

Year A – 2023-2024

Year 1 and 2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	Are all God's creatures equal?	What has impact on our World?	Where do I belong?	What is it like to live elsewhere?	How have holidays changed over time?	What makes London special?
DT		Cooking and Nutrition – Smoothies (Year 1) (Chefs and Healthy living)		Textiles – Pouches (Travel bag) (Year 2)		Mechanisms – wheels and axles (London Bus) (Year 1)
End of unit Objectives		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Describe fruits and vegetables and explain how to identify fruits. • Name a range of places that fruits and vegetables grow. • Describe basic characteristics of fruit and vegetables. • Prepare fruits and vegetables to make a smoothie. 		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Sew a running stitch with regular-sized stitches and understand that both ends must be knotted. • Prepare and cut fabric to make a pouch from a template. • Use a running stitch to join the two pieces of fabric together. • Decorate their pouch using the materials provided. 		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Explain that wheels move because they are attached to an axle. • Recognise that wheels and axles are used in everyday life, not just in cars. • Identify and explain vehicle design flaws using the correct vocabulary. • Design a vehicle that includes functioning wheels, axles and axle holders. • Make a moving vehicle with

						working wheels and axles. <ul style="list-style-type: none"> • Explain what must be changed if there are any operational issues.
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Year 3 and 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	What do the Ancient Egyptians believe?	How do we influence the world around us?	What are the mysteries and achievements of Ancient civilisations? (Stone Age and Iron Age)	What's hidden within? (The rainforest)	How did the Maya civilisation influence their society and beyond?	What can we learn from the world beneath our feet? (Volcanoes)
DT		Cooking and Nutrition – Cooking seasonally (Year 3)			Electrical systems – Torches (Linked to Mayan energy sources) (Year 4)	Mechanical systems – Making a slingshot car (Year 4) (To get way from the volcano)
End of unit Objectives		Pupils who are secure will be able to: <ul style="list-style-type: none"> • Explain that fruits and vegetables grow in different countries based on their climates. • Understand that seasonal fruits and vegetables grow in a given season. • Understand that eating seasonal fruit and vegetables 			Pupils who are secure will be able to: <ul style="list-style-type: none"> • Identify electrical products and explain why they are useful. • Help to make a working switch. • Identify the features of a torch and how it works. • Describe what makes a torch successful. 	Pupils who are secure will be able to: <ul style="list-style-type: none"> • Work independently to produce an accurate, functioning car chassis. • Design a shape that is suitable for the project. • Attempt to reduce air resistance through the design of the shape.

		<p>positively affects the environment.</p> <ul style="list-style-type: none"> Design a tart recipe using seasonal ingredients. 			<ul style="list-style-type: none"> Create suitable designs that fit the success criteria and their own design criteria. Create a functioning torch with a switch according to their design criteria. 	<ul style="list-style-type: none"> Produce panels that will fit the chassis and can be assembled effectively using the tabs they have designed. Construct car bodies effectively. Conduct a trial accurately and draw conclusions and improvements from the results.
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Year 5 and 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	Is duty more important than belief?	What was the impact of WW2?	Is everything that is written down about the past accurate?	What's it like to live in the desert?	Why do the oceans matter?	Who should feature on a £10 note?
DT		Electrical systems – Doodlers (air raid buzzer) (Year 5)		Mechanical systems – Automata Toys (sand buggy) (Year 6)	Structure: Bridges (getting across an Ocean!) (Year 5)	
End of unit Objectives		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> Identify simple circuit components (battery, bulb and switch) with a basic explanation of their function. Explain that a series circuit is 		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> Mark, saw and cut out the components and supports of their toy with a varying degree of accuracy to the intended measurements. 	<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> Identify stronger and weaker shapes. Recognise that supporting shapes can help increase the strength of a bridge, allowing 	

		<p>assembled in a loop to allow the electricity to flow along one path.</p> <ul style="list-style-type: none"> • Describe a motor as a circuit component that changes electrical energy into movement. • Provide examples of motorised products that use movement to rotate or spin different parts. • Remove and replace different parts of a Doodler, as part of a team. • Suggest ways to switch the configuration to amend the form or function of the Doodler. • Explain, in an investigation report, each of the changes they made and the effect this had on the Doodler's ability to draw scribbles (function) and appearance (form). • Develop design criteria with 		<ul style="list-style-type: none"> • Follow health and safety rules, taking care with the equipment. • Attempt a partial assembly of their toys using an exploded-diagram, following a teacher's demonstration. • Develop a design idea with some descriptive notes. • Explore different cam profiles and choose three for their follower toppers with an explanation of their choices. • Create neat, decorated follower toppers with some accuracy. • Measure and cut panels that fit with some inaccuracies to conceal the inner workings of the automata. • Decorate and finish the automata to meet the design criteria and brief. • Evaluate their finished product, 	<p>it to hold more weight.</p> <ul style="list-style-type: none"> • Identify beam, arch and truss bridges and describe their differences. • Use triangles to create simple truss bridges that support a load (weight). • Cut beams to the correct size, using a cutting mat. • Smooth down any rough cut edges with sandpaper. • Follow each stage of the truss bridge creation as instructed by their teacher. • Complete a bridge, with varying ranges of accuracy and finish, supported by the teacher. • Identify some areas for improvement, reinforcing their bridges as necessary. 	
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consideration for the target user, the purpose of their Doodler, a key function and the Doodler's form and final appearance (e.g. fun, bright, soft).

