cutting and joining. Select from and use a range of tools and equipment to perform practical tasks. Demonstrate a range of cutting and shaping techniques Design, make and evaluate a musical instrument. Use materials to make a musical instrument. Decorate a product to provide an appropriate finish.



			PRIMARY SCHOOL
	Evaluate their ideas and products against design criteria.  Design an appealing dip and dipper and Clearly show ideas.  Explore and evaluate a range of existing products.  Evaluate and compare different dips thinking about healthy ingredients.  Start to think about where different foods come from.  Describe different dippers.	communication technology in the context of using a basic graphics program to design a bunting flag.  Design, make and evaluate a bunting flag.  Explore and evaluate a range of existing products in the context of evaluating bunting designs	Measure and mark out to the nearestcentimeter.
Vocabulary	Equipment, prepare, chopping boards, bowls, graters, safe knives, food scissors, teaspoons and tablespoons, dips, dippers	Computers, graphics/paint program, Maths equipment, scissors, Chalk, Coloured felt, cut, decorate, cut, bunting	Wattle, daub, timber, windows, cutting, joining, decorate, materials, measure, centimetre, jetty, roof, chimney, thatched, slate tiles, casement, plaster
Health & Safety	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and hands washed.	Consider the materials, tools and equipment being used. Scissor safety rules should always be followed and extra care and adult supervision will be required when using sharp objects. Take care with the storage of sharpobjects.	Consider the materials, tools and equipment being used. Scissor safety rules should always be followed and extra care and adult supervision will berequired when using sharp objects. Take care with the storage of sharp objects.



Year 3	Autumn	Spring	Summer
Theme	Let's Go Fly a Kite (Materials/Construction)	Juggling Balls (Textiles/Materials)	Edible Garden (Food)
Key Stage 2 End Points	Cut materials accurately. Measure to the nearest millimetre. Choose suitable techniques to construct products to repair items. Strengthen materials using suitabletechniques. Design products Make products Identify designers Improve upon existing designs	Apply appropriate Cutting and shaping techniques that include cuts within the perimeter of the material Understand the need for a seam allowance.  Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles  Refine work and techniques as work progresses, continually evaluating the product design.  Explore and evaluate a range of existing products.	Prepare ingredients hygienically usingappropriate utensils.  Measure ingredients to the nearestgram accurately.  Design products with purpose Make products by working efficiently.  Improve upon existing designs, givingreasons for choices.
Knowledge	Measure and cut the body of the kite Join the kite to a structure. Strengthen a frame structure to support the kite. Use research and develop design criteria to inform the design of innovative, functional, appealing	Perform skills of cutting, shaping andhemming a juggling ball.  Cut around a template and use a running stitch to create a hem.  Use a functional technique to carefullydecorate my fabric.  Perform tie-dye as a technique fordecorating my fabric.	Select from and use a wider range of tools and equipment to perform practicaltasks accurately Measure ingredients to the nearest gram accurately. Design, make and evaluate a product. Prepareand create a strawperrysmoothie.



products that arefit for purpose. Develop a design criteria for a kite

Generate, develop, model and communicate ideas through annotatedsketches.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

How have kites helped shape the world?

Explore and evaluate a range of existing products

Identify key events and individuals in design and technology.

Use graphs to analyse existing juggling balls.

Design, using annotations, a circusthemed juggling ball. Follow design Criteria to Create a product.

Evaluate a product and use other people's views to help evaluate and improve a product.

Research and trial different fillings for a juggling ball and decide upon the most functional one.

To investigate and evaluate existing juggling balls.

Prepare and cook a healthy and tasty meal using tomatoes as my main ingredient (tomato Ciabatta)

Explore and evaluate a range of existing products

Understand and apply the principles of a healthy and varied diet in your product.

Understand seasonality and know where and how a variety of ingredients are grown such as strawberries and tomatoes.



Vocabulary	Measure, wooden skewer, kite, Junior hacksaws, bench hooks, sandpaper, scissors, string, elastic bands, masking tape, plastic tubing, dowels	Needles, threads. Fillings, dye, Paper funnels, fabric, decorate	Magnifying glasses, strawberry plants, safe knives, grow bags or pots, trowels, gardening gloves, kitchen tools, potato masher, small glass, safe knife, chop- ping board, bowl, whisk, ripe, varieties of tomatoes, compost, tomato seeds, bruschetta
Health → Safety	Consider flying safety rules an implications when flying kites. Consider the materials, tools and equipment being used. Scissor safety rules should always be followed. Adult supervision will be required when using sharp objects. Take care with the storage of sharp objects.	Adult supervision will be required when using sharp objects. Take care with the storage of sharp objects. Felt pads with lines drawn on are useful for storing and checking needles. Ongoing work with needles attached should be stored in resealable bags. Parental permission should be soughtbefore using dyes or rubber gloves in order to identify any allergies for consideration. It is advisable that children wear aprons and plastic gloves when using dyes and wash hands after use.	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and hands washed.



