

YEAR 2

STRUCTURES - BABY BEAR'S CHAIR

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

	environment using knowledge from observation, discussion, stories, non-fiction texts, and maps.						
MAKING	<p>The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.</p> <p>Specific:</p> <p>Creating with Materials ELG</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function.</p> <p>Share their creations, explaining the process they have used.</p>	<p>Use own ideas to make something</p> <p>Make a product which moves</p> <p>Choose appropriate resources and tools</p>	<p>Choose tools and materials and explain why they have chosen them</p> <p>Join materials and components in different ways</p> <p>Measure materials to use in a model or structure</p>	<p>Follow a step-by-step plan, choosing the right equipment and materials</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>Know which tools to use for a particular task and show knowledge of handling the tool</p> <p>Know which material is likely to give the best outcome</p> <p>Measure accurately</p>	<p>Use a range of tools and equipment competently</p> <p>Make a prototype before making a final version</p> <p>Make a product that relies on pulleys or gears</p>	<p>Know which tool to use for a specific practical task</p> <p>Know how to use any tool correctly and safely</p> <p>Know what each tool is used for</p> <p>Explain why a specific tool is best for specific action</p>

<p>EVALUATING</p>	<p>The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.</p> <p>Specific:</p> <p>Creating with Materials ELG</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function.</p> <p>Share their creations, explaining the process they have used.</p>	<p>Describe how something works</p> <p>Explain what works well and not so well in the model they have made</p>	<p>Explain what went well with their work</p>	<p>Explain how to improve a finished model</p> <p>Know why a model has or has not been successful</p>	<p>Evaluate and suggest improvements for designs</p> <p>Evaluate products for both their purpose and appearance</p> <p>Explain how the design has been improved</p> <p>Use IT where appropriate to add to the quality of the product</p>	<p>Suggest alternative plans; outlining the positive features and draw backs</p> <p>Evaluate appearance and function against original criteria</p>	<p>Know how to test and evaluate designed products</p> <p>Explain how products should be stored and give reasons</p> <p>Evaluate product against clear criteria</p>
<p>TECHNICAL KNOWLEDGE</p>		<p>Make their own model stronger Make a model stronger and more stable</p> <p>Use wheels and axles, when appropriate to do so</p>		<p>Know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p> <p>Use a simple IT program within the design Know how to be hygienic and safe when using food</p> <p>Bring a creative element to the food product being designed</p>		<p>Link scientific knowledge to design by using pulleys or gears</p> <p>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</p> <p>Know which IT product would enhance a specific product Use knowledge to improve a made product by strengthening, stiffening or reinforcing</p>	
<p>FOOD TECHNOLOGY</p>		<p>Cut food safely Weigh ingredients to use in a recipe</p>		<p>Describe how food ingredients come together</p>		<p>Be both hygienic and safe in the kitchen</p>	

		Describe the ingredients used when making a dish or cake	<p>Weigh out ingredients and follow a given recipe to create a dish</p> <p>Talk about which food is healthy and which food is not</p> <p>Know when food is ready for harvesting</p> <p>Describe how food ingredients come together</p> <p>Weigh out ingredients and follow a given recipe to create a dish</p> <p>Talk about which food is healthy and which food is not</p> <p>Know when food is ready for harvesting</p>	<p>Know how to prepare a meal by collecting the ingredients in the first place</p> <p>Know which season various foods are available for harvesting</p> <p>Explain how food ingredients should be stored and give reasons</p> <p>Work within a budget to create a meal</p> <p>Understand the difference between a savoury dish and sweet dish.</p>
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STRUCTURES – BABY BEAR’S CHAIR

COMPOSITES

Generate ideas by drawing on experiences.

Design a product using reinforcements.

Make a chair, using tools safely for a specific target audience

Evaluate and test the product

COMPONENTS

	1	2	3	4	End Point
	<p>What are natural and manmade structures?</p> <p>What will make a sturdy structure for baby bear’s chair?</p>	<p>What 3D shape would be the most practical to use as a structure?</p> <p>How can I strengthen a structure?</p>	<p>What shaped structure should I create?</p> <p>Who am I creating the product for?</p> <p>How should I design Baby Bear’s chair?</p>	<p>How can I improve my structure?</p> <p>What can I add to my product to make it more appealing?</p>	<p>Children will know how to create a sturdy and stiff structure that is fit for purpose.</p> <p>Children will be able to use tools and materials safely.</p> <p>Children can join different materials in a variety of ways.</p> <p>Children can test their product and evaluate it against the design criteria.</p>

