


Learn more. Do more. Choose to be more.

This scheme of work has been
devised by the teachers at Newton
Burgoland Primary School

Design Technology: Together We Make Learning A Memorable, Unmissable Adventure

Preamble

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

INTENT	
	<p>We want all learners to reach at least the expected National Curriculum standard by the end of year 6 and to be keen to continue their studies in key stage 3 and beyond. We want learners to be able to see themselves as designers.</p> <p>The design lesson should be one our learners look forward to and greet with enthusiasm. They should leave lessons wanting to find out more.</p> <p>When studying design, learners will draw on their developing learning habits, making progress in their ability to persevere, work effectively as a team, respect and celebrate difference, ask questions and create. We want learners to be interested how things are made and how they work, in both function and form alongside problem solving and enterprise.</p> <p>Our curriculum ensures that pupils can explore key concepts from EYFS to year 6 building knowledge and understanding of: Design, Nutrition, Technology, Data, Functionality, Innovation and Enterprise.</p> <p>Approximately, 30 hours are allocated annually to design technology across at least 2 terms.</p>

This document has been developed by teaching staff at Newton Burgoland Primary School- it is a working document, subject to change so that we can continue to meet the needs of all learners. It will be reviewed annually to ensure that it remains fit for purpose.

CPD: Primary Art and design 2016/17 All classroom staff

Forest schools: 3 members of teaching staff

IMPLEMENTATION

The majority of work in design technology is inspired by cross-curricular themes or events. For example in lower key stage 2, learners explore and evaluate how a Shaduf works alongside learning in history. In Key stage 1, learners find out about wheels and axles then use their learning to plan and make a vehicle.

We draw on learners' own experiences and interests. In key stage 2 pupils work together throughout the year to explore: 'Fridays for the Future' which includes considering how we can design for sustainability. We are mindful of the need to present stem careers as open to all, introducing learners to designers from a variety of backgrounds.

In design work, learners follow the process of research and explore; develop technique; plan and test; create, evaluate and improve. The curriculum is planned and organised so that all learners have the opportunity to revisit and refine knowledge, skills and techniques.

Five themes connect all work in design: creativity, competence, cultural understanding, critical understanding and diversity.

When working with materials and textiles learners improve their skills and techniques for cutting and joining. They experiment and explore before making a final artefact, refining, during their primary years, planning, selection, communication and skills. Learners, with increasing sophistication, are able to justify their choices, give and receive feedback and make improvements to their work.

In food technology learners are taught basic hygiene and nutrition to complement work done in science. Skills develop progressively from washing, peeling and cutting to experimenting with ingredients and flavours.

In forest schools learners gain confidence when working with tools and fire, they work collaboratively and creatively in all weathers developing the ability to risk assess and set personal goals.

Assessment, Recording and Reporting

In all subjects there are three broad areas for assessment:

- Children's knowledge and understanding
- How well children can use and apply their knowledge, understanding and skills at the end of a unit of work to complete an independent (of an adult) task or challenge.
- How well learners are developing habits for learning and character

Teachers assess learner's work, their attitudes, increasing skills, knowledge and understanding, by making informal judgements as they observe them during lessons. This assessment enables planning to be tailored to meet learners needs. Assessment encompasses teacher, peer and self-assessment. In all subjects, opportunities for both Assessment for Learning and Assessment of Learning are built into provision. Learners are supported to reflect on their own learning and, age appropriately, to make judgements about their strengths and needs, beginning to plan how to make progress and set personal targets.

Baseline assessment, in order to understand pupils' prior learning, is an essential part of planning to ensure new learning is relevant and progress can be assessed.

The learners work, in particular baseline assessments and end of unit assessments, which are recorded within learners' workbooks are used to make decisions at the end of each unit, and at the end of each year, as to next learning steps and whether or not learners are making strong progress and are on track for end of key stage expectation. Progress is recorded and reported to parents as part of the child's annual school report.

Special Educational Needs

Design technology is taught to all children, whatever their ability, in accordance with the school curriculum policy of providing a broad and balanced education to all children. Teachers provide learning opportunities matched to the needs of children with learning difficulties.



IMPACT

Prior to the pandemic:

- Pupils made good progress in design to achieve at least ARE by the end of year 6 in almost all areas – provision for food technology is limited by space
- Continuous provision and direct teaching in EYFS prepared pupils well for the national curriculum.
- Children could speak confidently about their learning in Design Technology
- Those working at greater depth were able to make connections between units of study. They went beyond the knowledge studied and asked questions to further their understanding. They were creative and original in their designs.

As a result of the pandemic pupils have:

- had fewer opportunities to explore concepts and address misconceptions through talking and questioning – not all learning is secure.
- had a variety of experiences when home learning and accessed set learning differently.
- had fewer opportunities for collaboration
- More opportunities for food technology at home.

By following the assess, plan, do, review cycle teachers will identify areas which need more or less focus over the next 2 years and support all pupils to make strong progress from starting points.

Limited provision for Food technology has been addressed by careful selection of units of work.

Art and design in EYFS

Learners in foundation stage are taught within a mixed age class. They actively engage with the art and design curriculum through play.

	AUTUMN	SPRING	SUMMER
EXPRESSIVE ARTS AND DESIGN	<p>Join in with familiar songs.</p> <p>Beginning to mix primary colours to make secondary colours.</p> <p>Join in with role play games and uses resources available for props; build models using construction equipment.</p> <p>Sings call-and-response songs, echoing phrases adults sing.</p> <p>Self-portraits, junk modelling, take picture of children's creations and record them explaining what they did.</p> <p>Exploring sounds (body percussion and instruments) and how they can be changed, tapping out of simple rhythms.</p> <p>Provide opportunities to work together to develop and realise creative ideas.</p> <p>Use different textures and materials to make houses for the three little pigs.</p> <p>Listen to music and make their own dances in response.</p> <p>Clay diva lamps/salt dough Christmas baubles.</p> <p>Firework pictures, Christmas decorations.</p> <p>The use of story maps, props, puppets & story bags will encourage children to retell, invent and adapt stories.</p> <p>Role Play Party's and Celebrations Role Play of The Nativity.</p>	<p>Making paper lanterns, Chinese writing, puppet making, Chinese music and composition.</p> <p>Encourage children to create their own music.</p> <p>Junk modelling, houses, bridges boats and transport.</p> <p>Exploration of other countries – dressing up in different costumes.</p> <p>Retelling familiar stories.</p> <p>Collage animals/ Making houses.</p> <p>Pastel drawings, printing, patterns on Easter eggs, Life cycles, Flowers-Sun flowers.</p> <p>Mother's Day crafts.</p> <p>Easter crafts.</p> <p>Home Corner role play.</p> <p>Artwork themed around the UK/ The Seasons.</p> <p>Provide a wide range of props for play which encourage imagination dressing up, instruments, puppets etc.</p> <p>Simple joining techniques for sewing to make bunting.</p>	<p>Sand pictures/ Rainbowfish collages.</p> <p>Lighthouse designs.</p> <p>Paper plate jellyfish.</p> <p>Puppet shows: Provide a wide range of props for play which encourage imagination.</p> <p>Water pictures, collage, shading by adding black or white, colour mixing for beach huts, making passports.</p> <p>Colour mixing wax resistant painting – underwater pictures.</p> <p>Father's Day Crafts.</p> <p>Learn sea shanties and dances and perform it.</p> <p>Listen to music and make their own dances in response.</p> <p>Artwork themed around the seaside/ The summer.</p> <p>Children will be encouraged to select the tools and techniques they need to assemble materials that they are using e.g. creating sea creature masks.</p>

