Subject Learning Map

Year	Autumn	Spring	Summer
Nursery	Make Owl Baby sock puppets. Create your own stick man Make a diva lamp out of clay Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects.	Build a bridge and Three Little Pig's houses discuss what would make the bridge better. Joins construction pieces together to build and balance. Realise tools can be used for a purpose. Make a castle linked to Jack and the Beanstalk. Beginning to construct, stacking blocks vertically, horizontally, making enclosures, and creating spaces.	Make binoculars linked to Walking Through the Jungle. Create trains and rockets out of junk modelling. Constructs with a purpose in mind, using a variety of resources. Evaluate constructions.
Reception	Using junk modelling to create their own models of their home. Create lava lamps linking to space. Explore which resources are best to use and why.	Design and create our own superhero capes. Using big and small construction to enhance their creativity and imagination.	Design and create their own junk modelling habitat for a frog – Discuss their peers' creations and what they like about them. Design and create their own boat and see if they can float in water, explain what went well and if it could float or not.

Year1	**How can we create a simple pop-up toy similar to those children may have played with in the past? (Mechanical and structures)**
	
	Designing:
	• Begin to research existing products before designing their own.
	• When researching, find out how products work and which materials have been used.
	• Design a product that moves.
	• Explain to someone else how they want to make their product.
	• Devise a simple plan before making.
	• Begin to develop their ideas through drawings and, where appropriate, make templates or mock-ups.
	
	Making:
	• Begin to build structures, exploring how they can be made stronger, stiffer and more stable.
	• Explore using different mechanisms (for example, sliders, wheels and axles) in their products.
	• With help, measure, mark out and cut a range of materials.
	• Use tools safely (e.g. scissors and a hole punch).
	• Begin to assemble, join and combine materials and components using various temporary methods.
	• Begin to use simple finishing techniques to improve the appearance of their product.
	
	Evaluating:
		Make a simple festive collage using fabrics and decorations. (Textiles)
		
		Designing:
		
		• **Class discussion:**
		  ○ What do we see at Christmas? (e.g. stars, trees, gifts, snowmen)
		  ○ Show real fabrics and examples of textile collages
		  ○ Explore textures: soft, rough, shiny, fluffy
		• **Simple sketching:**
		  ○ Pupils draw a picture of what they want to make (e.g. a Christmas tree or snowman)
		  ○ Colour in their sketch and talk about what fabrics or materials they could use
		• **Vocabulary focus:** soft, shiny, glue, fabric, stitch, cut, join
		
		Making:
		
		• **Cutting and arranging:**
		• Children cut fabric into simple shapes (with support if needed)
		• Practice safe scissor handling
		• Gluing and decorating:
		• Stick fabric pieces onto card or felt background
		• Add decorations: cotton wool for snow, shiny ribbon for tinsel, buttons for baubles
			How can we ensure that our sandwich is healthy? (Food)
			
			Designing:
			• Begin to research existing sandwiches before designing their own.
			• When researching, find out how which ingredients are healthy.
			• Explain to someone else how they want to make their sandwich.
			• Begin to develop their own ideas through drawings and, where appropriate, make templates or mock-ups.
			
			Making:
			• Begin to make the sandwich, taking full account of cutting safely.
			• Find out who likes the various ingredients chosen.
			• With help, measure, mark out and cut ingredients.
			• Use tools safely (e.g. knife).
			• Begin to use simple finishing techniques to improve the appearance of their product (i.e. set it out on a plate properly).
			
			Evaluating:
			• Explain what went well and not so well in making the sandwich.
			• Begin to evaluate their sandwich as it is developed, identifying strengths and possible changes they might make.
			
			Food Technology:
			• Cut food safely.
			• Know that all food comes from either plants or animals.
			• Use basic food handling hygiene practices and personal hygiene.
			• Know how to prepare simple dishes safely and hygienically without using a heat source.

