



All achieve, all believe, all create, all a family..

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2 Year Rolling Programme for Design and Technology *(links with our School Vision are in red) (Specific to school curriculum)*

Mixed-year groups	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year A – R/1 2021/22	<u>What makes a Polar Bear perfect? (Goal 15: Life on Land)</u> Making games / turn taking (Evaluate:) Drawing examples from the community with a visit to local garden with animal friendly garden. (Design:) To design purposeful and functional hedgehog houses for animals in the local area, based on design criteria. To generate and communicate ideas through talking and drawing. (Make:) To select from and use a range of equipment to cut, join and finish their hedgehog box. To select from and use a range of materials based on their characteristics (waterproof/insulated). Build their structure and explore how to make it stronger and waterproof. (Evaluate:) Explore and evaluate their ideas and structure against design criteria through discussion.		<u>What makes a good knight? (Goal 3: Good health and Wellbeing)</u> (Cooking and nutrition:) To look at healthy and varied diets and prepare food for an event. To instill a love of cooking and being creative with their bakes. (Good Looking Cooking)			



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Why this? Why now?	<i>In Science the children are looking at seasonal changes and weather. This links into this area where the children have to consider the effects of the weather on materials. This is the children's initial introduction to exploring materials and looking at how things have a purpose.</i>	<i>This gives the children an opportunity to begin exploring baking and instilling an early love for it. They will have looked at what keeps them healthy in the Autumn term for PSHE and this follows on as a link to discuss healthy diets and encourage early positive choices for healthy snacks.</i>		
Year B – R/1 2020/21	<p><u>What makes a superhero? (Goal 16: Peace, Justice and Strong Institutions)</u></p> <p>(Design:) To design functional models of the village for the scenes for their Superhero comic strip videos. To generate and communicate ideas through talking and drawing. (Make:) To select from and use a range of equipment and construction materials, to cut, join and finish their house models. To cut and shape moving windows and doors.</p> <p>(Evaluate:) To evaluate their product against design criteria and (Technical knowledge:) explore ways to make it more stable.</p>	<p><u>What does water cost? (Goal 6: Clean water)</u></p> <p>(Cooking and nutrition:) Linked to Handa's surprise - to look at where different fruits come from and how they grow. To explore different tastes and learn about the principles of healthy eating. Fairtrade</p>		
Why this? Why now?	<i>In the previous year, the children had the opportunity to begin exploring materials and their purpose. This outcome allows the children to build on that knowledge and use their learnt skills to explore more ways to make their model stable. They need to use their prior knowledge of materials to select items for a specific purpose. They are having to adapt the chosen materials by using additional equipment and skills.</i>		<i>In Science, the children are looking at trees and their structure. This outcome links to that learning opportunity and builds on last year's prior knowledge of healthy food choices.</i>	



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Year A – 1/2 2021/22	<u>What is the value of a toy? (Goal 3: Good health and wellbeing)</u>		<u>What makes the world flourish? (Goal 13: Climate Action)</u>		<u>What will you discover? (Global 12: Responsible consumption)</u> (Design:) To design functional and appealing products (boats) based on design criteria to carry their cargo across the water. To generate and model their ideas through drawings and templates. (Make:) To select from and use a range of tools, equipment and materials to perform practical tasks and select materials based on their properties (waterproof). (Evaluate:) To evaluate their products against design criteria. (Technical knowledge:) Explore how their product can be made stronger and more stable.
<i>Why this? Why now?</i>					<i>Previously, the children had the opportunity to make models waterproof and to explore materials and their properties. They are now having to build on these skills to make a product that has the additional need to be buoyant and able to carry weight. The children are now having to evaluate and edit their product.</i>
Year B – 1/2 2020/21	<u>Does chocolate grow on trees? (Goal 8: Decent work for all)</u> (Evaluate:) Explore and evaluate a range of existing chocolate wrappers and create design		<u>(London project) Goal 7: Affordable and sustainable energy?</u> (Evaluate:) Explore and evaluate a range of existing London transport and create design criteria. (Climate		