AUTUMN

SPRING

SUMMER

PHYSICAL DEVELOPMENT

Physical activity is vital in children's all-round development, enabling them to pursue happy, healthy and active lives. Gross and fine motor experiences develop incrementally throughout early childhood, starting with sensory explorations and the development of a child's strength, co-ordination and positional awareness through tummy time, crawling and play movement with both objects and adults. By creating games and providing opportunities for play both indoors and outdoors, adults can support children to develop their core strength, stability, balance, spatial awareness, co-ordination and agility. Gross motor skills provide the foundation for developing healthy bodies and social and emotional well-being. Fine motor control and precision helps with hand-eye co-ordination, which is later linked to early literacy. Repeated and varied opportunities to explore and play with small world activities, puzzles, arts and crafts and the practice of using small tools, with feedback and support from adults, allow children to develop proficiency, control and confidence.

FINE MOTOR

Threading, cutting, weaving, playdough, Fine Motor activities. Manipulate objects with good fine motor skills Draw lines and circles using gross motor movements Hold pencil/paint brush beyond whole handgrasp Pencil Grip Develop muscle tone to put pencil pressure on paper Use tools to effect changes to materials Show preference for dominant hand Engage children in structured activities: guide them in what to draw, write or copy. Teach and model correct letter formation.

Threading, cutting, weaving, playdough, Fine Motor activities. Begin to form letters correctly Handle tools, objects, construction and malleable materials with increasing control Encourage children to draw freely Holding Small Items / Button Clothing / Cutting with Scissors Hold pencil effectively with comfortable grip Forms recognisable letters most correctly formed.

Threading, cutting, weaving, playdough, Fine Motor activities. Develop pencil grip and letter formation continually Use one hand consistently for fine motor tasks Cut along a straight line with scissors / Start to cut along a curved line, like a circle / Draw a cross Form letters correctly Copy as square Begin to draw diagonal lines, like in a triangle / Start to colour inside the lines of a picture Start to draw pictures that are recognisable / Build things with smaller linking blocks

GROSS MOTOR

Cooperation games including parachute games Climbing using the outdoor equipment Different ways of moving to be explored with children Help individual children to develop good personal hygiene. Acknowledge and praise their efforts. Provide regular reminders about thorough handwashing and toileting

Balls skills- throwing and catching. Crates play- balancing and climbing. Hula hoops for skipping in outside area Ensure that spaces are accessible to children with varying confidence levels, skills and needs. Provide a wide range of activities to support a broad range of abilities.

Balance- children moving with confidence Dance related activities in the stage area. Provide opportunities for children to spin, rock, tilt, fall, slide and bounce. Obstacle activities children moving over, under, and through equipment. Races / team games involving gross motor movements dance related activities.

AUTUMN

SPRING

SUMMER

CHARACTERISTICS OF EFFECTIVE LEARNING

Playing and exploring:

Children investigate and experience things, and 'have a go'. Children who actively participate in their own play develop a larger store of information and experiences to draw on which positively supports their learning.

Active learning:

Children concentrate and keep on trying if they encounter difficulties. They are proud of their own achievements. For children to develop into self-regulating, lifelong learners they are required to take ownership, accept challenges and learn persistence.

Creating and thinking critically:

Children develop their own ideas and make links between these ideas. They think flexibly and rationally, drawing on previous experiences which help them to solve problems and reach conclusions.

OVER ARCHING PRINCIPLES

Unique Child

Every child is unique and has the potential to be resilient, capable, confident and self-assured.

Positive Relationships

Children flourish with warm, strong & positive partnerships between all staff and parents/carers. This promotes independence across the EYFS curriculum. Children and practitioners are NOT alone – embrace each community.

Enabling environments

Children learn and develop well in safe and secure environments where routines are established and where adults respond to their individual needs and passions and help them to build upon their learning over time.

Learning and Development:

Children develop and learn at different rates (not in different ways as it stated 2017). We must be aware of children who need greater support than others.

EYFS and National Curriculum Expectations

Expressive Arts and Design (Exploring and Using Media and Materials) Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Expressive Arts and Design (Being Imaginative) Children 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.
Physical Development (Moving and Handling) Children handle equipment and tools effectively, including pencils for writing.	

Key Stage 1 National Curriculum Expectations	
Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> explore and evaluate a range of existing products; evaluate their ideas and products against design criteria. 	Technical Knowledge <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes; understand where food comes from.
Key Stage 2 National Curriculum Expectations	
Design <ul style="list-style-type: none"> 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 : <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> understand and apply the principles of a healthy and varied diet; prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques; understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Design Technology

Design: By the end of Foundation the learners will know and be able to:	
Design Design products for themselves and others users communicate their ideas through talking and drawing, Make Select from and use a range of tools and equipment Select from and use a wide range of materials and components	Evaluate Explore existing products Evaluate their ideas and products Technical knowledge Build structures, exploring ideas about stability and strength Cooking Understand where food comes from. Know about basic food hygiene
Design: By the end of foundation learners achieving typically will be able, with some independence, to:	
<ul style="list-style-type: none">• Generate ideas and make something.• Describe how something works.• Cut food safely with help• Choose appropriate resources and tools.• Make a simple plan before making.• Ask for help to solve problems.	<ul style="list-style-type: none">• Think of an idea and plan what to do next.• Choose tools and materials• Measure and Join materials• Explain what went well• Solve problems with design in context• Apply previous learning
Design: By the end of foundation learners achieving typically know	
<ul style="list-style-type: none">• How to combine materials to make a product or model• How to cut food safely.• That it is important to wash before cooking• How to add wheels to a model• How to make a simple lever mechanism	<ul style="list-style-type: none">• How to make a model stronger or more stable• How to use scissors and glue safely• Where to find appropriate resources and tools.• How to make a simple plan before making.

