

 Cotford St Luke				
	Subject:	DT	Unit Title:	
	Year Group:			
	Term:			

Brief planning narrative — what will the children learn and achieve during this sequence? What will be the main outcomes? How will children present their learning with real purpose and audience? What links are there with other subjects?	EYFS: KS1 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. KS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.		
	Text		
(In DT you will normally be able to make links to Maths, spoken language (Eng) and Art and Design. Possible links to digital computing and Science also.			

		Disciplinary knowledge and Key Concepts (highlight those which will be a focus during this sequence)					
	Background Research: <i>Understanding contexts, users and purposes Explore existing products</i>	Design Criteria <i>Understanding their intended users and their own product</i>	Planning <i>Communicating ideas and creating prototypes for product</i>	Making <i>Selecting the tools and applying the practical skills and techniques to make quality products</i>	Evaluation <i>Referring to planning and initial ideas in evaluating their product</i>	Technical Knowledge To know:	Asking design and technology questions
Nursery	Understand what a product is and who it is for Understand how a product works and how it is used	Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them.	Discuss what their steps for making could be Represent ideas through talking and drawing	Join different materials and explore different textures. Explore Mechanical equipment.		Use one-handed tools and equipment, for example, making snips in paper with scissors. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Start to eat independently and learning how to use a	What does it look like? What part do you like? Is there anything you would change? How could you change it?

						knife and fork. Make healthy choices about food, drink, activity and toothbrushing. Use knives to chop a range of ingredients.	What would you make if you were to do this again? What do you think you have learnt?
	Background Research: <i>Understanding contexts, users and purposes Explore existing products</i>	Design Criteria <i>Understanding their intended users and their own product</i>	Planning <i>Communicating ideas and creating prototypes for product</i>	Making <i>Selecting the tools and applying the practical skills and techniques to make quality products</i>	Evaluation <i>Referring to planning and initial ideas in evaluating their product</i>	Technical Knowledge To know:	Asking design and technology questions
Reception	Understand what a product is and who it is for Understand how a product works and how it is used Identify where you might find the product	Explore, use and refine a variety of artistic effects to express their ideas and feelings. Create collaboratively, sharing ideas, resources and skills.	Discuss what their steps for making could be Represent ideas through talking and drawing	Use different techniques for joining materials such as how to use adhesive tape and different sorts of glue. Use natural materials to make a product.	Return to and build on their previous learning, refining ideas and developing their ability to represent them. ELG: Share their creations, explaining the process they have used.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. ELG: Safely use and explore a variety of tools and techniques experimenting with colour, design, texture, form and function. Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity, - healthy eating, - toothbrushing, - sensible amounts of 'screen time', - having a good sleep routine, - being a safe pedestrian. ELG: Use a range of small tools, including scissors, paintbrushes and cutlery.	What does it look like? What part do you like? Is there anything you would change? How could you change it? What would you make if you were to do this again? What do you think you have learnt?
	Background Research:	Design Criteria	Planning	Making <i>Selecting the tools and applying the</i>	Evaluation <i>Referring to planning and</i>	Technical Knowledge To know:	Asking design and technology questions

	<i>Understanding contexts, users and purposes Explore existing products</i>	<i>Understanding their intended users and their own product</i>	<i>Communicating ideas and creating prototypes for product</i>	<i>practical skills and techniques to make quality products</i>	<i>initial ideas in evaluating their product</i>		
Year 1	Understand what a product is and who it is for Understand how a product works and how it is used Identify where you might find the product	Begin to draw on their own experiences and existing products to develop ideas Explain what product they will be designing and making Explain who their product will be used by Describe what their product will be used for	Discuss what their steps for making could be Represent ideas through talking and drawing	Use materials construction materials and kits, textiles, food and mechanical components Choose suitable tools for making Begin to make their design using appropriate techniques Follow safety and food hygiene procedures With help measure, mark, cut and shape materials and components Begin to Join, assemble and combine materials together using temporary methods e.g. glue, masking tape, split pins	Talk about their design ideas and what they have made Make simple judgements of how the product met their design ideas	- The simple working characteristics of materials and components - The movement of simple mechanisms such as levers, sliders, wheels and axles How freestanding structures can be made stronger, stiffer and more stable	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.
Year 2	Understand what a product is and who it is for Understand how a product works and how it is used Identify where you might find the product Identify the materials used to make the product Express an opinion about the product	Draw on own and other people's experiences and existing products to develop ideas Explain what product they will be designing and making Explain who their product will be used by Describe what their product will be used for and how it will work Explain why their product is suitable for the intended user	Discuss what their steps for making could be Represent ideas through talking, drawing and computing – (where appropriate) Choose materials to use based on suitability of their properties Create templates/pattern pieces and explore materials whilst developing ideas	Use materials construction materials and kits, textiles, food and mechanical components Choose suitable tools for making whilst explaining why they should be used Begin to make their design using appropriate techniques Follow safety and food hygiene procedures With help measure, mark, cut and shape materials and components with some accuracy Start to Join, assemble and combine materials in order to make a product Use finishing techniques, including skills learnt in art	Talk about their design ideas and what they have made Make simple judgements of how the product met their design ideas Suggest how their product could be improved	- The simple working characteristics of materials and components - The movement of simple mechanisms such as levers, sliders, wheels and axles How freestanding structures can be made stronger, stiffer and more stable	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.
	Background Research:	Design Criteria	Planning	Making <i>Selecting the tools and applying the</i>	Evaluation <i>Referring to planning and</i>	Technical Knowledge To know:	

