YEAR 3

STRUCTURES – CONSTRUCTING A CASTLE

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
DESIGNING	**The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.** **Specific:** **Creating with Materials ELG** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. Share their creations, explaining the process they have used. **People Culture and Communities ELG** Describe their immediate environment using knowledge from observation, discussion, stories,	Use own ideas to design something Describe how their own idea works Design a product which moves Explain to someone else how they want to make their product Make a simple plan before making	Think of an idea and plan what to do next Explain why they have chosen specific criteria	Prove that a design meets a set criteria Design a product and make sure that it looks attractive Choose a material for both its suitability and its appearance	Use ideas from other people when designing Produce a plan and explain it Persevere and adapt when original ideas do not work Communicate ideas in a range of ways, including by sketches and drawings which are annotated	Come up with a range of ideas after collecting information from different sources Produce a detailed step-by-step plan Explain how a product will appeal to a specific audience Design a product that requires pulleys or gears	Use market research to inform plans and ideas Follow and refine original plans Justify planning in a convincing way Show that culture and society is considered in plans and designs

	non-fiction texts, and maps.						
MAKING	**The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.** **Specific:** **Creating with Materials ELG** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. Share their creations, explaining the process they have used.	Use own ideas to make something Make a product which moves Choose appropriate resources and tools	Choose tools and materials and explain why they have chosen them Join materials and components in different ways Measure materials to use in a model or structure	Follow a step-by-step plan, choosing the right equipment and materials Select the most appropriate tools and techniques for a given task Make a product which uses both electrical and mechanical components Work accurately to measure, make cuts and make holes	Know which tools to use for a particular task and show knowledge of handling the tool Know which material is likely to give the best outcome Measure accurately	Use a range of tools and equipment competently Make a prototype before making a final version Make a product that relies on pulleys or gears	Know which tool to use for a specific practical task Know how to use any tool correctly and safely Know what each tool is used for Explain why a specific tool is best for specific action
EVALUATING	**The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other**	Describe how something works Explain what works well and not so well in the model they have made	Explain what went well with their work	Explain how to improve a finished model Know why a model has or has not been successful	Evaluate and suggest improvements for designs Evaluate products for both their purpose and appearance	Suggest alternative plans; outlining the positive features and draw backs Evaluate appearance and function against original criteria	Know how to test and evaluate designed products Explain how products should be stored and give reasons

	learning is built upon. **Specific:** **Creating with Materials ELG** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. Share their creations, explaining the process they have used.				Explain how the design has been improved Use IT where appropriate to add to the quality of the product		Evaluate product against clear criteria
TECHNICAL KNOWLEDGE		Make their own model stronger Make a model stronger and more stable Use wheels and axles, when appropriate to do so		Know how to strengthen a product by stiffening a given part or reinforce a part of the structure Use a simple IT program within the design Know how to be hygienic and safe when using food Bring a creative element to the food product being designed		Link scientific knowledge to design by using pulleys or gears Use more complex IT program to help enhance the quality of the product produced Use electrical systems correctly and accurately to enhance a given product Know which IT product would enhance a specific product Use knowledge to improve a made product by strengthening, stiffening or reinforcing	
FOOD TECHNOLOGY		Cut food safely Weigh ingredients to use in a recipe Describe the ingredients used when making a dish or cake		Describe how food ingredients come together Weigh out ingredients and follow a given recipe to create a dish Talk about which food is healthy and which food is not Know when food is ready for harvesting Describe how food ingredients come together Weigh out ingredients and follow a given recipe to create a dish		Be both hygienic and safe in the kitchen Know how to prepare a meal by collecting the ingredients in the first place Know which season various foods are available for harvesting Explain how food ingredients should be stored and give reasons Work within a budget to create a meal Understand the difference between a savoury dish and sweet dish.	