Design: By the end of KS1 the learners will be able to:

<p>Design 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 and mock-ups</p> <p>Make Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against simple design criteria</p>	<p>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.</p> <p>Cooking Follow a simple recipe washing, peeling, cutting and weighing ingredients Understand where some foods come from.</p> <p>Knowledge of craft workers and designers Explore the work of others and apply ideas to own work Talk about the work of different craft workers and designers</p>
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Design: By the end of KS1 learners achieving typically will be able, with increasing independence, to:

<p>Generate ideas and make something. Describe how something works. Cut food safely. Make a product, which moves. Make a model stronger. Explain to someone else how he or she wants to make his or her product. choose appropriate resources and tools. Make a simple plan before making. Ask for help to solve problems.</p>	<p>Think of an idea and plan what to do next. Choose tools and materials and explain choices Join materials and components in different ways. Explain what went well I measure materials to use in a model or structure. Describe the ingredients being used Make comparisons Solve problems with design in context Apply previous learning About some designers, architects and craft workers, the differences and similarities between their work, making links to their own work</p>
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Design: By the end of KS2 the learners will be able to:

<p>Design</p> <p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks, accurately</p> <p>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</p> <p>Evaluate</p> <p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>	<p>Technical knowledge</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>Apply their understanding of computing to program, monitor and control their products.</p> <p>Cooking</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p>Knowledge of craft workers and designers</p> <p>Know about great architects and designers in history and apply this knowledge</p>
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Design: By the end of KS2 the learners achieving typically will be able, with increasing independence, to:

<p>Evaluate products for both their purpose and appearance.</p> <p>Create a design that meets some set criteria.</p> <p>Produce a plan and explain it.</p> <p>Use ideas from other people when designing.</p> <p>Evaluate and suggest improvements for designs.</p> <p>Improve their work when original ideas do not work.</p> <p>Explain how improvements to original designs</p> <p>Present a product in an interesting way.</p> <p>Follow a step-by-step plan, choosing the right equipment and materials.</p> <p>Choose a textile for both its suitability and its appearance.</p> <p>Select the most appropriate tools and techniques for a given task.</p> <p>Make a product which uses both electrical and mechanical components.</p> <p>Work accurately to measure, make cuts and make holes.</p>	<p>Describe how food ingredients come together.</p> <p>Know how to be both hygienic and safe when using food.</p> <p>Come up with a range of ideas after collecting information from different sources , including market research</p> <p>Produce and follow a detailed, step-by-step plan.</p> <p>Suggest alternative plans or refine plans; outlining the positive features and draw backs, justifying choices</p> <p>Explain how a product will appeal to a specific audience, considering culture and society</p> <p>Evaluate appearance and function against original criteria.</p> <p>Use a range of tools and equipment competently.</p> <p>Make a prototype before making a final version.</p> <p>Demonstrate both hygiene and safety in the kitchen.</p> <p>Work within a budget.</p> <p>Draw on the work of designers and architects</p>
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	Cycle A				Cycle B									
	All about me		Our wonderful world		Off to the seaside		Hot & cold places		Off to the moon		In the garden			
EYFS/ Y1	Woodwork Junk models Construction toys		Woodwork <i>Textiles – Designing and Sewing Bunting</i> Junk models/Construction		Woodwork Junk models Construction toys		Woodwork Junk models Construction toys		Woodwork <i>Mechanisms, wheels and axles (Moon Buggies)</i> Junk models/Construction		Woodwork <i>Nutrition</i> Junk models/ Construction			
Concepts	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise		
inspiration														
	Into the wild and into the past				London’s Burning				Travels with my Bear					
KS1 – Y2	Woodwork		Textiles		Woodwork		Tudor Houses		Mechanisms		Woodwork		Healthy food- dips and dippers	
Concepts	design Nutrition Technology Data		Functionality innovation enterprise		design Nutrition Technology Data		Functionality innovation enterprise		design Nutrition Technology Data		Functionality innovation enterprise			
inspiration	Orla Kiely Caroline Gardner				Christopher Wrenn David Adjaye and Yinka Ilori									
	In the mists of time		We built this city		Interconnected world		Romans- ruling and roaming		Extreme Earth		It’s all Greek to me			
Year 3/4	Fabric technology: Weaving		Moving water: Shadufs, Aqueducts and Archimedes’ Screw		Food technology: healthy eating/ Edible garden		Christmas Stockings		bread		Lighting the dark			
Concepts	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise		
inspiration	Meghan Shimek Fiona Duthie		Archimedes		Heston Blumenthal		Jan Constantine		Paul Hollywood		Edison			
	Hero or villain		Amazon adventure		African adventure		Journeys		Space exploration		Digging deeper			
Year 5/6	Marbulous Structures		Automata Animals		Global Food		Felt Phone Cases		crumble		Super Seasonal Cooking			
Concepts	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise	design Nutrition Technology Data	Functionality innovation enterprise		
inspiration	Morag Myerscough		Kusheda Mensah		Jamie Oliver		Karim Rashid							

Vocabulary

general	colour	form and space	mood	Texture and light		Tone and line	Pattern and shape	
Delicate	bright	jagged	happy	uneven	silhouette		diamonds	harmonious
Simple	vivid	sharp	cheerful	bumpy	artificial	dramatic	embellish	image
Bold	strong	rounded	optimistic	rough	dapple	dark	flowing	knead
Thick	dramatic	curved	joyful	jagged	dark	deep	fluid	model
Thin	vibrant	natural	vibrant	serrated	light	intense	geometric	mould
Subtle	brilliant	irregular	lively	coarse	ethereal	heavy	irregular	precise
Contrasting	intense	regular	positive	gritty	fierce	rich	natural	rough
Dramatic	powerful	solid	sad	grainy	gentle	strong	negative	hewn
Rough	primary	overlapping	depressed	gestural	harsh	pale	order	sculpt
Fine	secondary	floating	moody	complex	haze	bleached	ornamental	sharp
Smooth	muted	angled	gloomy	smooth	highlight	light	overlap	uniform
Uneven	subtle	atmospheric	miserable	plain	intense	faded	plain	vague
Swirling	dull	perspective	negative	soft	natural	pallid	positive	open
Flowing	watery	grid	soothing	featureless	shadow	ashen	repeat	closed
Big	sepia	enlarge	calming	glossy	shade	bright	simple	free
Small	subdued	motif	restful	silky	source	contrast	spiral	
Busy	delicate	aerial view	peaceful	cross-hatching	soft	crisp	stamp	
Plain	gloomy	ornament	gentle	fine	tone	fair	stencil	
Vibrant	faded	pointed	sinister	flat	dramatic	graduation	structure	
Colourful	bleed	3D	mysterious	brushstroke	emphasis	angular	symmetric	
Bright	blend	2D	foreboding	glaze		broken	uniform	
Dark	clash	scale	menacing	matt		confident	rhythm	
Realistic	cold	woven	ominous	shiny		faint	motif	
Unrealistic	warm	symmetrical	threatening	splatter		flowing	geometric	
Complex	deep		alive	thick		fluent	organic	
Simple	neutral		atmospheric	thin		free	angular	
Boring	glowing		delicate	was		hesitant	body	
Engaging	tint		exciting			scribble	figure	
Dull	tone		expressive			sweeping	conical	
Flat	opaque		humorous			woolly	form	
Shapes	pale		imposing			rhythm	frame	
Lines	pastel tint					contour		
Sketchy	complementary							
Brush strokes	hue							
Natural	saturation							
Unnatural	shade							
	monochromatic							
	spectrum							
	translucent							

DESIGN TECHNOLOGY NBPS

Year group: F/1	Unit of work: All About Me	Woodwork, Junk models, Construction toys	Cycle: A
Learn Design: ● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. 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 textiles. Evaluate: ● Explore and evaluate a range of existing products. Technical Knowledge: ● Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.		Subject Specific Skills (<i>What are the key subject specific skills that will be taught in this unit?</i>) ● Know how to join materials ● Know how to follow a design. ● Know how to work safely with a variety of tools and materials ● Know what it means to evaluate. ● Know how to evaluate their work and identify areas for future development	Vocabulary design designer materials tools product components evaluate development
Stem Sentences This is a, I need to to, To make it stronger I Next time It will.....because..... I think I will..... I think.....because..... It is.....because..... It has.....because.....		Cross-curricular/ Cultural capital Children will have the opportunity to use their learning in other curriculum areas in construction.	
About this unit The children will have access to arrange of construction materials, indoor and out as part of continuous provision. Adults will model different ways to join materials and will encourage the children, through question to evaluate their ideas and to risk assess structures built in the outside area. In forest school, children will build dens, small world areas and learn to use tools safely. Adults will support and extend play. All pupils in foundation and year 1 have access to the materials they need for large and small-scale construction. They all have time to refine their ideas and extend their learning over time.			