	<i>Understanding contexts, users and purposes Explore existing products</i>	<i>Understanding their intended users and their own product</i>	<i>Communicating ideas and creating prototypes for product</i>	<i>practical skills and techniques to make quality products</i>	<i>initial ideas in evaluating their product</i>		
Year 3	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use Research facts about famous inventors/ chefs / designers linked to product	Understand and gather information about what a particular group or people want from a product Describe the purpose of their product and how it will work Identify design features that will appeal to intended users Explain how parts of their product work Generate realistic ideas that meet needs of user	Share and discuss ideas with others Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making and use appropriate techniques Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques, including skills learnt in Art with some accuracy	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	- How to use learning from science and maths to help design and make products that work - That materials have both functional properties and aesthetic qualities - That mechanical and electrical systems have an input, process and output - Mechanical systems create movement e.g. levers - Electrical circuits and components can be used to create functional products - Program, monitor and control their products applying their understanding of computing	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.
	Background Research: <i>Understanding contexts, users</i>	Design Criteria <i>Understanding their intended users and their own product</i>	Planning <i>Communicating ideas and creating prototypes for product</i>	Making <i>Selecting the tools and applying the</i>	Evaluation <i>Referring to planning and</i>	Technical Knowledge	

	<i>and purposes Explore existing products</i>			<i>practical skills and techniques to make quality products</i>	<i>initial ideas in evaluating their product</i>		
Year 4	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use Research facts about famous inventors/ chefs / designers linked to product	Understand and gather information about what a particular group or people want from a product Describe the purpose of their product Identify design features that will appeal to intended user Explain how parts of their product work Develop their own design criteria and use for planning ideas Generate realistic ideas that meet needs of user and take into account availability of resources	Share and discuss ideas with others Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making and use appropriate techniques Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques including skills learnt in Art with some accuracy	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	- How to use learning from science and maths to help design and make products that work - That materials have both functional properties and aesthetic qualities - That mechanical and electrical systems have an input, process and output - Mechanical systems create movement e.g. levers - Electrical circuits and components can be used to create functional products - Program, monitor and control their products applying their understanding of computing	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.
	Background Research: <i>Understanding contexts, users</i>	Design Criteria <i>Understanding their intended users and their own product</i>	Planning <i>Communicating ideas and creating prototypes for product</i>	Making <i>Selecting the tools and applying the</i>	Evaluation <i>Referring to planning and</i>	Technical Knowledge	

	<i>and purposes Explore existing products</i>			<i>practical skills and techniques to make quality products</i>	<i>initial ideas in evaluating their product</i>		
Year 5	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from and how environmentally friendly the materials are Evaluate the product on design, appearance and use Identify the cost to make the product Research facts about famous inventors/ chefs / designers linked to product	Understand and gather information about what a particular group or people want from a product e.g. using questionnaires, surveys Describe the purpose of their product Identify design features that will appeal to intended users Explain how parts of their product will work Develop their own design criteria and use for planning ideas Generate innovative ideas that meet needs of user and take into account availability of resources	Share and discuss ideas with others Record a step by step plan for making Produce lists for the tools, equipment and materials they will be using Choose materials to use based on suitability of their properties and aesthetic qualities Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components accurately Join, assemble and combine materials and components accurately Demonstrate problem solving skills when encountering a difficulty mistake or practical problem Use finishing techniques, including skills learnt in Art accurately	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	- How to use learning from science and maths to help design and make products that work - That materials have both functional properties and aesthetic qualities - That mechanical and electrical systems have an input, process and output - Mechanical systems create movement e.g. levers - Electrical circuits and components can be used to create functional products - Program, monitor and control their products applying their understanding of computing	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.
	Background Research:	Design Criteria	Planning	Making <i>Selecting the tools and applying the</i>	Evaluation <i>Referring to planning and</i>	Technical Knowledge	

