



Herne Bay Junior School Design and Technology Progression Map

Big Idea	Concept/Aspect	Year 3	Year 4	Year 5	Year 6
Humankind	Everyday Products	Explain how an existing product benefits the user.	Investigate and identify the design features of a familiar product.	Explain how the design of a product has been influenced by the culture or society in which it was designed or made.	Analyse how an invention or product has significantly changed or improved people's lives.
Processes	Mechanisms and Movement	Explore and use a range of mechanisms (lever, sliders, axles, wheels and cams) in models or products.	Explore and use a range of mechanisms (lever, sliders, axles, gears and pulleys) in models or products.	Use mechanical systems in their products, such as pneumatics.	Explain and use mechanical systems in their products to meet a design brief.
Creativity	Generation of Ideas	Develop design criteria to inform a design.	Use annotated sketches and exploded diagrams to test and communicate their ideas.	Use pattern and computer-aided design packages to design a product.	Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.
	Structures	Create a shell or frame structure using diagonal struts to strengthen them.	Prototype shell and frame structures, showing awareness of how to	Build a framework using a range of materials to support mechanisms.	Select the most appropriate materials and frameworks for different



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			strengthen, stiffen and reinforce them.		structures, explaining what makes them strong.
Investigation	Investigation	Use tools safely for cutting and joining materials and components.	Select, name and use tools with adult supervision.	Name and select increasingly appropriate tools for a task and use them safely.	Select appropriate tools for a task and use them safely and precisely.
	Evaluation	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	Identify what has worked well and what aspects of their products could be improved, acting on their own suggestion and those of others when making improvements.	Test and evaluate products against a detailed specification and make adaptations as they develop the product.	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others.
Material	Cutting and joining textiles	Cut and join wools, threads and other materials to a loom.	Hand sew a hem or seam using a running stitch.	Combine stitches and fabrics with imagination to create a mixed media collage.	Pin and tack fabrics in preparation for sewing and more complex pattern work.
	Decorating and embellishing textiles	Decorate a low weaving using embellishments, such as natural or silk flowers, tassels and bows.	Create detailed decorative patterns on fabric using printing techniques.	Use applique to add decoration to a product or artwork.	Use different methods of fastening for function and decoration, including press



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					studs, Velcro and buttons.
	Materials for purpose	Plan which materials will be needed for a task and explain why.	Choose from a range of materials, showing an understanding of their different characteristics.	Select and combine materials with precision.	Choose the best materials for a task, showing and understanding of their working characteristics.
Nature	Nutrition	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).	Design a healthy snack or packed lunch and explain why it is healthy.	Evaluate meals and consider if they contribute towards a balanced diet.	Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet.
	Food preparation and cooking	Prepare and cook a simple savoury dish.	Identify and use a range of cooking techniques to prepare a simple meal or snack.	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish.	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.
	Origins of food	Identify and name foods that are produced in different places.	Identify and name foods that are produced in different places in the UK and beyond.	Describe what seasonality means and explain some of the reasons why it is beneficial.	Explain how organic produce is grown.
Comparison	Compare and contrast	Explain the similarities and	Create and complete a	Survey users in a range of focus	Create a details comparative report



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		difference between the work of two designers.	comparison table to compare two or more products.	groups and compare results.	about two or more products or inventions.
	Significance	Describe how key events in design and technology have shaped the world.	Explain how and why a significant designer or inventor shaped the world.	Describe the social influence of a significant designer or inventor.	Present a detailed account of the significance of a favourite designer or inventor.