DESIGN TECHNOLOGY NBPS

Year group: F/ 1	Unit of work: Our wonderful World - Woodwork Textiles – Designing and Sewing Bunting Junk models/Construction			Cycle: A
Learn Design: <ul style="list-style-type: none">● To design purposeful, functional, appealing products for themselves and other users based on design criteria.● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. Make: <ul style="list-style-type: none">● 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 textiles. Evaluate: <ul style="list-style-type: none">● Explore and evaluate a range of existing products.● Evaluate their ideas and products against design criteria.		Skills <ul style="list-style-type: none">● Know what bunting is and when it is used.● Know how to share and explain their opinions about different bunting● Know how to use scissors safely.● Know how to cut lines accurately.● Know how to cut out shapes accurately.● Know how to sew two pieces of material together.● Know how to attach buttons and other decorative materials onto a piece of fabric.● Know how to use the tools needed for sewing safely and sensibly.● Know what design criteria are.● Know how to describe what materials, tools and skills they will need● Know how to describe the steps they will need● Know how to follow their design to make a completed product.● Know how to use cutting and sewing skills.● Know how to work safely and sensibly with the tools and materials they have.● Know how to evaluate their own bunting● Know how to identify ways to improve their bunting		Vocabulary Needle Properties Stitch Thread Template Evaluate Computer Pin Program Join Product Sew Felt Seam Design Fabric
Stem Sentences It is and The is and They are because It is a (adjective/noun) has have			Cross-curricular/ Cultural capital	
About this unit The children will have access to arrange of construction materials, indoor and out as part of continuous provision. Adults will model different ways to join materials and will encourage the children, through question to evaluate their ideas and to risk assess structures built in the outside area. In forest school, children will build dens, small world areas and learn to use tools safely. Adults will support and extend play. All pupils in foundation and year 1 have access to the materials they need for large and small-scale construction. They all have time to refine their ideas and extend their learning over time. The children will work together to create bunting for the classroom. Pupils meeting this unit in foundation will have the opportunity to sew in year 1				

DESIGN TECHNOLOGY NBPS

Year group: F/ 1	Unit of work: Off to the Seaside -Woodwork Junk models Construction toys		Cycle: A
<p>Learn</p> <p>Design:</p> <ul style="list-style-type: none">● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. <p>Make:</p> <ul style="list-style-type: none">● 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 textiles. <p>Evaluate:</p> <ul style="list-style-type: none">● Explore and evaluate a range of existing products. <p>Technical Knowledge:</p> <ul style="list-style-type: none">● Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.		<p>Subject Specific Skills (<i>What are the key subject specific skills that will be taught in this unit?</i>)</p> <ul style="list-style-type: none">● Know how to join materials● Know how to follow a design.● Know how to work safely with a variety of tools and materials● Know what it means to evaluate.● Know how to evaluate their work and identify areas for future development	<p>Vocabulary</p> <p>design</p> <p>designer</p> <p>materials</p> <p>tools</p> <p>product</p> <p>components</p> <p>evaluate</p> <p>development</p>
<p>Stem Sentences</p> <p>This is a I need to to</p> <p>To make it stronger I</p> <p>Next time</p>		<p>Cross-curricular/ Cultural capital</p> <p>Children will have the opportunity to use their learning in other curriculum areas in construction.</p> <p>They will visit the sea-life centre and will be supported to create underwater worlds.</p>	
<p>About this unit</p> <p>The children will have access to arrange of construction materials, indoor and out as part of continuous provision. Adults will model different ways to join materials and will encourage the children, through question to evaluate their ideas and to risk assess structures built in the outside area.</p> <p>In forest school, children will build dens, small world areas and learn to use tools safely.</p> <p>Adults will support and extend play. All pupils in foundation and year 1 have access to the materials they need for large and small-scale construction. They all have time to refine their ideas and extend their learning over time.</p>			

DESIGN TECHNOLOGY NBPS

Year group: F/1	Unit of work: Hot & Cold Places -Woodwork Junk models Construction toys	Cycle: A
Learn Design: ● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. 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 textiles. Evaluate: ● Explore and evaluate a range of existing products. Technical Knowledge: ● Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.	Subject Specific Skills (<i>What are the key subject specific skills that will be taught in this unit?</i>) ● Know how to join materials ● Know how to follow a design. ● Know how to work safely with a variety of tools and materials ● Know what it means to evaluate. ● Know how to evaluate their work and identify areas for future development	Vocabulary design designer materials tools product components evaluate development
Stem Sentences This is a I need to to To make it stronger I, Next time It is and The is and They are because It is a (adjective/noun) has have	Cross-curricular Children will have the opportunity to use their learning in other curriculum areas in construction. They will use maps and plans to create hot and cold places. A visit to the local zoo provides inspiration for independent construction.	
About this unit The children will have access to arrange of construction materials, indoor and out as part of continuous provision. Adults will model different ways to join materials and will encourage the children, through question to evaluate their ideas and to risk assess structures built in the outside area. In forest school, children will build dens, small world areas and learn to use tools safely. Adults will support and extend play. All pupils in foundation and year 1 have access to the materials they need for large and small-scale construction. They all have time to refine their ideas and extend their learning over time.		

DESIGN TECHNOLOGY NBPS

Year group: F/1	Unit of work: Off to the Moon- Woodwork Mechanisms, wheels and axles (Moon Buggies) Junk models/Construction		Cycle: A
Learn Design: ● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. 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 textiles. Evaluate: ● Explore and evaluate a range of existing products. Technical Knowledge: ● Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products		Key Subject Specific Skills (<i>What are the key subject specific skills that will be taught in this unit?</i>) ● Know how to join components to create a wheel mechanism. ● Know how to follow a design to create model with a wheel mechanism. ● Know how to work safely with a variety of tools and materials to create a moving vehicle ● Know what it means to evaluate. ● Know how to evaluate their work and identify areas for future development	Vocabulary Wheel Axel Rotate turn
Stem Sentences This is a I need to to, To make it stronger I Next time, I am pleased with I think that I think that because It is because happened because		Cross-curricular/ Cultural capital A visit to the space centre provides inspiration for self-chosen construction and design.	
About this unit The children study the first moon landing in history. They also look at the lives of other significant people in the space race and the history of exploration and invention. Some pupils will choose to make rockets and space ships using recycled materials. High quality early years teaching will encourage all pupils to be involved in designing and making. Using tools all pupils will design and make a moon buggy. Children meeting this unit in foundation will have the opportunity to use wheels in their learning in year 1.			