Year 4	Autumn	Spring	Summer
Theme	Making Mini Greenhouses Mechanism/Structure	American Food (Food)	Battery Operated Lights (Electricity)
Key Stage 2 End Points	Cut materials accurately and safely by selecting appropriate tools.  Measure and mark out to the nearest millimetre.  Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product.  Design with purpose by identifying opportunities to design.  Make products by working efficiently  Disassemble products to understand howthey work.  Identify some of the great designers in allof the areas of study  Improve upon existing designs, givingreasons for choices.	Follow a recipe.  Assemble or cook ingredients controlling the temperature of the oven or hob, if cooking  Refine work and techniques as work progresses.  Use software to design and represent product designs.  Improve upon existing designs, giving reasons for choices.	Create series circuits Create series and parallel circuits Refine work as work progresses Use software to design product design Explore and evaluate a range of existingproducts.



#### Knowledge

Select tools and equipment to perform practical tasks.

Understand what stability is and how to Create a stable structure.

Identify suitable materials for a mini greenhouse.

Discuss ways of joining these materials.

Use research and develop design Criteria.

Develop design criteria and design ideasfor a mini greenhouse. Use sketches to develop and communicate ideas.

Evaluate ideas and products against theirown design criteria. Consider the Views of others to improve their work.

Understand the importance of evaluating a product.
Identify what has been

successful with their design.
Children identify improvements based on existing structures.

Select from and use a wider range of tools and equipment to perform practical tasks accurately

Measure ingredients to the nearest gram accurately.

Design products with purpose.

Make products by working efficiently.

Design, make and evaluate a product.

Prepare and cook meals from different American heritages including American Indian, Mexican and typical American fast food.

Explore and evaluate a range of existing products.

Learn about the history of American food based on American Indian food including how they hunted, gathered and cultivated.

Learn about the history of slavery and the differences between a 'wealthy' American's diet and a 'poor' or slave's diet.

Understand how the colonization of the Americas and how Mexican food influenced American cuisine.

Use electrical systems in a product such as, series, circuits, incorporating switches, and bulbs. Make and use switches.

I can develop design Criteria and a design.

Develop annotated designs and sketches for a light.

Select materials and components to make my light.

I can create a well finished product. Evaluate a product and use other people's views to help evaluate and improve a product.

Understand how key events and individuals in design and technology have helped shape the world by looking at technological developments in the way we light our homes.

Understand how a series and parallel circuit can be used to light a bulb.



Vocabulary	Stability, improvement, prototype, analyse, sketch, materials, design, dowelling, straws, cellotape, glue, clingfilm, plastic, equipment, evaluation, criteria, joining.	Diverse climate, grow, pastry, indigenous American, modify, recipe, cutting, mix, pour, changes when heated, Mexican food, hob, heat, describe, unhealthy, evaluate	Bulbs, bulb holders, thin insulated wire, crocodile clips, short springs or stiff barewire for making springs, foil, clear film, tools, wire, cutters, strippers, small screwdrivers,
Health & Safety	Consider the materials, tools and equipment being used. Scissor safety rules should always be followed. Adult supervision will be required when using sharp objects. Take care with the storage of sharp objects.	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and handswashed.	Consider the materials, tools and equipment being used. Explain to children that they should not experiment withmains electricity.  Rechargeable batteries shouldn't be used for home-made circuits. In the event of a short circuit they could get very hot and may cause injury.  Care should be taken when using wire strippers and cutters as they have sharpedges.



Year 5	Autumn	Spring	Summer
Theme	Bread (Food Technology)	Marbulous Structures (Materials)	Felt Phone Cases (Textiles)
Key Stage 2 End Points	Understand the importance of correctstorage and handling of ingredients using knowledge of micro-organisms  Measure accurately  Create and refine recipes, including ingredients, methods, cooking times and temperatures.  Design with the user in mind, motivated by the service a product will offer.  Make products through stages of prototypes  Combine elements of design from a range of inspirational designers throughout history.  Create innovative designs that improve upon existing products.	Cut and join materials with precision and refine the finish with appropriate tools  Design with the user in mind.  Combine elements of design from of inspirational designers throughout history  Create innovative designs	Show an understanding of the qualities of materials to choose appropriate toolsto Cut and shape Use the qualities of materials to create suitable Visual and tactile effects in the decoration of textiles Use innovative combinations of computing in product designs.  Ensure products have a highquality finish, using art skills where appropriate.  Use prototypes and cross-sectional diagrams to represent designs.  Evaluate the design of products so as tosuggest improvements to the user experience.



#### Knowledge

Use a wider range of tools and equipment to perform practical tasks such as shaping dough accurately.

Prepare and cook a new bread product. Use a wide range of equipment to performpractical tasks accurately.

Follow a bread making recipe. Use kneading and baking techniques.

Use research to develop design Criteria for a new type of bread. Create a product intended for a purpose and user.

Show initial design ideas of a new bread, through discussion and annotated sketches.

Develop designs based on design criteria and clearly communicate one final design. Evaluate ideas and products against own design criteria.

Understand how key events and individuals in design and technology have helped shape the world.

