

LONG TERM SKILLS PROGRESSION DESIGN & TECHNOLOGY

Year 1			
NATIONAL CURRICULUM PROGRAMME OF STUDY	SPECIFIC SKILLS	TOPIC LINK/S	
Key stage 1		Term 1 Dinosaurs	
When designing and making, pupils should be taught to:	Design Gingerbread Men, look at recipes.	Term 2 Celebrations	
Design	Make Gingerbread Men	Food Tech - Bake Gingerbread Men (Christmas)	
 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 	Weighing and combining ingredients.	I de healthier? Raisons instead of smarties for button etc. its come from, how do we get flour etc.	
appropriate, information and communication technology	Design a cape for their teddy at home.	Term 3 Superheroes	
Make	Make capes using fabrics, pens, needle and	Steve Dikto / Joe Shuster – Original Spiderman &	
 select from and use a range of tools and equipment to 	thread.	Superman artists	
perform practical tasks [for example, cutting, shaping,	Evaluate capes for their eye catching designs and		
joining and finishing]	successfulness as a cape.	Cape Designs for a teddy at home	
Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Evaluate	Technical Knowledge Textiles – Stitching simple running stitch along the top edge to hold the ribbon tying in place.	ALE O	
explore and evaluate a range of existing products		Term 4 Moon Zoom	
 evaluate their ideas and products against design criteria 			
Technical knowledge		Term 5 Enchanted Woodland	
 build structures, exploring how they can be made stronger 	Design	Term 6 Paws, Claws and Whiskers	
stiffer and more stable	Plan enclosure and gather materials from home.	Plan, Make and Evaluate - Combining materials	
 explore and use mechanisms [for example, levers, sliders, 	Make using given/found materials	Animal enclosure, shoe box, joins etc.	
wheels and axles], in their products.	Use everyday materials such as paper,	Technical Knowledge	
Cooking and Nutrition	cardboard, wood, foil, bubble wrap, sand.	Build structures,	
Pupils should be taught to:	Combine materials using glue, sellotape, paper	begin to explore how	
 use the basic principles of a healthy and varied diet to 	cuts / folds	they can be made	
prepare dishes	Evaluate	stronger, stiffer and	
 understand where food comes from. 	Be able to answer simple evaluative questions	more stable through	
	verbally.	changing materials.	
	Did it work? Why does that one work better? What would you change?	Explore and use mechanisms in products, begin to understand levers and sliders	
	I vilat would you change:	unuerstanu ievers anu siluers	

<u>Year 2</u>		
NATIONAL CURRICULUM PROGRAMME OF STUDY	SPECIFIC SKILLS	TOPIC LINK/S
Key stage 1 When designing and making, pupils should be taught to:	 Design Design a boat using simple chunk modelling materials and craft and materials. Make 	Term 1 Land Ahoy Design and Making Boats
 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 	 Use everyday materials such as paper, cardboard, wood. Combine materials using PVA glue, glue sticks and sellotape, elastic bands etc Evaluate Test how successful products are Be able to answer simple evaluative questions 	Technical Knowledge: Mechanisms
technology		Term 2 Africa
 select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ②select from and use a wide range of materials and 	 Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. 	Term 3 Muck Mess and Mixture Food Tech - food tasting Making smoothies
components, including construction materials, textiles and ingredients, according to their characteristics Evaluate explore and evaluate a range of existing products	 Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. 	Term 4 FIRE FIRE! Food Tech - Make Bread

• 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

Pupils should be taught to:

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

Design

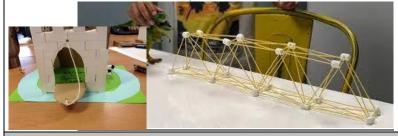
Look at the structure of real bridges. Consider strong shapes ie triangles, compared to weaker shapes, squares. Design a bridge Using marshmallows and spaghetti — to support a weight. Using pulls and levers — to have movement.

Make

Make a bridge their bridge to their specification.