DESIGN TECHNOLOGY NBPS

Year group: F/1		Unit of work: In the Garden - Nutrition		Cycle: A
Learn Cooking and nutrition: <ul style="list-style-type: none">● To use the basic principles of a healthy and varied diet to prepare dishes● To understand where food comes from● To evaluate their designs and products against design criteria		Skills To know that there are different types of food. <ul style="list-style-type: none">● To know where food originally comes from.● To describe different food they have tasted.● To explain what an Eatwell plate is.● To make a salad as a group using instructions.● To design a salad.● To write a shopping list.● To recall the products they have made.● To identify their favourite food and explain why.● To evaluate a final product.		Vocabulary food ingredients list healthy balanced cook taste hygiene product evaluate
Stem Sentences Yes because No because I like because and I don't like And I don't like I agree with because		Cross-curricular/ cultural capital In science, learners are finding out about how plants grow. They will grow food to use to make a salad and visit a local farm to find out where our food comes from.		
About this unit The children will have access to a range of construction materials, indoor and out as part of continuous provision. Adults will model different ways to join materials and will encourage the children, through questions to evaluate their ideas and to risk assess structures built in the outside area. In forest school, children will build dens, small world areas and learn to use tools safely. Adults will support and extend play. All pupils in foundation and year 1 have access to the materials they need for large and small-scale construction. They all have time to refine their ideas and extend their learning over time. For pupils meeting this unit in foundation there will be further opportunities to cook and learn about the importance of hygiene and safe use of tools in year 1. (pancake day, harvest, exploring fruit)				

DESIGN TECHNOLOGY NBPS

Year group: 2	Unit of work: Into the Wild and into the Past- Textiles – A Bag for Life		Cycle: A
Learn Design: <ul style="list-style-type: none">● To design purposeful, functional, appealing products for themselves and other users based on design criteria.● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. Make: <ul style="list-style-type: none">● 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 textiles. Evaluate: <ul style="list-style-type: none">● Explore and evaluate a range of existing products.● Evaluate their ideas and products against design criteria.	Skills <ul style="list-style-type: none">● To recognise and describe a variety of different types of bags.● To know the features of a variety of bags.● To know how to use a template to cut out appropriate sizes of fabric.● To know how to develop ideas by putting components together.● To know how to discuss their finished work and evaluate what went well and what could be improved.● To know how to use running stitch and/or over stitch to join two pieces of fabric together.● To know how to use a needle and thread to attach buttons and other features to material.● To know how to work safely with a variety of sharp tools, such as needles and scissors.● To know how to design a bag for a particular purpose.● To know what materials and tools they will need to make their bag.● To know the steps they will need to take to make their bag.● To know how to describe the steps they will need to take to create their bag.● To know how to follow their designs to create their bags.● To know how to work safely and sensibly when working with a variety of materials and tools.● To know how to evaluate their own finished products and say what they think and feel about them.● To know how to offer their opinions and comment on the work of others.● To know ways in which they could improve their work in the future.	Vocabulary fabric textiles template component needle thread stitch pin pattern piece applique	
		Designers Orla Kiely Caroline Gardner	
Stem Sentences Recycling is important because/ but/ so/ and .Ibecause..... When Ibecause..... After I..... The.....because..... We/They.....because..... How.....Why.....Where.....When.....		Cross-curricular/ cultural capital Recycling artists: James Shaw plastic baroque	
About this unit PSHCE/ RSE/ Learning habits / Diversity The children will use an old shirt, making links to the environment and reusing. This is revisited overtime in key stage 2.			

DESIGN TECHNOLOGY NBPS

Year group: 2	Unit of work: London's Burning- Mechanisms	Cycle: A
Learn Design: <ul style="list-style-type: none">● To design purposeful functional, appealing products for themselves and other users based on design criteria.● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. Make: <ul style="list-style-type: none">● Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] . Evaluate: <ul style="list-style-type: none">● Explore and evaluate a range of existing products. Technical Knowledge: <ul style="list-style-type: none">● Build structures, exploring how they can be made stronger, stiffer and more stable.	Skills Know what a mechanism is and what they are used for. <ul style="list-style-type: none">● Know describe the features of a mechanism.● use materials to construct a base● identify materials that are stronger than others.● join materials together successfully..● design a mechanism that follows a theme.● identify and choose appropriate materials to construct and make a mechanism.● make predictions about the construction process.● follow a design to create a mechanism.● construct a mechanism that represents a particular theme.● describe the design and construction process clearly.● evaluate.● share their experience with other class members.	Vocabulary design designer base axis structure materials tools construct/construction theme prediction components evaluate Designers/ Architects Peter Dahmen Yinka Ilori David Adjaye
Stem Sentencessame.....similar.....different..... I think.....because..... I predict that.....because..... I think they will be alike because they are both.....	Cross-curricular/ cultural capital This unit of work runs in parallel to a study of the great fire of London when pupils will be introduced to Christopher Wren. Looking at the work of David Adjaye and Yinka Ilori will help pupils to understand that architects come from diverse backgrounds.	
About this unit This unit of work is in the Spring term. Learners will explore mechanisms in cards – Chinese new Year, mother's day, St. David day, St Patricks day, Valentine's day and Easter.		

Year group: 2	Unit of work: Travels with my Bear- Healthy Food- Dips and Dippers	Cycle: A
<p>Learn</p> <p>Cooking and nutrition:</p> <ul style="list-style-type: none">● To use the basic principles of a healthy and varied diet to prepare dishes.● To understand where food comes from.● To evaluate their designs and products against design criteria. <p>Design:</p> <ul style="list-style-type: none">● To design purposeful, functional, appealing products for themselves and other users based on design criteria.● To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate. <p>Make:</p> <ul style="list-style-type: none">● 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 textiles. <p>Evaluate:</p> <ul style="list-style-type: none">● Explore and evaluate a range of existing products.● Evaluate their ideas and products against design criteria.	<p>Learn / learn how to</p> <ul style="list-style-type: none">● sort foods into different food groups.● discuss different types of dips and dippers and begin to categorise them into healthy and unhealthy.● Know that there are a variety of dippers.● Know which dippers they like.● Know the features of different types of dipper and decide if it is fit for purpose.● Know the names of and describe a variety of ingredients.● Know their opinions and preferences about different ingredients.● Know that eating healthily means having a balanced diet.● Know that dips can be part of a healthy diet.● Know how to design a healthy dip.● Know what ingredients and tools they will need to make their dip.● Know how to identify and follow rules for food safety and hygiene.● Know how to follow a design to make a dip.● Know how to evaluate their finished products and say what they think and feel about them.	<p>Vocabulary</p> <p>food</p> <p>food groups</p> <p>ingredients</p> <p>categorise</p> <p>healthy</p> <p>nutritious</p> <p>balanced</p> <p>cook</p> <p>taste</p> <p>hygiene</p> <p>tools</p> <p>design</p> <p>purpose</p> <p>product</p> <p>evaluate</p>
<p>Stem Sentences</p> <p>I prefer</p> <p>I think my Dip is because</p> <p>Next time I could</p> <p>I found hard/easy because</p> <p>I like/dislike because</p> <p>It was interesting because</p> <p>I like this because</p>	<p>Cross-curricular/ cultural capital</p> <p>Links are made to food miles and the influence of diverse modern Britain on our food choices.</p>	
<p>About this unit</p> <p>This unit of work builds on the nutrition unit in year 1. In this unit, learners explore the flavours and ingredients in commercial dips. They will find out about where the dips have originated and the ingredients used before designing their own dip and costing it.</p>		