	• Explain what works well and not so well in the model they have made. • Begin to evaluate their product as it is developed, identifying strengths and possible changes they might make. **Technical Knowledge:** • Make their model stronger. • Make a product with at least one moving part, e.g. wind/ simple motor-powered boat.	**Evaluating:** • Talk about their finished collage with a partner or the class • Say what they like best about their work • Identify one thing they found tricky • Suggest one thing they might change or improve next time • Celebrate different ideas and approaches in the class **Technical knowledge:** • Know that fabric is a type of material used for clothes, decorations, etc. • Understand that different fabrics feel and look different (e.g. soft, shiny, rough) • Recognise that tools (scissors, glue) help us join and shape materials • Begin to understand that some fabrics can be joined by glue or stitching • Know how to use tools safely and responsibly	• Know how to use techniques such as cutting, peeling and grating.
Year2	**How can we create a pizza with a range of ingredients? (Food)** **Designing:** • Research independently and generate some ideas before thinking about resources. • List in order the main stages of making the pizza. • Design the pizza and ensure it meets the design criteria, including looking delicious. • When planning, explain their choices of ingredients. **Making:** • Choose utensils and ingredients and explain why they have chosen them. • Identify and name a simple selection of kitchen utensils (e.g. pizza roller). • With help, measure, cut and score with some accuracy. • Start to measure and make the pizza. • Start to choose and use appropriate finishing techniques based on their ideas. **Evaluating:** • Evaluate their pizza against their design criteria. • Start to evaluate their pizza as they are making it, identifying strengths and possible changes they might make. **Food Technology:** • Know that everyone should eat at least five portions of fruit and vegetables each day.		**How can we create a traditional Kenyan village home incorporating an African-style textile roof? (Textiles and structures)** **Designing:** • Begin to develop their design ideas using research and discussion with peers and adults. • Understand the purpose of their product. • Explain why they have chosen specific textiles or materials. • Draw a simple design and label the parts of their product. • Develop their ideas through drawings and, where appropriate, make templates or mock-ups of their initial ideas. **Making:** • Choose tools and materials and explain why they have chosen them. • Join materials and components in different ways, including sewing. • Can identify and name a simple selection of hand tools (e.g. scissors). • Use simple sewing techniques, including cutting, shaping and joining fabric to make a simple product. • With help, measure, cut and score with some accuracy. • Start to assemble, join and combine materials to make a product. • Start to choose and use appropriate finishing techniques based on their ideas. **Evaluating:** • Evaluate their work against their design criteria. • Start to evaluate their product as it is developed, identifying strengths and possible changes they might make.

