East Tilbury Primary School's DT Curriculum Map

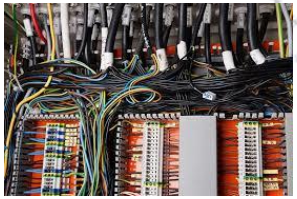
Year 1	HT1	HT2	HT3	HT4	HT5	HT6
	<u>Mechanisms</u> Wheels and Axels • Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move. • Creating clearly labelled drawings that illustrate movement. • Adapting mechanisms. • Testing mechanisms, identifying what stops wheels from turning, knowing that a wheel needs an axle in order to move.		<u>Textiles</u> Puppets • Using a template to create a design for a puppet. • Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction. • Reflecting on a finished product, explaining likes and dislikes.		<u>Food</u> Fruit and Vegetables • Designing smoothie carton packaging by-hand or on ICT software. • Chopping fruit and vegetables safely to make a smoothie. • Identifying if a food is a fruit or a vegetable. • Learning where and how fruits and vegetables grow. • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging	
Year 2						
	<u>Structures</u> Baby Bears Chair • Generating and communicating ideas using sketching and modelling.		<u>Mechanisms</u> Moving Monster • Creating a design criteria for a moving monster as a class. • Designing a moving monster for a specific audience in		<u>Mechanisms</u> Fair Ground Wheel • Selecting a suitable linkage system to produce the desired motions. • Designing a wheel.	

	• Learning about different types of structures, found in the natural world and in everyday objects. • Making a structure according to design criteria. • Creating joints and structures from paper/card and tape. • Building a strong and stiff structure by folding paper. • Exploring the features of structures. • Comparing the stability of different shapes. • Testing the strength of their own structures. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of their own structure.	accordance with a design criteria. • Making linkages using card for levers and split pins for pivots. • Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. • Cutting and assembling components neatly. • Evaluating own designs against design criteria. • Using peer feedback to modify a final design.	• Selecting appropriate materials based on their properties. • Selecting materials according to their characteristics. • Following a design brief. • Evaluating different designs. • Testing and adapting a design.
Year 3			
	<u>Cooking and Nutrition</u> Eating Seasonally	<u>Digital World</u> Electronic Charm	<u>Structures</u> Constructing a castle

	• Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. • Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination. • Following the instructions within a recipe. • Establishing and using design criteria to help test and review dishes. • Describing the benefits of seasonal fruits and vegetables and the impact on the environment. • Suggesting points for improvement when making a seasonal tart.	• Problem solving by suggesting potential features on a Micro:bit and justifying my ideas. • Developing design ideas for a technology pouch. • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. • Using a template when cutting and assembling the pouch. • Following a list of design requirements. • Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch. • Applying functional features such as using foam to create soft buttons. • Analysing and evaluating an existing product. • Identifying the key features of a pouch.	• Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes. • Designing and/or decorating a castle tower on CAD software. • Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled materials. • Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design. • Suggesting points for modification of the individual designs.
Year 4			

	<u>Structures</u> Pavilions • Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. • Building frame structures designed to support weight. • Creating a range of different shaped frame structures. • Making a variety of free-standing frame structures of different shapes and sizes. • Selecting appropriate materials to build a strong structure and for the cladding. • Reinforcing corners to strengthen a structure. • Creating a design in accordance with a plan. • Learning to create different textural effects with materials.	<u>Electrical Systems</u> Torches • Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. • Making a torch with a working electrical circuit and switch. • Using appropriate equipment to cut and attach materials. • Assembling a torch according to the design and success criteria. • Evaluating electrical products. • Testing and evaluating the success of a final product.	<u>Mechanical Systems</u> Making a Slingshot Car • Designing a shape that reduces air resistance. • Drawing a net to create a structure from. • Choosing shapes that increase or decrease speed as a result of air resistance. • Personalising a design. • Measuring, marking, cutting and assembling with increasing accuracy. • Making a model based on a chosen design. • Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.

Year 5			
	<u>Electrical Systems</u> Doodlers • Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product. • Developing design criteria based on findings from investigating existing products. • Developing design criteria that clarifies the target user. • Altering a product's form and function by tinkering with its configuration. • Making a functional series circuit, incorporating a motor. • Constructing a product with consideration for the design criteria. • Breaking down the construction process into steps so that others can make the product.	<u>Mechanical Systems</u> Pop Up Book • Designing a pop-up book which uses a mixture of structures and mechanisms. • Naming each mechanism, input and output accurately. • Storyboarding ideas for a book. • Following a design brief to make a pop up book, neatly and with focus on accuracy. • Making mechanisms and/or structures using sliders, pivots and folds to produce movement. • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. • Evaluating the work of others and receiving feedback on own work. • Suggesting points for improvement.	Cooking and Nutrition What Could be Healthier? • Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. • Writing an amended method for a recipe to incorporate the relevant changes to ingredients. • Designing appealing packaging to reflect a recipe. • Cutting and preparing recipes safely. • Using equipment safely, including knives, hot pans and hobs. • Knowing how to avoid cross-contamination. • Following a step-by-step method carefully to make a recipe. • Identifying the nutritional differences between different products and recipes. • Identifying and describing healthy benefits of food groups.

	• Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. • Determining which parts of a product affect its function and which parts affect its form. • Analysing whether changes in configuration positively or negatively affect an existing product. • Peer evaluating a set of instructions to build a product.		
Year 6			
	<u>Textiles</u> Waistcoats • Designing a waistcoat in accordance with a specification and design criteria to fit a specific theme. • Annotating designs. • Using a template when pinning panels onto fabric. • Marking and cutting fabric accurately, in	<u>Structures</u> Playgrounds • Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used. • Considering effective and ineffective designs. • Building a range of play apparatus structures drawing upon new and prior knowledge of structures.	<u>Digital World</u> Navigating the World ▪ Writing a design brief from information submitted by a client. Developing design criteria to fulfil the client's request. Developing a product idea through annotated sketches. Placing and manoeuvring 3D objects, using CAD Changing the properties of, or combine one or more 3D objects, using CAD.

	accordance with a design. • Sewing a strong running stitch, making small, neat stitches and following the edge. • Tying strong knots. • Decorating a waistcoat – attaching objects using thread and adding a secure fastening. • Learning different decorative stitches. • Sewing accurately with even regularity of stitches. • Evaluating work continually as it is created.	• Measuring, marking and cutting wood to create a range of structures. • Using a range of materials to reinforce and add decoration to structures. • Improving a design plan based on peer evaluation. • Testing and adapting a design to improve it as it is developed. • Identifying what makes a successful structure.	Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). Explaining material choices and why they were chosen as part of a product concept. Programming an N,E, S,W cardinal compass. Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. Developing an awareness of sustainable design. Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. Demonstrating a functional program as part of a product concept