Apply an understanding of structures, by strengthening, reinforcing and stabilising a Cardboard tube.

Select from and use materials and components to make a marble run Develop practical skills to help makebends in marble runs.

Accurately join Cardboard tubes together.

Create a design criteria.

Evaluate their own marble run productagainst the design criteria and using other people's opinions. Evaluate and improve my design and technology work.

Investigate existing Commercially bought marble runs.

Investigate and analyse existing free-standing structures.

Select appropriate decorative techniques and fastenings for a product.

Practices using different types of stitches and choose the best one to use on a final product.

Write design Criteria for a mobile phonecase.

Evaluate a product against their own design Criteria.

Create a step by step plan to communicate the making process.

Make a paper template

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams

Generate a range of design ideas and Clearly Communicate my final design.

Use existing designs and research to develop design Criteria for a product.



Vocabulary	Hygiene, safety storage, seasonal, equipment, ingredients, design, colour coded, knead, salt, dough, weighing scales, measure, cooling rack, annotate, design	Cardboard tubes, marbles, stopwatches, joining materials, scissors, craft knives, cutting boards	Felt, mobile phone Case, velcro, thread, needle, press studs, fastening
Health ∳ Safety	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and hands washed. Take care when considering meats or fish.	Consider the materials, tools and equipment being used. Scissor and craft knife safety rules should always be followed. Craft knives should only be used when closely supervised. Take extra care when using marbles with children as these can be a Choking hazard.	Adult supervision will be required when using sharp objects. Take care with the storage of sharp objects. Felt pads with lines drawn on are useful for storing and checking needles. Ongoing work with needles attached should be stored in resealable bags



Year 6	Autumn	Spring	Summer
Theme	Building Bridges (Mechanics)	Global Food (Food Technology)	Fairground Ride (Electricity)
Key Stage 2 End Points	Use innovative combinations of computing and mechanics in product designs.  Convert rotary motion to linear using cams. Develop a range of practical skills to createproducts such as cutting, drilling and screwing, nailing, gluing, filing and sanding.  Design with the user in mind, motivated by the service a product will offer rather than simply for profit.  Make products through stages of prototypes, making continual refinements.  Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.  Create innovative designs that improve upon existing products.	Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.  Demonstrate a range of baking and cooking techniques.  Ensure products have a high quality finish, using art skills where appropriate.  Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.  Evaluate the design of products so as to suggest improvements to the user experience.	Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and Chips).  Ensure products have a high-quality finish.  Use prototypes to represent designs.  Evaluate the design of products



#### Knowledge

mechanism) in a product. Select and use tools to perform practical tasks (Cutting, shaping, joining and finishing) to make a wood frame.

Use a mechanism systems (Cam

Develop design criteria fit for purpose

Explain how simple cam mechanisms canbe used Select appropriate materials to create amechanical system. Use research and design criteria to informa design Evaluate own products based on designcriteria and opinions

Research information about existing animals to inform a design.

of others.

Prepare and Cook a Variety of predominantly savoury dishes range Of cooking using a techniques in the context of cooking a German dish, a pretzel. Demonstrate a range of basic and advanced food skills and cooking techniquesto cook a Chinese dish. Demonstrate a range of food skills andtechniques to cook a Mexican dish.

Accurately and mainly independently writeup and follow a recipe demonstrating arange of cooking techniques.

Cook rice and explain the nutritional benefits of eating it.

Understand and apply the principles of a healthy and varied diet.

Explain that diets around the world are based on similar food groups.

Apply skills and knowledge of soldering to build a working circuit. Test and modify a circuit in the purpose of finding fault.

Understand how to read a resistor
Understand the Characteristics and
functions of Capacitors

Understand the Characteristics and functions of LEDs

Understand the Characteristics and functions of transistors

Understand the Characteristics and functions of switches

Understand the Characteristics and functions of functioning Circuits
Understand the Characteristics and functions of resistors.

Design, make and evaluate a Christmas decoration which includes a LEDlight.

Evaluate and analyse existing LED Christmas decorations.



Vocabulary	Dowel, hacksaws, benching, drill, plastictubing, wooden cams,	Equipment, heat, global, traditional, preparation, recipe, ingredients,	LED, resistor, solder, circuit, switches, transistors, capacitors
Health ¥ Safety	Adult supervision will be required whenusing sharp objects. Take care with the storage of sharp objects. Hacksaws, drills and hammers should be used under strict supervision.	Ensure you have permission for food tasting. Consider food allergies or intolerances. Ensure that there is adequate adult supervision and guidance when children are using kitchen equipment. Food preparation should be done hygienically, surfaces need to be wiped down and hands washed. Extra Care should be taken when using a heat source to cook food and children should be made aware of health and safety factors.	Consider the materials, tools and equipment being used. Explain to children that they should not experiment with mains electricity. Rechargeable batteries shouldn't be used for home-made circuits. In the event of a short circuit they could get very hot and may cause injury. Care should be taken when using wire strippers and cutters as they have sharp edges. Take care when using a solder, ensure it is done under adult supervision.