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	<p>criteria. (Design:) To design appealing chocolate wrappers based on design criteria to sell at christmas. Generate their ideas using technology and communicate their choices. (Evaluate:) Evaluate their ideas against the product criteria and edit their mock up.</p> <p>(Make / Cooking and nutrition:) To use the basic principles of a varied diet and create chocolate lollies and hot chocolate packages for the chocolate stall. To understand where food comes from - look at where chocolate comes from and how it is made. To select from and choose fairtrade ingredients. Fairtrade</p>	<p>action - transport/vehicles) (Design:) To develop and generate their ideas through drawings and templates.</p> <p>(Make / Technical knowledge:) To select from and use a range of tools and equipment. Explore and use mechanisms - wheels and axis.</p>		
<p><i>Why this?</i> <i>Why now?</i></p>	<p><i>The children are now having to use research to find existing products and create their own criteria. They are having to use their prior knowledge to reason about their choices and evaluate their ideas. In PSHE they are looking at healthy lifestyles and healthy choices and they are using these skills to build upon to select varied ingredients for their products.</i></p>	<p><i>Previously, the children have explored materials and how to adapt them by shaping and cutting. This outcome builds on that by having to join and add additional equipment to give the material a purpose. They are continuing to build on their research skills and evaluating their products based on design criteria. They have generated ideas through drawings and discussion, they are now generating ideas through templates and mock ups.</i></p>		
<p>Year A – 3/4 2021/22</p>	<p><u>Which festival means the most? (Goal 2: Zero hunger)</u></p> <p>(Evaluate:) Investigate existing products and create design criteria. Understand how key events and individuals have helped shape the world - discovery of electricity. (Design:) Use research and develop design criteria to design</p>			<p><u>Back in time. (Goal 4: Quality Education)</u></p> <p>Linked to the history of food and digestive system in humans. (Cooking and nutrition:) To understand seasonality and how and where a variety of ingredients are grown, reared, caught and processed. (Local farmers) To understand the principles of a healthy and varied diet.</p>



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	appealing lanterns that are fit for purpose (to light the paths for the nativity event) (Make:) To select from and use a wider range of tools and equipment according to their functional products, to make their lantern (using the willow from the school grounds).			
<i>Why this? Why now?</i>	<i>They are using the previously learnt skills to design a product for a purpose and using a wider range of tools (forest school equipment) to adapt and shape their product.</i>			<i>In KS1, the children initially explored healthy and varied diets. The children are now building on those skills to explore where those food choices come from. In KS1, children looked at changes in weather and seasons, they are continuing to build on this by looking at how these changes affect ingredients. Within Science, they are looking at exploring requirements for plant life at this time also.</i>
Year B – 3/4 2020/21			<p><u>Are all wars won on the battlefield? (Goal 16: Peace, justice and strong institutions.)</u></p> <p>(Evaluate:) Investigate existing products (light houses) and create design criteria. Understand how key events and individuals have helped shape the world - <i>use of lighthouses during WW2. (School vision - compassion/local community)</i> (Design:) Use research and develop design criteria to design lighthouses. (Make:) To select from and use a wider range of tools, components and equipment according to their functional products. (Evaluate:) Evaluate their ideas against their own design criteria and consider the views of others to improve their work. (Technical knowledge:)</p>	<p><u>What makes the earth angry? (Goal 13: Climate action)</u></p> <p>Baking (<i>Developing life skills and using a local business - Good looking cooking</i>) (Cooking and nutrition:) To learn how to prepare and cook a variety of (savoury?) dishes using a range of cooking techniques. To understand and apply the principles of a healthy and varied diet. (To look at dietary needs??)</p>



