



Sea Mills Primary School - Design and Technology Skills (Engineers) Progression **KS2**

<u>Enquiries linked to D.T:</u>	<u>Year 3</u> <u>Why did people travel in the past?</u> Develop textiles and sewing – what will they make? <u>How can you feel the force?</u> Design, test and evaluate their games. <u>Where does the darkness come from?</u> Cutting and joining to make shadow puppets.	<u>Year 4</u> <u>What should you flush down the loo?</u> Investigate existing products – check what this is. <u>What is the difference between noise and sound?</u> Design, test and evaluate instruments. <u>Why are more people becoming vegetarian?</u> Design, prepare and cook savoury dishes.	<u>Year 5</u> <u>How can science help the homeless?</u> Children make and build shelters choosing appropriate materials. <u>Who is trading with whom?</u> Children to design and make their own board game. <u>How are you helping to save our planet?</u> Responsible product designing. Making a product based on saving the planet.	<u>Year 6</u> <u>Who were the greater engineers?</u> Test and evaluate things. Design, test and make a bridge like Brunel. <u>Where does our food really come from?</u> Looking at the work of artists that have been inspired by food. Children create a piece of artwork with a hidden message of sustainability or Fair Trade. They make a dish and prepare it.
<u>National Curriculum Skills/TT Statements:</u> In Key Stage 2 children can... Design	In Year 3... I can talk about the different food groups and name food from each group.	In Year 4... I can understand what makes a healthy and balanced diet.	In Year 5... I can understand the main food groups and the different nutrients are important for health.	In Year 6... I can confidently plan a series of healthy meals.

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	I can understand that food has to be grown, farmed or caught in Europe. I can use a wider variety of ingredients to prepare food. I can use my knowledge of existing products to design.	I can understand seasonality and the advantages of eating locally produced food. I can read and follow recipes which involve processes. I can use knowledge of existing products to design.	I can understand how a variety of ingredients are grown. I can select appropriate ingredients and use a wide range of techniques. I can use my research into existing products and my market research to inform the design.	I can use information on food labels to inform choice. I can research, plan and prepare and cook. I can use research I have done to inform my designs.
Make - select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately - 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	I can create designs using annotated sketches. I can safely measure, mark out, cut, assemble and join. I can make suitable choices from a wider range of tools. I can investigate and analyse existing products.	I can create designs using exploded diagrams. I can use techniques which require more accuracy to cut, shape and finish my work. I can use my knowledge of techniques to plan how to use them.	I can make careful and precise measurements. I can produce step by step plans. I can make detailed evaluations about existing products.	I can generate, develop, model and communicate ideas through discussion. I can use my knowledge of famous designs to explain my products.
Evaluate - investigate and analyse a range of existing products - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	I can strengthen frames. I can understand how mechanical systems create movements.	I can consider how existing products and my own might be improved. I can apply techniques.	I can build more complex 3D structures.	I can use a wide range of methods to strengthen and stiffen structures.

understand how key events and individuals in design and technology have helped shape the world.				
Experiment, create and invent own work	In Year 3, children will design make and evaluate games and puppets. They will also use textiles to sew and prepare healthy dishes.	In Year 4, children will design, make and evaluate musical instruments and other existing products. They will also design and prepare savoury dishes.	In Year 5, children will design, make and evaluate shelters, board games and masks. They will also think about designs to save our planet as well as prepare and cook healthy dishes.	In Year 6, children will design and make a bridge. They will also have opportunities to think about 'fair trade' and make a range of food dishes, planning and preparing this.
Thinking critically about design	In year 3, Children are still encouraged to critically evaluate their designs.	In Year 4, children will begin to evaluate their designs and discuss in detail pros and cons.	In Year 5, children will continue to critically evaluate their designs and consider areas for improvements.	In Year 6, children should be able to consolidate their evaluations and be confident in this.
Learning about different cultures	Children will consider different vehicles they could design from a variety of cultures in the past.	Children will think about the concept of meat eating and vegetarians. They will link this to different cultural choices.	Children will think about the homeless and those cultures that celebrate carnivals.	Children will consider different cultures by finding out where different foods come from.
School Trips/Visitors	- Visit from Chart well food company – cooking workshops (How to make a healthy meal) - Visit to SS Great Britain for Year 6: Linking to making a Bridge similar to Brunel. - Visit from Homeless People for Year 5: Discussing and reflecting/evaluating and asking questions. - Trip to Life Skills Centre for Year 6: Learning about cooking and life skills. - Year 6 Sea Mills Reunion 'Snack and Chat' – Children asked older citizens questions. - Year 6 class assembly to whole school 'Who were the greatest engineers?'			
Vocabulary bank	Food, food group, tools, movement, design, construct, techniques, strengthen, assemble, sketch, farmed, making, accuracy, shape, finish, diagrams, products, seasonality, locally produced, healthy, balanced, diet.		Food groups, nutrients, techniques, measurements, products, 3D structure, main food groups, nutrients, strengthen, stiffen, generate, develop, model, communicate,	

		research, plan, prepare, food labels, healthy dishes.
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