DESIGN TECHNOLOGY NBPS

Year group: 3/4		Unit of work: In the mists of time - Fabric Technology: Weaving and Felt Making		Cycle: A
Learn Design <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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 <ul style="list-style-type: none">● To investigate and analyse a range of existing products.● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.		Skills To know that fabric is designed for different purposes and users. <ul style="list-style-type: none">● To know that there are common features to all man-made fabric● To know how to draw, label and evaluate different fabrics● To know that modelling can be used to try out different ideas.● To know how to make a template including a seam allowance.● To know how to mark out measurements accurately.● To know how to write a simple specification for their design based on the intended user.● To know how to produce a detailed design for their cloth● To know how to follow their design.● To know how to use finishing techniques to make their artefact aesthetically pleasing.● To know how to evaluate their own/others finished products.● To know how to identify any improvements that could be made to their work.		Vocabulary Felt Warp Weft Bobbin Natural Man-made loom
Stem Sentences I found this work.....because..... Next time I could/would..... Maybe you could try..... / I feel that..... I enjoyed it because.....was successful / ambitious because..... You could improve this work by.....		Cross-curricular/ cultural capital Learners work with museum education services to design and make felt using the wet technique. In history, they are studying the stone age and will find out about simple fabric making.		
About this unit This unit is linked to an art unit in cycle B – cloth, thread, paper. It has links in changing state and materials in science. There are local links to the fashion industry.				

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DESIGN TECHNOLOGY NBPS

Year group:	Unit of work: We built this city	Moving Water: Shadufs, Aqueducts and Archimedes' Screw	Cycle: A
Learn Design: <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make: <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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: <ul style="list-style-type: none">● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Skills Know and recognise familiar objects that use levers or a screw mechanism to make them work. <ul style="list-style-type: none">● Know how to describe how the objects use levers or a screw mechanism to make them work.● Know how to suggest alternative uses for these familiar objects.● Know how to explain how simple lever systems work using appropriate vocabulary.● Know how to create simple lever/ screw systems.● Know how to investigate ways of using lever systems with other materials to control movement.● Know of different techniques for joining and fixing components.● Know how to make and construct an effective lever/screw system to control movement.● Know how to use their knowledge of levers or a screw mechanism systems to design a transport system● Know how to describe what materials and components they will need● Know how to identify areas that could be improved upon in their design.● Know how to work safely and effectively with a range of tools and techniques.● Know how to identify successful areas of their finished products.	Vocabulary Lever Pulley Screw Transport System	
		Inventor Archimedes	
Stem Sentences I think this.....because..... I know this, so I think This will happen because.....	Cross-curricular/ cultural capital Learner find out about Archimedes and his designs. There are links to learning in science – growing and the water cycle and history – ancient civilisations. Links are made to how the Romans moved water – cycle B		
About this unit This work builds on the year 2 unit when mechanisms are studied in card making. There are links to forest schools where children use levers, pulleys and swings. Structures are studied in year a and b in year 3/ 4 and in year a and b of year 5 and 6 so that skills can be secured.			

DESIGN TECHNOLOGY NBPS

Year group: 3/4	Unit of work: Interconnected World -Food technology: healthy eating/ Edible garden - sandwich snacks	Cycle: A
Learn Cooking and nutrition: <ul style="list-style-type: none">● To understand and apply the principles of a healthy and varied diet.● To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Design: <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make: <ul style="list-style-type: none">● 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: <ul style="list-style-type: none">● 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.	Skills To know that food can be divided into different groups. <ul style="list-style-type: none">● To name the different food groups and describe their purpose.● To know that people have different preferences.● To know that there are a variety of different sandwiches.● To taste and describe different foods.● To know that different combinations of ingredients affect the taste and texture of the product.● To choose a purpose for their sandwich design.● To describe each step in the process of making their sandwich.● To know how to design a healthy sandwich.● To know how to work safely and appropriately with food.● To know how to follow their designs to create a sandwich.● To know how to present their sandwich in an appealing way.● To know how to evaluate their work fairly and constructively.● To be able to suggest improvements to their design.● To know how to incorporate new design features based on their experience of the product.	Vocabulary Herb Thyme Mint Parsley Tarragon Rosemary Vitamins Seeds Basil Minerals Nutrition Seasoning Measure Sow Pollinate Seasonality Millimetre Litre
Stem Sentences I found this work.....because..... Next time I could/would..... Maybe you could try..... / I feel that..... I enjoyed it because.....was successful / ambitious because..... You could improve this work by.....	Cross-curricular To support learning in science they will make butter by changing the state of cream. Learning in science is retrieved and revisited. Learning in geography reinforces pupils’ understanding of where our food comes from.	
About this unit This unit builds on the salad and growing unit in year 1 and the dips and dippers unit in year 2. The children will make bread in cycle B and a sandwich in cycle A.		

DESIGN TECHNOLOGY NBPS

Year group:	Unit of work: Romans- ruling and roaming	Christmas Stockings	Cycle: B
Learn Design <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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 <ul style="list-style-type: none">● To investigate and analyse a range of existing products.● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Skills To discuss and assess the functionality of a variety of Christmas stockings. <ul style="list-style-type: none">● To know how to compare and contrast different Christmas stockings.● To know how to identify different sewing stitches.● To know how to thread a needle and secure a knot.● To know how to join two pieces of fabric together using a sewing stitch.● To use stitching for decorative purposes.● To know how to sew a button/bead/sequin/ribbon onto fabric accurately.● To see how to combine these skills to create a design for a product.● To know how to use their knowledge of joining stitches when designing their product.● To know how to use their knowledge of decorative techniques when designing their product.● To identify which parts of the making process they may find challenging.● To know how to follow a design to create a successful product.● To know how to use appropriate sewing stitches to join and decorate fabric.● To know how to work safely and sensibly with a range of materials and tools.● To know how to identify what has been successful with their design.● To know how to identify any improvements that could be made to the design.	Vocabulary stocking pattern piece running stitch cross stitch applique embroidery textile designer	
		Designer Jan Constantine	
Stem Sentences enjoyed.....because.....was successful / ambitious because..... You could improve this work by.....Maybe you could try..... Next time I / you could / would.....		Cross-curricular This is a Christmas unit	
About this unit In year 2, pupils made a bag for life and decorated using gluing. In this unit, embellishments are added using sewing. Year three pupils will add embellishments for the first time in this unit and second in the felt and weaving unit allowing for progression and mastery.			