			Talk about which food is healthy and which food is not Know when food is ready for harvesting		

STRUCTURES – CONSTRUCTING A CASTLE COMPOSITES Design, make and evaluate a model with movable parts linked to the Romans						
COMPONENTS						
	1	**2**	**3**	**4**	**5**	**End Point**
	What are the key features of a castle? **What properties would make a sturdy structure?** **What materials and tools should I use to enable me to cut, shape and join?**	**Who is your target audience?** **What are 3D and 2D shapes?** **What design specifications should I follow?** **What materials will I use to create my castle?**	**How can I construct a 3D net?** **What methods should I use to join materials?**	**How can I construct a range of materials to create a castle?** **What improvements could I make?** **Have I followed the design criteria?**	**Use as an extra lesson to finish castles if needed.**	**Children will know what the key features of a castle are.** **Children will understand what 2D and 3D shapes are and how they can be created using nets.** **Children will be able to choose appropriate materials and create a simple labelled diagram to follow to construct their castle.** **Children will be able to explore how to use different tools/materials to make the structure solid and stable.** **Children will evaluate their design; suggest how they overcome challenges and consider improvements they can make.**
CONCEPTS	Design	Design	Design	Design		Children will have designed a castle following a set criterion, ensuring it

Link to concept map						looks attractive and has used suitable materials.
	Purpose	Purpose				Children will know the purpose of the features of a castle
	Technique	Technique	Technique	Technique		Children will have followed a plan, selecting the correct equipment and materials to create their castle. Children will use appropriate techniques to construct their castle. Children will work accurately, making scores to join their castle pieces together.
	Critical Thinking	Critical Thinking	Critical Thinking	Critical Thinking		Children will discuss, evaluate and test their design in response to the key criteria.
SKILLS	Choose a material for both its suitability and its appearance Select the most appropriate tools and techniques for a given task Prove that a design meets a set criteria Design a product and make sure that it looks attractive	Prove that a design meets a set criteria Design a product and make sure that it looks attractive. Choose a material for both its suitability and its appearance Follow a step-by-step plan, choosing the right equipment and materials Select the most appropriate tools and techniques for a given task	Know how to strengthen a product by stiffening a given part or reinforce a part of the structure Work accurately to measure, make cuts and make holes Select the most appropriate tools and techniques for a given task Explain how to improve a finished model Know why a model has or	Design a product and make sure that it looks attractive Choose a material for both its suitability and its appearance Follow a step-by-step plan, choosing the right equipment and materials Select the most appropriate tools and techniques for a given task Explain how to improve a finished model Know why a model has or has		Children will understand what properties would make a good castle. They will be able to choose a range of materials from research and join them. Children will construct a castle from 3D nets and materials. Children will test and evaluate their design. Children will know and discuss where improvements can be made to enhance their model.

			has not been successful	not been successful		
KNOWLEDGE **..\..\..\..\..\Hubs\Science and DT\DT\2023-2024\KAPOW\YEAR 3\STRUCTURES - Constructing a Castle\Knowledge Organiser - Constructing a castle.pdf**	Know what the key features of a castle are. Describe the properties and materials that will be best to use and why.	Know which materials would be most suitable to design and then build a 3D castle. Know who my product audience is and how can I incorporate that knowledge into my design. Follow specific design specifications.	Know how to use tools correctly. Know how to improve their model and explain why it may not have been successful. Know how to fold, cut and manipulate the nets to accurately create their product.	Know how to join materials to construct a stable castle. Know how to strengthen and stiffen the structure to create a stable base. Know how to use equipment safely. Select the correct materials and apply the correct techniques. Ensure it is for purpose and functional.		Children will understand what properties would make a good castle. They will be able to choose a range of materials from research and join Children will construct a castle from 3D nets and materials. Children will test and evaluate their design. Children will know and discuss where improvements can be made to enhance their model.
LESSON LINK	KAPOW Structures Constructing a castle	KAPOW Structures Constructing a castle	KAPOW Structures Constructing a castle	KAPOW Structures Constructing a castle	KAPOW Structures Constructing a castle	
PROGRESSIVE VOCABULARY	castle key features strong	3d 2d castle	castle structure net	castle structure design		Articulate and recognise subject specific vocabulary

	stiff stable 3d 2d	shape	shape	net tab scoring		
CURRICULUM EXPERIENCES			Junk modelling – Create your Castle Structure	Product gallery displaying work and discussing strengths and ways to improve.		
END POINT	Children will be able to identify the key features of a castle. They will understand which properties and materials would be best used to create their own castle. Children will have designed their own castle based on their research.	Children will have designed their castle using a range of 2D and 3D shapes. Children will have labelled their design with the materials they are going to use.	Children will have started to create their product using nets. Children will have used a range of materials to create their structure. Children will be able to evaluate their product and discuss improvements to be made.	Children will have personally evaluated their design and their execution in constructing a castle. Pupils will have shared their design with peers, listened to positive criticism and given positive criticism. Pupils will be able to say what they are pleased with and what they would improve.		

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