	<i>Understanding contexts, users and purposes Explore existing products</i>	<i>Understanding their intended users and their own product</i>	<i>Communicating ideas and creating prototypes for product</i>	<i>practical skills and techniques to make quality products</i>	<i>initial ideas in evaluating their product</i>		
Year 6	Identify who made the product, when it was made and what its purpose is Identify what the product has been made from and how environmentally friendly the materials are Evaluate the product on design, appearance and use Identify the cost to make the product and whether it has any other purposes, e.g. Leading innovation of the time, trend setting Research facts about famous inventors/ chefs / designers linked to product	Understand and gather information about what a particular group or people want from a product e.g. using questionnaires, surveys Describe the purpose of their product Identify design features that will appeal to intended users Explain how parts of their product will work Create a design description for their product Highlight the impact of time, resources and cost within their design ideas Generate innovative ideas that meet needs of user	Share and discuss ideas with others Record a step by step plan for making Produce lists for the tools, equipment and materials they will be using Choose materials to use based on suitability of their properties and aesthetic qualities Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components accurately Join, assemble and combine materials and components accurately Demonstrate problem solving skills when encountering a mistake or practical problem Use finishing techniques that involve a number of steps, including skills learnt in Art accurately	Use design criteria to evaluate product – looking at quality of end product and design and whether it is fit for its intended purpose Consider the views of others, including intended user, whilst evaluating product	- How to use learning from science and maths to help design and make products that work - That materials have both functional properties and aesthetic qualities - That mechanical and electrical systems have an input, process and output - Mechanical systems create movement e.g. levers - Electrical circuits and components can be used to create functional products - Program, monitor and control their products applying their understanding of computing	Teachers will refer to the questions bank provided within the Projects on a Page plan selected-questions will relate to the specific skill of the project.

KS1 Design and Technology National Curriculum Children use the basic principles of a healthy and varied diet to prepare dishes. They understand where food comes from.		KS2 Design and Technology National Curriculum Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	
Understanding where food comes from	Across KS1: Understand that food comes from plants or animals	Lower KS2: Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe	Upper KS2: Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe Understand that the seasons can affect food produce
	Understand that food has to be farmed, caught, or grown	Understand that recipes can be changed by adding or taking away ingredients Understand that the seasons can affect food produce	Understand that sometimes, raw ingredients need to be processed before they can be used in cooking (E.g. De-feathering a chicken) Understand that recipes can be adapted to change the appearance, taste and aroma of a dish
Understanding food preparation, cooking and nutrition	Across KS1: Sort foods into the 5 groups using The Eat well Plate Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely without a heat source Use cooking techniques such as: cutting, peeling and grating	Lower KS2: Sort foods into the 5 groups using The Eat well Plate and identify that this makes up a healthy diet Identify that food and drink are needed to provide energy for a healthy and active lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking	Upper KS2: Sort foods into the 5 groups using the eat well Plate and identify that this makes up a healthy diet Identify that food and drink provide certain nutritional and health benefits which support a healthy lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking

	At EYFS:	At Key Stage One:	At Lower Key Stage Two:	At Upper Key Stage Two:
Food	Fruit • Vegetables • Safety • Knife • Blade • Tool • Edge • Handle • Chop • Slice • Cut • Saucepan Blender • Chopping board • Hob • Boil • Blend • Mix • Packaging • Recyclable • Metal • Plastic • Reusable	Blender • Carton • Fruit • Healthy • Ingredients • Peel • Peeler • Recipe • Slice • Smoothie • Stencil • Template • Vegetable	Climate • Dry climate • Exported • Imported • Mediterranean climate • Nationality • Nutrients • Polar climate • Recipe • Seasonal food • Seasons • Temperate climate • Tropical climate	Beef • Cross-contamination • Diet Ethical issues • Farm • Healthy Ingredients • Method • Nutrients Packaging • Reared • Recipe • Research • Substitute • Supermarket • Vegan Vegetarian • Welfare
		Alternative • Diet • Balanced diet • Evaluation • Expensive • Healthy • Ingredients • Nutrients • Packaging • Refrigerator • Sugar • Substitute	Adapt • Budget • Cooling rack • Creaming • Equipment • Evaluation • Flavour • Ingredients • Method • Net • Packaging • Prototype • Quantity • Recipe • Rubbing • Sieving • Target audience • Unit of measurement • Utilities	Accompaniment • Collaboration • Cookbook • Cross-contamination • Equipment • Farm • Flavour • Illustration • Imperative-verb • Ingredients • Method • Nationality • Preparation • Processed • Reared • Recipe • Research • Storyboard • Target audience • Top tips • Unit of measurement
Structures	Join • Stick • Cut • Bend • Slot • Scissors • Measure • Materials • Fix Waterproof • Absorb • Prediction • Variable • Experiment • Investigation • Float • Sink • Junk	Client • Design • Evaluation • Net • Stable • Strong • Test • Weak • Windmill	2D shapes • 3D shapes • Castle • Design criteria • Evaluate • Facade • Feature • Flag • Net • Recyclable • Scoring • Stable • Strong • Structure • Tab • Weak	Abutment • Accurate • Arched bridge Beam bridge • Coping saw • Evaluation • File • Mark out • Material properties Measure • Predict • Reinforce Research • Sandpaper • Set square • Suspension bridge • Tenon saw • Test • Truss bridge • Wood
		Function • Man-made • Mould • Natural • Stable • Stiff • Strong • Structure • Test • Weak	Aesthetic • Cladding • Design criteria • Evaluation • Frame structure • Function • Inspiration • Pavilion • Reinforce • Stable • Structure • Target audience • Target customer • Texture • Theme	Adapt • Apparatus • Bench hook • Cladding • Coping saw • Design • Dowel • Evaluation • Feedback • Idea • Jelutong • Landscape • Mark out • Measure • Modify • Natural materials • Plan view • Playground • Prototype • Reinforce • Sketch • Strong • Structure • Tenon saw • Texture • User • Vice • Weak
	Cotford St Luke Art and Design Curriculum - <u>Vocabulary Progression Overview</u>			
	At EYFS:	At Key Stage One:	At Lower Key Stage Two:	At Upper Key Stage Two:

Textiles	Thread • Weave • Pattern • Sew • Sewing needle • Embroider • Design • Evaluate	Decorate • Design • Fabric • Glue • Model • Hand puppet • Safety pin • Staple • Stencil • Template	Accurate • Applique • Cross-stitch • Cushion • Decorate • Detail • Fabric • Patch • Running-stitch • Seam • Stencil • Stuffing • Target audience • Target customer • Template	Accurate • Annotate • Appendage • Blanket-stitch • Design criteria • Detail • Evaluation • Fabric • Sew • Shape • Stuffed toy • Stuffing • Template
		Accurate • Fabric • Knot • Pouch • Running-stitch • Sew • Shape • Stencil • Template • Thimble	Aesthetic • Assemble • Book sleeve • Design criteria • Evaluation • Fabric • Fastening • Mock-up • Net • Running stitch • Stencil • Target audience • Target customer • Template	Accurate • Adapt • Annotate • Design • Design criteria • Detail • Fabric • Fastening • Knot • Properties • Running-stitch • Seam • Sew • Shape • Target audience • Target customer • Template • Thread • Unique • Waistcoat • Waterproof
Mechanisms		Assemble • Design • Evaluation • Mechanism • Model • Sliders • Stencil • Target audience • Template • Test Axle • Axle holder • Chassis • Design • Evaluation • Fix • Mechanic • Mechanism • Model • Test • Wheel	Exploded-diagram • Function • Input • Lever • Linkage • Mechanism • Motion • Net • Output • Pivot • Pneumatic system • Thumbnail sketch	Aesthetic • Computer-aided design (CAD) • Caption • Design • Design brief • Design criteria • Exploded-diagram • Function • Input • Linkage • Mechanism • Motion • Output • Pivot • Prototype • Slider • Structure • Template
		Evaluation • Input • Lever • Linear motion • Linkage • Mechanical • Mechanism • Motion • Oscillating motion • Output • Pivot • Reciprocating motion • Rotary motion • Survey Axle • Decorate • Evaluation • Ferris wheel • Mechanism • Stable • Strong • Test • Waterproof • Weak	Aesthetic • Air resistance • Chassis • Design • Design criteria • Function • Graphics • Kinetic energy • Mechanism • Net • Structure	Accurate • Assembly-diagram • Automata • Axle • Bench hook • Cam • Clamp • Component • Cutting list • Diagram • Dowel • Drill bits • Exploded-diagram • Finish • Follower • Frame • Function • Hand drill • Jelutong • Linkage • Mark out • Measure • Mechanism • Model • Research • Right-angle • Set square • Tenon saw
	Cotford St Luke Art and Design Curriculum - <u>Vocabulary Progression Overview</u>			
	At EYFS:	At Key Stage One:	At Lower Key Stage Two:	At Upper Key Stage Two:

Electrical Systems			- Battery - Bulb - Circuit - Circuit component - Crocodile wires - Electrical product - Electrical system - Final design - Information design - Initial ideas - Peer assessment - Research - Self assessment - Sketch	- Circuit component - Configuration - Current - Develop - DIY - Investigate - Motor - Motorised - Problem solve - Product analysis - Series circuit - Stable - Target user
			- Battery - Bulb - Buzzer - Cell - Component - Conductor - Copper - Design criteria - Electrical item - Electricity - Electronic item - Function - Insulator - Series circuit - Switch - Test - Torch - Wire	- Assemble - Battery - Battery pack - Benefit - Bulb - Bulb holder - Buzzer - Circuit - Circuit symbol - Component - Conductor - Copper - Design - Design criteria - Evaluation - Fine motor skills - Fit for purpose - Form - Function - Gross motor skills - insulator - LED - User
Digital World			- Analogue - Badge - CAD - Control - Design requirements - Develop - Digital - Digital revolution - Digital world - Display - Electronic - Electronic products - Fasten - Feature - Function - Initiate - Key features - Layers - Loops - Micro: bit - Monitor - Net - Point of sale - Product - Product design - Program - Sense - Simulator - Smart wearables - Stand - Technology - Template - Test - User	- Alert - Ambient - Boolean - Consumables - Decompose - Development - Device - Duplicate - Durable - Electronic - Inventor - Lightweight - Man-made - Manipulate - Manoeuvre - Micro plastics - Model - Monitor - Monitoring device - Moulded - Plastic - Plastic pollution - Programming - comment - Programming loop - Reformed - Replica - Research - Sensor - Strong - Sustainability - Synthetic - Thermometer - Thermoscope - Value - Variable - Versatile - Water-resistant - Work plane

			2D • Advantage • Assemble • Block • Brand identity • Branding • Bug • CAD • Cheap • Clipart • Coding • Criteria • Debug • Design • Develop • Disadvantage • Ergonomic • Evaluate • Form • Function Instructions • Join • Logo • Loop Mindfulness • Model • Net • Pause Process • Program • Prototype Research • Sketchpad • Template • Test • Timer • User • Variable	3D CAD • Application (apps) • Biodegradable • Boolean • Cardinal compass • Client • Compass • Concept • Convince • Corrode • Duplicate • Environmentally friendly • Equipment • Feature • Finite • Function • Functional • GPS tracker • If statement • Infinite Investment • Lightweight • Loop • Manufacture • Materials (wood, metal, plastic etc.) • Mouldable • Navigation • Non-recyclable • Product lifecycle • Product lifespan • Program • Recyclable • Smart • Sustainable • Sustainable design • Unsustainable design • Variable • Work plane
--	--	--	---	---

Planning:

Educational research tells us that successful sequences of learning regularly include the following elements:

1. **Activate prior learning** – take time to review previous learning with the children, either from the preceding lessons or from a past unit of work, so that they are able to build links between knowledge and develop their schema around the content of the coming lessons.
2. **Establish new Tier 2 and Tier 3 vocabulary** – explicitly teach new vocabulary at pace, modelling the pronunciation and definition of the word and providing an example of the word used in context. Use simple images to add dual coding benefits for the children.
3. **Modelling and guided practice** – this will take a variety of forms, but always involves the teacher as expert sharing essential knowledge for the lesson using carefully selected resources and gradually inviting the children to remember or practise alongside, as appropriate.
4. **Independent practice** – offer learning opportunities to remember, practise or use the new knowledge independently. Any task should be suitably challenging (aim for an 80% success rate) and offer scaffolds which allow all children to reach the same high expectations.
5. **Assessment** – provide simple, low-stakes assessment opportunities, such as quiz boxes for weekly quizzes.

Not every lesson needs to look the same and teachers should be free to bring their own creativity to their classrooms, but an understanding and inclusion of the above will ensure that the most ambitious learning is taking place.

Key Question	Essential substantive knowledge to move to long term memory	Teaching and learning sequence
--------------	---	--------------------------------

		(locational knowledge, place knowledge, human and physical geography)	
1.			
2.			
3.			
4.			
5.			
6.			