Year group: 3/4	Unit of work: Extreme Earth/ Romans Bread		Cycle: B
Learn Cooking and nutrition: ● To understand and apply the principles of a healthy and varied diet. ● To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. ● To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	Learn how to ● To know how to measure and mix ingredients. ● To know how to cut out, shape and mould bread ● To describe some ways in which bread was traditionally made ● To know how to modify a simple recipe. ● To know how to use safe knife techniques for cutting medium and higher resistance foods. ● To know how to select and use appropriate apparatus to measure, sift, mix and pour when following a recipe. ● To know why and how some food changes when it is heated. ● To know how to describe ingredients which are unhealthy when eaten regularly in large quantities. ● To know how to identify aspects of their own cooking skills which they wish to improve.	Vocabulary Bread Rise Texture Appearance Ingredients Knead Prove Yeast Criteria	Product Shape Design Flour Research Evaluate Taste flavour
		Designers/Techniques Ancient Romans Farmers Meal https://historicalitaliancooking.home.blog/english/recipes/ancient-roman-farmers-meal-flatbread-and-moretum/	
		Stem Sentencesand.....are both.....and.....are alike in that.....and.....are similar because.....and.....have the following points in common:	One similarity between.....and.....is that..... Another is..... A further..... One difference is..... A further difference.....
About this unit This is one of 2 food and nutrition units in year 3 and 4. The units are linked but do not need to be studied in a particular order. Both have links in science.			

DESIGN TECHNOLOGY NBPS

Year group: 3/4	Unit of work: It's all Greek to me- Lighting the dark	Cycle: B
<p>Learn Design:</p> <ul style="list-style-type: none"> ● To 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. ● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <p>Make:</p> <ul style="list-style-type: none"> ● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ● To 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. <p>Evaluate:</p> <ul style="list-style-type: none"> ● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ● To investigate and analyse a range of existing products. <p>Technical Knowledge:</p> <ul style="list-style-type: none"> ● To understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors). 	<p>Skills</p> <p>To know the main features of torches.</p> <ul style="list-style-type: none"> ● To know and explain how a torch works. ● To know how a torch's design matches its purpose. ● To know how to create a simple circuit. ● To know that a variety of metal components conduct electricity. ● To know how to create a switch to use in a torch design. ● To know what their torch casing will need to be like. ● To know how to create a torch casing using reclaimed materials. ● To know how to create a torch casing using a 3D net. ● To know how to generate ideas for their own torch design. ● To know how to apply what they have learnt about torches to their design. ● To know how to design a torch that meets specific design criteria. ● To know how to follow a design to create a torch. ● To know how to work accurately with a range of materials and components. <p>To know how to suggest ways in which they could improve their finished product.</p> <ul style="list-style-type: none"> ● To know how to evaluate a torch against the original criteria. ● To know how to suggest ways they could improve their finished product. ● To know how to explain what they would do differently if they were to make their torch again. 	<p>Vocabulary</p> <p>design technology product features purpose intended use circuit component conduct switch reclaimed materials 3D net design criteria annotated sketch</p> <p>Inventor</p> <p>Thomas Edison</p>
<p>Stem sentences</p> <p>Because of..... x happened</p> <p>For example.....</p> <p>In conclusion.....</p> <p>To begin with.....</p> <p>As a result of.....</p> <p>The reason(s) for.....</p>	<p>I predict that.....</p> <p>I believe / I think..... might / or.....</p> <p>If..... Then.....</p> <p>X has happened, therefore I think.....</p>	<p>Cross-curricular</p> <p>This unit supports learning in science and maths.</p>
<p>About this unit</p> <p>Previous design units have focused on mechanisms. This unit builds on the skills of measuring and making a prototype it incorporates learning in science.</p>		

DESIGN TECHNOLOGY NBPS

Year group: 5/6	Unit of work: Hero or Villain Marbulous Structures	Cycle: A
Learn Design: <ul style="list-style-type: none"> ● To 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. ● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make: <ul style="list-style-type: none"> ● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ● To 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: <ul style="list-style-type: none"> ● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ● To investigate and analyse a range of existing products. Technical Knowledge: <ul style="list-style-type: none"> ● To understand mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). 	Skills To know that there are many different types of Marble runs/domino machines built for different purposes. To be able to speed up and slow down the momentum of the marble using friction <ul style="list-style-type: none"> ● To identify how materials and components have been used. ● To identify which parts support and strengthen structures. ● To know some techniques for joining and combining materials. ● To know some techniques for strengthening and reinforcing materials. ● To be able to experiment with different techniques to gather ideas for use in their own work. ● To be able to carry out tests to examine a fabric's suitability for a purpose. ● To explore different ways of joining materials. ● To be able to explain which fabrics would be suitable for a purpose and why. ● To be able to describe who they are designing their marble run for and what purpose it will have. ● To include detailed lists of the materials and processes they plan to use. ● To know how to use precise measurements and appropriate vocabulary in their designs. ● To follow their design to create their marble run 	Vocabulary Support Stiffen friction Sturdy Stable Strengthen Reinforce Structure Free-standing Join Aesthetics shape Cut Accurately Marble Bend Marble run Test evaluate Designers Morag Myerscough
Stem sentences I predict that..... I believe / I think..... might / or..... If..... Then..... X has happened, therefore I think.....		Cross-curricular/ cultural diversity The work of Morag Myerscough will support pupils to understand the diverse backgrounds of people involved in design.
About this unit This unit will support pupils to consider entering the 3M competition. Learners need to apply their previous learning in science (friction) and maths (measuring). Structures are studied in year a and b in year 3/ 4 and in year a and b of year 5 and 6 so that skills can be secured.		

DESIGN TECHNOLOGY NBPS

Year group: 5/6		Unit of work: Amazon Adventure - Automata Animals		Cycle: A
Learn Design: <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make: <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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: <ul style="list-style-type: none">● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.● To investigate and analyse a range of existing products. Technical Knowledge: <ul style="list-style-type: none">● To understand mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).		Learn how to To recognise the movement of a mechanism within a toy or model. <ul style="list-style-type: none">● To know that a cam mechanism will change rotary motion into linear motion.● To investigate examples of cam toys and comment on how they work.● To describe how cams work using appropriate vocabulary.● To explore how different shaped cams affect the movement of the follower.● To make suggestions for how different cams could be used for different kinds of toys.● To make suggestions for how they could make a sturdy structure for a moving toy.● To experiment with a variety of materials, tools and techniques.● To identify ways of strengthening a structure.● To state the purpose and audience of their design.● To design a moving toy with a cam mechanism.● To describe how they will create their toy and what materials and tools they will need.● To follow a design to create a moving toy To know how to work safely with a variety of materials and tools. <ul style="list-style-type: none">● To identify areas of their toy that could be improved upon.● To be able to evaluate a finished product fairly.● To suggest ways they could improve their product if they were to make it again.● To recognise ways in which they have been successful.		Vocabulary design technology product tools mechanism cam rotary linear strengthen reinforce design criteria audience evaluate
Stem Sentences Given that.....then..... I deduce/deduct..... I have worked out..... In conclusion..... I conclude.....		Cross-curricular/ cultural capital Using learning in geography and history pupils design and make a moving toy. The work of Kusheda Mensah will support pupils to understand that a range of people work in design		
About this unit The design units in year 5 and 6 have been chosen to build on skills developed in year 3 and 4. Structures are studied in year a and b in year 3/ 4 and in year a and b of year 5 and 6 so that skills can be secured. This unit follow marbulous structures to secure skills and enable mastery. Learners meeting these units in year 5 have the opportunity for mastery in year 6				

