Long Marston School

DT Curriculum Map – Knowledge, Skills and Vocabulary

Progression of skills

Class 3 Year A

	Autumn **Food: Eating seasonally (Y3)**	**Spring** **Electrical systems: Electric poster (Y3)**	**Summer** **Mechanical systems: Making a slingshot car (Y4)**	**Additional unit** **Structures: Pavillions (Y4)**
Skills design	Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish	Carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas Generate a final design for the electric poster with consideration to the client's needs and design criteria Design an electric poster that fits the requirements of a given brief Plan the positioning of the bulb (circuit component) and its purpose	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	Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect Building frame structures designed to support weight
Skills make	Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination Following the instructions within a recipe	Create a final design for the electric poster Mount the poster onto corrugated card to improve its strength and withstand the weight of the circuit on the rear Measure and mark materials out using a template or ruler Fit an electrical component (bulb) Learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge)	Measuring, marking, cutting and assembling with increasing accuracy Making a model based on a chosen design	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
Skills evaluate	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	Learning to give and accept constructive criticism on own work and the work of others Testing the success of initial ideas against the design criteria and justifying opinions Revisiting the requirements of the client to review developing design ideas and check that they fulfil their needs	Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance	Evaluating structures made by the class Describing what characteristics of a design and construction made it the most effective Considering effective and ineffective designs
Knowledge	**Cooking and nutrition:** To know that not all fruits and vegetables can be grown in the UK To know that climate affects food growth To know that vegetables and fruit grow in certain seasons	**Technical:** To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit To understand common features of an electric product (switch, battery or plug, dials, buttons etc.)	**Technical:** To understand that all moving things have kinetic energy To understand that kinetic energy is the energy that something (object/person) has by being in motion	**Technical:** To understand what a frame structure is To know that a 'free-standing' structure is one which can stand on its own

	To know that cooking instructions are known as a 'recipe' To know that imported food is food which has been brought into the country To know that exported food is food which has been sent to another country To understand that imported foods travel from far away and this can negatively impact the environment To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health To know safety rules for using, storing and cleaning a knife safely To know that similar coloured fruits and vegetables often have similar nutritional benefits	To list examples of common electric products (kettle, remote control etc.) To understand that an electric product uses an electrical system to work (function) To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits **Additional:** To understand the importance and purpose of information design To understand how material choices (such as mounting paper to corrugated card) can improve a product to serve its purpose (remain rigid without bending when the electrical circuit is attached).	To know that air resistance is the level of drag on an object as it is forced through the air To understand that the shape of a moving object will affect how it moves due to air resistance **Additional:** To understand that products change and evolve over time To know that aesthetics means how an object or product looks in design and technology To know that a template is a stencil you can use to help you draw the same shape accurately To know that a birds-eye view means a view from a high angle (as if a bird in flight) To know that graphics are images which are designed to explain or advertise something To know that it is important to assess and evaluate design ideas and models against a list of design criteria.	**Additional:** To know that a pavilions ia a decorative building or structure for leisure activities To know that cladding can be applied to structures for different effects. To know that aesthetics are how a product looks To know that a product's function means its purpose To understand that the target audience means the person or group of people a product is designed for To know that architects consider light, shadow and patterns when designing
Vocabulary	Climate, diet, imported, ingredients, natural, processed, reared, recipe, seasonal, seasons, sugar	information design, design, , public, design criteria, research, initial ideas, sketch, bulb, self assessment, peer assessment, feedback, develop, final design, electrical system, electric product, circuit, circuit component, bulb, battery, crocodile wires	Chassis, energy, kinetic, mechanism, air resistance, design, structure, graphics, research, model, template	3D shapes, cladding, design criteria, innovative, natural, reinforce, structure