- Explain simply why their Doodler has a certain configuration based on the findings of their investigation (e.g. I used four pens because the Doodler would fall over with two).
- Create a functional Doodler that creates scribbles on paper with or without a switch.
- Identify and list each of the required materials, tools and circuit components required to build a Doodler.
- Explain simply the steps to assemble a Doodler as part of a set of

making descriptive and reflective points on function and form.

		<p>instructions (or storyboard).</p> <ul style="list-style-type: none"> • Write instructions to build a functional circuit, explaining how to identify if it is functional or not. • Provide suggestions to improve a peer's set of instructions after testing how effective they are at guiding someone. 				
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Year B – 2024-2025

Year 1 and 2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	What can you see in the forest?	Who's the king of the castle? (morach unit)	Would you prefer to live in a hot or cold place?	Do all children have toys to play with?	Who owns the oceans?	What was our village like in the past? (school)
DT		Mechanisms – Moving storybook (fairytale) (Year 1)		Textiles – Puppets (Year 1)	Cooking and Nutrition – Balanced Diet (to take on a boat trip) (Year 2)	
End of unit objectives		Pupils who are secure will be able to: <ul style="list-style-type: none"> • Identify whether a mechanism is a side-to-side 		Pupils who are secure will be able to: <ul style="list-style-type: none"> • Join fabrics together using 	Pupils who are secure will be able to: <ul style="list-style-type: none"> • Name the main food groups and identify foods 	

		<p>slider or an up-and-down slider and determine what movement the mechanism will make.</p> <ul style="list-style-type: none"> Clearly label drawings to show which parts of their design will move and in which direction. Make a picture, which meets the design criteria, with parts that move purposefully as planned. Evaluate the main strengths and weaknesses of their design and suggest alterations. 		<p>pins, staples or glue.</p> <ul style="list-style-type: none"> Design a puppet and use a template. Join their two puppets' faces together as one. Decorate a puppet to match their design. 	<p>that belong to each group.</p> <ul style="list-style-type: none"> Describe the taste, feel and smell of a given food. Think of three different wrap ideas, considering flavour combinations. Construct a wrap that meets the design brief and their plan. 	
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Year 3 and 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	Are all settlements the same?	How hard was it to invade and settle in Britain? (Anglo Saxons)	How are rivers used around the world?	Why did the Romans invade Britain?	Who lives in Antarctica?	How have children's lives changed? (Victorians)
DT		Mechanical systems: Pneumatic toys (Tank) (Year 3)		Cooking and Year Nutrition – adapting a recipe (Biscuits for a Roman banquet) (Year 4)		Textiles – Fasting (Book sleeve – Victorian storybook) (Year 4)

<p>End of unit objectives</p>		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Draw accurate diagrams with correct labels, arrows and explanations. • Correctly identify definitions for key terms. • Identify five appropriate design criteria. • Communicate two ideas using thumbnail sketches. • Communicate and develop one idea using an exploded diagram. • Select appropriate equipment and materials to build a working pneumatic system. • Assemble their pneumatic system within the housing to create the desired motion. <p>Create a finished pneumatic toy that fulfills the design brief.</p>		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Describe features of biscuits using taste, texture and appearance. • Follow a recipe with support. • Use a budget to plan a recipe. • Adapt a recipe using additional ingredients. 		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Identify the features, benefits and disadvantages of a range of fastening types. • Write design criteria and design a sleeve that satisfies the criteria. • Make a template for their book sleeve. • Assemble their case using any stitch they are comfortable with.
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Year 5 and 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
I wonder...	What is it like to live in the Alps?	Were the Viking raiders, traders or something else?	Where does our energy come from?	What did the Greeks ever do for us?	Can I carry out independent fieldwork enquires?	What was live life in Tudor England?
DT			Textiles – Waistcoat (to keep warm rather than use heating) (Year 6)		Digital World – Navigating the World (Year 6)	Cooking and Nutrition – Come Dine with me (Tudor Banquet) (Year 6)
End of unit objectives			<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Consider a range of factors in their design criteria and use this to create a waistcoat design. • Use a template to mark and cut out a design. • Use a running stitch to join fabric to make a functional waistcoat. • Attach a secure fastening, as well as decorative objects. • Evaluate their final product. 		<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Incorporate key information from a client's design request such as 'multifunctional' and 'compact' in their design brief. • Write a program that displays an arrow to indicate cardinal compass directions with an 'On start' loading screen. • Identify errors (bugs) in the code and suggest ways to fix (debug) them. • Self and peer evaluate a product concept against a list of design criteria with basic statements. 	<p>Pupils who are secure will be able to:</p> <ul style="list-style-type: none"> • Find a suitable recipe for their course. • Record the relevant ingredients and equipment needed. • Follow a recipe, including using the correct quantities of each ingredient. • Write a recipe, explaining the process taken. • Explain where certain key foods come from before they appear on the supermarket shelf.

					<ul style="list-style-type: none">• Identify key industries that use 3D CAD modelling and why.• Recall and describe the name and use of key tools used in Tinkercad (CAD) software.• Combine more than one object to develop a finished 3D CAD model in Tinkercad.• Complete a product pitch plan that includes key information.	
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