DESIGN TECHNOLOGY NBPS

Year group: 5/6		Unit of work: African Adventure- Global Food		Cycle: A
Learn Cooking and nutrition: ● To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Design: ● To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Make: ● Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. 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.		Skills To suggest ways in which diverse climate regions affect the food grown. ● To know how to measure and mix ingredients. ● To know how to cut out, shape and mould pastry. ● To describe some ways in which food was traditionally preserved ● To know how to modify a simple recipe. ● To know how to use safe knife techniques for cutting medium and higher resistance foods. ● To know how to select and use appropriate apparatus to measure, sift, mix and pour when following a recipe. ● To know why and how some food changes when it is heated. ● To know the features of international food and how the foods we eat have been influenced by other cultures ● To know how to snip, cut and shred food safely, using appropriate apparatus. ● To know how to describe ingredients, which are unhealthy when eaten regularly in large quantities. ● To know how to identify aspects of their own cooking skills which they wish to improve. ● To know how to work together to prepare a shared meal.		Vocabulary hygiene ingredients Pastry apparatus recipe modify resistance produce indigenous climate regions global international influence authentic flavour
Stem Sentences It looks / tastes / feels / sounds / smells like It appears to be.....because..... It seems to be like.....because..... I think it looks like.....because..... It reminds me of.....because.....		Cross-curricular/ cultural capital In art, learners make pinch pots inspired by fruit linked to learning in geography and history. There are links in science-environment.		
About this unit The year 5 and 6 units are linked by sustainability. Both build skills in the use of tools and enable enterprise in considering cost and marketing.				

DESIGN TECHNOLOGY NBPS

Year group: 5/6	Unit of work: Journeys felt phone cases		Cycle: B
<p>Learn</p> <p>Design</p> <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <p>Make</p> <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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. <p>Evaluate</p> <ul style="list-style-type: none">● To investigate and analyse a range of existing products.● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	<p>Skills</p> <p>To know and understand the terms ‘functional’ and ‘aesthetic’.</p> <ul style="list-style-type: none">● To know how to analyse an existing product in detail.● To compare and contrast existing products.● To know how to sew different stitches.● To know how to join two pieces of fabric together using their sewing skills.● To explain which stitch is best for a particular purpose.● To use stitching for decorative purposes.● To know how to sew a button/bead/ribbon onto fabric accurately.● To see how to combine these skills to create a design for a product.● To be able to talk about the advantages and disadvantages of the different types of fastenings.● To use their sewing skills to create a secure fastening.● To assess which fastening would be the most suitable for a particular product.● To follow a design to create a finished product.● To be able to create a design according to specific criteria.● To know how to successfully use a range of sewing techniques.● To be able to explain their design and the techniques they will use. <p>To be able to explain the process they will need to undertake to make their product.</p> <ul style="list-style-type: none">● To be able to evaluate their own and others’ work.	<p>Vocabulary</p> <p>textiles pattern pieces thread needle Stitch fastening functional aesthetic tension seam allowance fashion designer</p> <p>Designer</p> <p>Karim Rashid</p>	
<p>Stem Sentences</p> <p>In some ways.....and.....are alike. For instance they both.....</p> <p>Another feature they have in common is that.....</p> <p>Furthermore they are both.....</p>	<p>Cross-curricular</p> <p>Children will look at the work of several fashion designers so that they are aware of the variety of backgrounds of renowned designers including Karim Rashid. This is a Christmas unit.</p>		
<p>About this unit</p> <p>Children will look at the work of several fashion designers so that they are aware of the variety of backgrounds of renowned designers including Karim Rashid</p>			

Year group: Y5/6	Unit of work: Space Exploration	Crumble – see computing	Cycle: B	
Learn Design <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make <ul style="list-style-type: none">● To select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.● To 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 <ul style="list-style-type: none">● To investigate and analyse a range of existing products.● To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work			Skills <ul style="list-style-type: none">● Program and debug a crumble using a motor, switch and sparkle● Design and make a structure – carousel● evaluate	Vocabulary Crumble Switch Debug Algorithm loop
Stem Sentences Because of..... x happened For example..... In conclusion..... To begin with..... As a result of..... The reason(s) for.....			Cross-curricular This unit builds on learning in computing.	
About this unit The design units in year 5 and 6 have been chosen to build on skills developed in year 3 and 4. Structures are studied in year a and b in year 3/ 4 and in year a and b of year 5 and 6 so that skills can be secured. In year B year 3 and 4 designed torches. This unit uses electricity to control movement.				

DESIGN TECHNOLOGY NBPS

Year group: 5/6		Unit of work: Digging Deeper -Super Seasonal Cooking		Cycle: B
Learn Cooking and nutrition: <ul style="list-style-type: none">● To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Design: <ul style="list-style-type: none">● To 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.● To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make: <ul style="list-style-type: none">● 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: <ul style="list-style-type: none">● 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.		Learn how to To recognise and describe the different types of pasta and different seasonal vegetables <ul style="list-style-type: none">● To know how to carry out research to find out people’s preferences.● To analyse the results of their research.● To use appropriate vocabulary to describe products including their sensory characteristics.● To be able to compare vegetables and pastas in terms of appearance, flavour, texture and cost.● To suggest ways of altering a basic pasta sauce recipe.● To know how to measure and mix ingredients.● To know how to follow a recipe to make pasta sauce● To know how to use finishing techniques to improve the appearance of their sauce● To follow safety procedures for food safety and hygiene.● To know how to identify aspects of their own cooking skills which they wish to improve.● To identify ways they would alter the product if they were to make it again.		Vocabulary Pasta Seasonal Ripe Sustainable air miles reared caught processed texture appearance protein proportions specifications refine
Stem Sentences It looks / tastes / feels / sounds / smells like It appears to be.....because..... It seems to be like.....because..... I think it looks like.....because..... It reminds me of.....because.....		Cross-curricular Links are made to nutrition in science and to learning in PSHCE.		
About this unit The year 5 and 6 units are linked by sustainability. Both build skills in the use of tools, equipment and enable enterprise in considering cost and marketing. In this unit learners will use seasonal ingredients to prepare a pasta dish.				

DESIGN TECHNOLOGY NBPS

End of unit assessment: Design

Unit:		
Year group		
Needed support	On track for ARE	On track for greater depth
Learning habits		
Needed support	Expected	Above
Skills to be returned to:	Knowledge to be returned to:	
Concepts to be returned to:	Vocabulary to be returned to:	
Revisited in the next unit (identified by monitoring and shared with relevant staff):		