	• Demonstrate how to prepare simple dishes safely and hygienically without using a heat source. • Demonstrate how to use techniques such as cutting, peeling and grating. • Weigh ingredients to use in a recipe. • Describe the ingredients used when making a dish or cake. • Talk about which foods are healthy and which are not. • Follow procedures for food safety and hygiene.		• With confidence, talk about their ideas, saying what they like and dislike about their product. **Technical Knowledge:** • Make the model stronger and more stable. •
Year 3	**How can we create a weaving loom to produce an A4 floor mat incorporating a range of textiles and textures? (Textiles)** **Designing:** • Begin to develop design ideas using research and discussion with peers and adults. • Understand the purpose of their product. • Think of an idea and plan what to do next. • Draw a simple design and label the parts of their product. • Develop their ideas through drawings and, where appropriate, make templates or mock-ups of their initial ideas. **Making:** • Follow a step-by-step plan, choosing the right equipment and materials. • Select the most appropriate tools and techniques for a given task. • Work accurately to measure, mark out, make cuts, score, make holes and assemble components more accurately. • Start to work safely and accurately with a range of simple tools. • Choose finishing techniques to improve the appearance of their products using a range of equipment. • Start to think about their ideas as they make their product and be willing to change things if they help them to improve their work. **Evaluating:** • Explain how to improve a finished model • Know why a model has or has not been successful. • Evaluate their product against their original design criteria (e.g. how well it meets its intended purpose). **Technical Knowledge:** If needed, use a simple IT program within the design.		**How can we make scones or cup-cakes? (Food)** **Designing:** • Design the cakes, making sure that they meet the design criteria. • Draw annotated designs with labels that detail their choice of resources and the suitability of the given materials. • When planning, explain their choices of ingredients and components. **Making:** • Select the most appropriate utensils for the task. • Work accurately to measure and make cuts accurately. • Start to work safely and accurately with a range of simple utensils. • Start to think about their ideas as they make their cakes and be willing to change things if it helps them to improve their work. **Evaluating:** • Know why the cakes have or have not been successful. • Evaluate their cakes against their original design criteria. **Food Technology:** • Describe how the food ingredients come together. • Weigh out ingredients and follow a given recipe to create a dish. • Understand how to prepare and cook safely and hygienically including, where appropriate, using a heat source. • Begin to understand how to use a range of techniques, such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • Begin to know that to be active and healthy, food and drink are needed to provide energy and hydration for the body.
Year 4	**How can we create an A4 personal flag for the Ancient Greek Olympics opening ceremony, incorporating a running or blanket stitch? (Textiles) explore construct a flag pole.** **Designing:** • Research as a matter of course before considering designing a product. • Produce a plan and explain the use of materials, equipment and processes. • If the first attempt fails, identify strengths and future areas for development.	**How can we create a Roman weapon operated by a lever system to propel a marble one metre?** **Designing:** •Research Roman weapons before designing the product. •Confidently make labelled drawings from different views, showing specific features. •Produce a plan and explain how the lever will work. •Communicate ideas through annotated sketches that show different viewpoints of the product.	**How can we prepare afternoon tea for a small group, which includes at least one adult? (Food)** **Designing:** • Research to find out what an afternoon tea contains. • Ensure that ingredients for the sandwiches, savouries and cakes are available. • Decide on the contents of the afternoon tea plate. **Making:**

	• Communicate ideas through annotated sketches that show different viewpoints of the product. **Making:** • Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely. • Know which material is likely to give the best outcome based on its properties. • Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques. • Start to join and combine materials and components accurately in temporary and permanent ways. • Sew, weave or knit using a range of stitches. • Show high levels of perseverance when things do not go as they would wish in the first instance. **Evaluating:** • Evaluate products for both their purpose and appearance. • Evaluate their own and others' work. • Evaluate their product, carrying out appropriate tests. • Evaluate their product both during and at the end of the assignment. • Present a product in an interesting way. **Technical Knowledge:** • Use appropriate sewing techniques, such as a running or blanket stitch.	•Begin becoming familiar with inventors, designers, engineers, chefs and manufacturers who have developed groundbreaking products. **Making** •Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely. •Know which material is likely to give the best outcome based on its properties. •Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques. •Start to join and combine materials and components accurately in temporary and permanent ways. •Show high levels of perseverance when things do not go as they would wish in the first instance. •Know how mechanical systems (such as levers) enable movement. •Understand how to reinforce and strengthen a 3D framework. •Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment. **Evaluating:** •Evaluate the product for both its purpose and appearance. •Evaluate the product, carrying out appropriate tests. •Evaluate the product both during and at the end of the assignment. •Be able to disassemble and evaluate familiar products and consider the views of others to improve them. **Technical knowledge:** •Create a product that incorporates at least one lever.	• Measure ingredients carefully when making the sandwiches, savouries and cakes. • Ensure that you are using the correct utensil for each product. • Ensure that you are working hygienically and safely. **Evaluating:** • Evaluate and suggest improvements for the afternoon tea. • Evaluate the afternoon tea, asking the guests their opinions. • Evaluate the afternoon tea during and at the end of the assignment. • Present the product in an interesting way. **Food Technology:** • Bring a creative element to the food product being designed. • Know which season various foods are available for harvesting. • Recognise safe practices in the kitchen and identify hazards, e.g. when using an oven. • Know how to use a range of techniques, such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • Know that to be active and healthy, food and drink are needed to provide energy for the body.
Year 5	**How can we create a structure out of recycled materials which could become a landmark reflecting an aspect of European life? (Structure)** **Designing:** • Competently research products similar to the one they intend to create and evaluate strengths and weaknesses to be considered when thinking about their design. • Research and use ICT (Google or similar) where appropriate. • Design, with a range of initial ideas, after collecting information from investigating existing products. • With growing confidence, apply various finishing techniques, including those from art and design. **Making:** • 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. • Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment, including ICT. • Make a prototype before making a final version.		**How can we source ingredients for and make a fruit crumble? (Food)** **Designing:** • Competently research the ingredients needed for a crumble. • Produce a detailed, step-by-step plan to source the ingredients, including costings. • Start to appreciate how much the crumble will cost to make. **Making:** • Name and use a range of utensils competently. • Select appropriate utensils and measures accurately. **Evaluating:** • Evaluate the crumble against the original design specifications including by checking the taste. • Evaluate its appearance against the original criteria. **Technical Knowledge:** • Be both hygienic and safe in the kitchen. • Know how to prepare a meal by collecting the ingredients in the first place. • Weigh and measure accurately (timings, dry ingredients and liquids).