Evaluate

- Test how successful bridges are
- Be able to answer simple evaluative questions

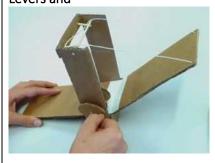


Term 5

Castle

Plan, Make and Evaluate - Combining materials

Give chn Marshmallows and Spaghetti first. **Build Bridges and draw bridges Levers and**



Term 6 Our Planet

<u>Year 3</u>		
NATIONAL CURRICULUM PROGRAMME OF STUDY	SPECIFIC SKILLS	TOPIC LINK/S
Key stage 2		Term 1 Tribal Tales
 When designing and making, pupils should be taught to: Design use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided 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 	 Design Generate, develop, model and communicate their ideas through discussion, annotated sketches, 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 Technical knowledge apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	Term 2 Heroes and Villains Seasonal Crafts — Pop Up Christmas Cards / Gift Box Making etc
 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 	 understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Design 	<u>Term 3</u>
 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 	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,, Make select from and use a wider range of tools and	The Golden Ticket Design and Make a Chocolate Bar wrapper Chocolate Bar Design Willy Waka have bread one with of shoulder beet. The few harded was when of shoulder beet. The should be the should was a should be the should was a should be the shou
 Technical knowledge apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately	

- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- 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.

select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

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

Technical knowledge

- Practice their evaluation skills by evaluating existing products
- Improve upon existing designs and give reasons for their choices

Evaluate

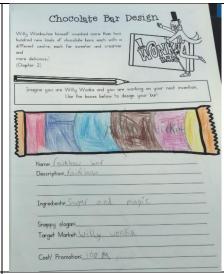
- Practice skills by evaluating existing products
- Improve upon existing designs and give reasons for their choices

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

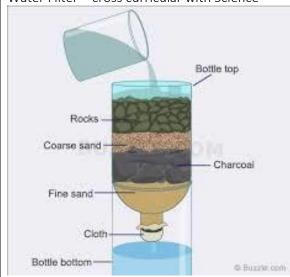
Evaluate

- 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



Term 4 Flow

Plan, Make and Evaluate - Combining materials Water Filter – cross curricular with Science



Technical Knowledge

• apply their understanding of how to strengthen, stiffen and reinforce more complex structures

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

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

Technical knowledge

• apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Term 5 Tremors

Make a Volcano Model



Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches,

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
- 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

Term 6 Romans

Make Roman Shields



Year 4		
NATIONAL CURRICULUM PROGRAMME OF STUDY	SPECIFIC SKILLS	TOPIC LINK/S
Key stage 2		Term 1
		Road Trip – Asia
When designing and making, pupils should be taught to:	<u>Design</u>	Term 2
Davis	Design potion for and label. Consider what it's purpose is,	Potions and Magic
Designuse research and develop design criteria to inform the design	aesthetic appearance, name, size of bottle. Make	Make Potions – Design Label
of innovative, functional, appealing products that are fit for	Put necessary information onto a label. Print, photograph and	What does it do? Adverts
purpose, aimed at particular individuals or groups	create poster / advert to draw in potential customers.	What ages it ag. Maverts
generate, develop, model and communicate their ideas		
through discussion, annotated sketches, cross-sectional and	Make	Term 3
exploded diagrams, prototypes, pattern pieces and	 select from and use a wider range of tools and 	Settlements –Anglo Saxons
computer-aided design	equipment to perform practical tasks [for example,	• • • • • • • • • • • • • • • • • • • •
Make	cutting, shaping, joining and finishing], accurately	❖ Make a model village
 select from and use a wider range of tools and equipment to 	 select from and use a wider range of materials and components, including construction materials, textiles 	
perform practical tasks [for example, cutting, shaping, joining	and ingredients, according to their functional properties	❖ Make cheesy bread
and finishing], accurately	and aesthetic qualities	rolls Cooking and
 select from and use a wider range of materials and 	·	Nutrition
components, including construction materials, textiles and	Evaluate	
ingredients, according to their functional properties and	 investigate and analyse a range of existing products 	
aesthetic qualities	evaluate their ideas and products against their own	E E X
Evaluate	design criteria and consider the views of others to improve their work	
 investigate and analyse a range of existing products 	 understand how key events and individuals in design 	
 evaluate their ideas and products against their own design 	and technology have helped shape the world	 understand and apply
criteria and consider the views of others to improve their	and testimology have helped shape the world	the principles of a
work	Technical knowledge	healthy and varied diet
understand how key events and individuals in design and	 apply their understanding of how to strengthen, stiffen 	prepare and cook a
technology have helped shape the world	and reinforce more complex structures	variety of
Technical knowledge	understand and use mechanical systems in their	predominantly savoury dishes using a range of
apply their understanding of how to strengthen, stiffen and	products [for example, gears, pulleys, cams, levers and	cooking techniques
reinforce more complex structures	linkages]	Understand
		seasonality, and know

- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- 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.

where and how a variety of ingredients are grown, reared, caught and processed.

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches,

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

Technical knowledge

• apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Term 4

Traders and Raiders 1066 Create 1066 style tunics (textiles)

Textiles - Threading a needle, tying the end of the stitch, different stitches: Running stitch (- - - -) Cross stitch (x x x x x x)



Term 5
Misty Mountains

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
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Evaluate

- investigate and analyse a range of existing products
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- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
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- 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.

Term 6 Blue Abyss Make a Periscope





	<u>Year 5</u>	
NATIONAL CURRICULUM PROGRAMME OF	SPECIFIC SKILLS	TOPIC LINK/S
STUDY		
Key stage 2	Design	Term 1 Egyptians
When designing and making, pupils should be taught to:	 use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, 	UTC Lego building – eco homes with lifts and ramps to make it accessible.
 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 	Research eco-homes and features. Design an eco-home or accessible home for people with mobility or disabilities
 aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, 	diagrams, prototypes, pattern pieces and computer-aided design	Include programming of devices to make home accessible, lights, motors, buzzers and gears.
cross-sectional and exploded diagrams,	Evaluate	
prototypes, pattern pieces and computer-aided design	 investigate and analyse a range of existing products evaluate their ideas and products against 	https://www.utcoxfordshire.org.uk/using- lego-to-build-mentoring-skills/
 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 	 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 	

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

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]
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 understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

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Cooking and Nutrition

- 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.

• apply their understanding of computing to program, monitor and control their products.

Design

Design appealing products that are fit for purpose

 Canopic jars were used for keeping human organs.

Make

- Use a range of tools and equipment accurately
- Measure, mark out, assemble and join materials and components with some accuracy
- Cut materials accurate and safely by selecting appropriate tools

Evaluate

Design

- Evaluate their own product
- Begin to suggest a change that could be made to improve a product

....

 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

Evaluate

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

Technical knowledge

<u>Term 2 Egyptians cont.</u> Canopic Jars



Term 3 Extreme Earth

Plan, Make and Evaluate - Combining materials

Models of tectonic plates

Model of structures built and designed to with stand earthquakes



- 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]

Term 4 Road Trip to USA

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Term 5 Space

Moon Buggies (UTC) Wheels, motors, gears etc



Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

Cooking and Nutrition

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Term 6 Tudors

Tudor Pottage recipe



Nourish and Flourish project with SOFIA cooking at DGS

<u>Year 6</u>		
NATIONAL CURRICULUM PROGRAMME OF STUDY	SPECIFIC SKILLS	TOPIC LINK/S
Key stage 2		Term 1 Hola Mexico
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 understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

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Cooking and Nutrition

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Term 3 Blood and Heart

Design Healthy Meal

Term 4 Rainforest

Term 5 Darwin's Delights

Design

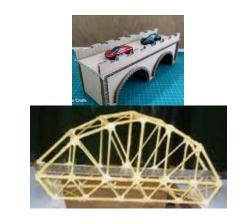
- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Term 6 Victorians

<u>Build Bridges – develop skills from year 2</u> <u>project.</u>



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
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]