					Children will say what went well and what they would improve.
CONCEPTS Link to concept map	Design	Making	Design	Design	Children will have used their understanding and knowledge of structures to create their own chair for Baby Bear.
	Technical knowledge	Technical knowledge	Technical knowledge	Technical knowledge	Children will have reinforced their product to ensure it is fir for purpose.
	Critical Thinking	Critical Thinking	Critical Thinking	Critical Thinking	Children will make and evaluate their chair and test whether it is sturdy enough for a bear to sit on.
SKILLS	<p>Know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p> <p>Select the most appropriate tools and techniques for a given task</p> <p>Design a product and make sure that it looks attractive</p>	<p>Select the most appropriate tools and techniques for a given task</p> <p>Explain how to improve a finished model</p> <p>Know why a model has or has not been successful</p> <p>Know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p>	<p>Prove that a design meets a set criteria</p> <p>Design a product and make sure that it looks attractive</p> <p>Choose a material for both its suitability and its appearance</p> <p>Select the most appropriate tools and techniques for a given task.</p> <p>Know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p>	<p>Design a product and make sure that it looks attractive</p> <p>Choose a material for both its suitability and its appearance</p> <p>Select the most appropriate tools and techniques for a given task.</p> <p>Know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p> <p>Explain how to improve a finished model</p> <p>Know why a model has or has not been successful</p>	<p>Children will generate ideas, follow a design, create and evaluate process to make Baby Bear's Chair</p> <p>Children will be able to use tools safely with support if needed.</p> <p>Children will be able to choose appropriate materials to create their design.</p>

<p>KNOWLEDGE</p> <p>Z:\Hubs\Science and DT\DT\2023-2024\KAPOW\YEAR 2\STRUCTURES - Baby Bears Chair\Baby Bear's Chair - Knowledge Organiser.pdf</p>	<p>Know what would best make a solid and sturdy base.</p> <p>Know which properties would be needed to create a sturdy structure.</p> <p>Know what an appealing and sturdy product would look like.</p>	<p>Know which shape would make the sturdiest structure and why.</p> <p>Know how to create a stiffer structure using layering techniques.</p> <p>Know what I could do to improve my structure.</p>	<p>Know who the product audience is and plan the chair to be aesthetically pleasing for baby bear.</p> <p>Know how to create a stiffer structure.</p> <p>Know what I could do to improve my structure.</p> <p>Know which materials will make a sturdier structure.</p>	<p>Know how to successfully reinforce a structure to make it more stable and purposeful.</p> <p>Know who the product audience is and plan the chair to be aesthetically pleasing for baby bear.</p> <p>Know what I could do to improve my structure.</p>	<p>Children will know how to create a structure using the most purposeful shape and base.</p> <p>Children will know how to reinforce their product.</p> <p>Children will design and create an appealing chair for their target audience.</p>
<p>LESSON LINK</p>	<p>KAPOW</p> <p>Structures – Baby Bear’s Chair</p>	<p>KAPOW</p> <p>Structures – Baby Bear’s Chair</p>	<p>KAPOW</p> <p>Structures – Baby Bear’s Chair</p>	<p>KAPOW</p> <p>Structures – Baby Bear’s Chair</p>	
<p>PROGRESSIVE VOCABULARY</p>	<p>design criteria</p> <p>man-made</p> <p>natural</p> <p>properties</p> <p>structure</p> <p>stable</p> <p>shape</p>	<p>design criteria</p> <p>man-made</p> <p>natural</p> <p>properties</p> <p>structure</p> <p>stable</p> <p>shape</p>	<p>design criteria</p> <p>man-made</p> <p>model</p> <p>natural</p> <p>structure</p> <p>stable</p> <p>test</p>	<p>design criteria</p> <p>model</p> <p>man-made</p> <p>natural</p> <p>structure</p> <p>stable</p> <p>test</p>	<p>Articulate and recognise subject specific vocabulary</p>

CURRICULUM EXPERIENCES	Use playdough to create 3D shapes to test structures.	Create a structure using paper and layering techniques.	Create a 3D structure using junk modelling	Complete a 3D structure using junk modelling.	
END POINT	Children will have the knowledge of which 3D shape would be best used to create a sturdy and solid structure.	Children will understand what shape is best to use to create a sturdy structure. Children will know how to reinforce a structure using layering techniques.	Children will have started to build a chair for Baby Bear using a range of materials. Children will think about who the chair is for and design it appropriately for them.	Children will have finished Baby Bear's chair. They will have reinforced their structure to ensure it is fit for purpose. Children will have evaluated their work against their design criteria.	