	• Carry out finishing techniques (including lights) to enhance the appearance and function of their product. **Evaluating:** • Suggest alternative plans, outlining the positive features and drawbacks. • Evaluate appearance and function against the original criteria. • Begin to evaluate their product personally and seek evaluation from others. **Technical Knowledge:** • Know when the use of IT would enhance a product being designed and made. • Know how to use pneumatics as part of a product being designed and made. • Create a product that incorporates gears.		• Understand how food is processed into ingredients that can be eaten or used in cooking. • Begin to understand that different foods and drinks contain different substances – nutrients, water and fibre – needed for good health.
Year 6	**How can we create a traffic light system that involves the use of IT? (Electrical)** **Designing:** • Competently research how traffic light systems work. • Research and use ICT where appropriate. • Design, with a range of initial ideas, after collecting information from investigating existing products. • Produce a detailed, step-by-step plan. • Start to appreciate how much the product will cost to make. **Making:** • Confidently select appropriate tools, materials, components and techniques and use them efficiently. • Know how to use any used tool (including IT) correctly and safely. • Explain why a specific tool is best for a specific action. • Make modifications as they go along and explain their reasons. • Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor environmental changes and control their products. **Evaluating:** • Test and evaluate the designed product with a specific audience where possible. • Evaluate the product against clear criteria. • Evaluate their work during and at the end of the assignment. • Record their evaluations using drawings with labels **Technical Knowledge:** • Know which IT element would further enhance the product. • Use electrical systems correctly and accurately to enhance the product. **Additional week block on food tech – Sunday lunch/Christmas dinner**		**How can we create a vehicle capable of moving over different terrains, incorporating more than one mechanical system? (structure)** **Designing:** •When researching, competently discriminate between what would be and would not be helpful for their intended product. •Use market research of existing products to inform their design. •Follow and refine original plans, justifying them convincingly. •Draw detailed 3D designs using exploded diagrams or cross-sectional drawings, where appropriate, to display finer details. •Know how much products cost and make choices accordingly. **Making:** •Confidently select appropriate tools, materials, components and techniques and use them efficiently. •Explain why a specific tool is best for a specific action. •Make modifications as they go along and explain their reasons. •Construct their product using permanent joining techniques. •Use mechanical systems such as levers, pulleys and gears competently to enable movement in their product. •Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment, including IT. **Evaluating:** •Test and evaluate their designed product with a specific audience where possible. •Evaluate the product against clear criteria. •Evaluate their work both during and at the end of the assignment. •Record their evaluations using drawings with labels. **Technical knowledge:** •Know which IT element would further enhance the product. •Use their knowledge to improve the product by strengthening, stiffening or reinforcing.

			•Know when the product they have made can be improved by using pulleys, levers or gears.