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			Understand and use electrical systems - series circuits including bulbs.	
<i>Why this? Why now?</i>			<i>The children are now building on their technical knowledge by introducing electrical systems. In KS1 they have explored materials and their purpose. They are now exploring the purpose of components and electrical items. In Science, the children are also using these skills to identify a simple circuit.</i>	<i>The children have previously learnt about varied diets and where food comes from. They are now applying those skills to make healthy and varied choices. In KS1, they used basic cooking skills to make gingerbread men and chocolate lollies. They are now furthering those skills by using a broader range of cooking techniques to include savoury dishes.</i>
Year A – 5/6 2021/22	<u>Is there life beyond space? (Goal 5: Gender equality)</u> Revolving CAM toys - planets (Investigate:) Investigate and analyse a range of existing CAM toys (Design:) To use research to develop design criteria and generate their ideas through exploded diagrams, annotated sketches and discussions. (Make:) Use a range of tools and equipment to perform practical tasks and use a range of components, according to their functional properties. (Technical knowledge:) Understand and use mechanical systems (cams) in their products. (Evaluate:) Evaluate their ideas against their own design criteria and consider the views of others to improve their work. (Evaluate:) Understand how key events and individuals have helped shape the world; Stone age, invention of the wheel. Investigate and analyse a range of existing products.			<u>Healthy body, healthy mind (Goal 3: Good health and wellbeing)</u> Pizza Box (Evaluate:) Investigate and analyse a range of existing packaging and develop design criteria to inform their <i>functional pizza box</i> . (Design:) Generate and communicate their ideas through discussion and prototypes. (Make:) Select from and use a wider range of tools and materials according to their functional properties (insulating) and aesthetic qualities. (Evaluate:) Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. (Cooking and nutrition:) <i>Internet cafe - pizzas / savoury dishes - (Good Looking Cooking to come in)</i> To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand and apply the principles of a healthy and varied diet.



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<i>Why this? Why now?</i>	<i>In LKS1, the children were using circuits to explore their technical knowledge, they are now using CAMS and building on their knowledge of structures and how they can use and select mechanical systems for a range of tasks.</i>			<i>The children have previously used discussions, templates and mockups to share their designs, they are now using prototypes to convey their ideas and plans. They are building on their initial cooking skills from LKS2 and following recipes and using a broader range of techniques and equipment to create their savoury dishes. In KS1, the children had to select materials based on their waterproof properties, they are now having to select materials based on their insulating abilities and aesthetic qualities.</i>
Year B – 5/6 2020/21	<u>How do species adapt? (Goal 15: Life on land)</u> <i>(Ways to support and make an impact on global issues - upcycling/climate action) (Evaluate:)</i> Investigate and analyse a range of upcycled clothing and products and develop design criteria to inform their designs (Design:) To use research to develop design criteria and generate their ideas through sketches, prototypes, pattern pieces. (Make:) Select from and use a wider range of tools and materials according to their functional properties including materials and textiles. (Evaluate:) Evaluate their ideas and products against their own design criteria.			<u>Where is home? (Goal 1: No poverty)</u> <i>(Refugees and current world issues) (Evaluate:)</i> Investigate and analyse a range of existing boats and develop design criteria to inform their designs. (Design:) To use research to develop design criteria and generate their ideas through exploded diagrams, sketches and computer aided design. (Make boats and shelter:) Select from and use a wider range of tools and materials according to their functional properties (waterproof/buoyant/ can withhold cargo) (Technical knowledge:) Apply their understanding of how to strengthen, stiffen and reinforce their structures.
<i>Why this? Why now?</i>	<i>Previously, the children have used templates, mockups, prototypes and diagrams to convey their ideas. They are now building on those skills and learning how to create pattern pieces and developing their prototypes using textiles.</i>			<i>Previously in LKS2, the children have used templates, mockups and prototypes to convey their ideas. Now they are using exploded diagrams and computer aided design. In KS1, they had to use their technical knowledge to explore how to make</i>



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