Long Marston School

DT Curriculum Map – Knowledge, Skills and Vocabulary

Progression of skills

Class 2 Year A

	Autumn **Structures: Constructing a windmill (Y1)**	**Spring** **Food: Fruit and vegetables (Y1)**	**Summer** **Mechanisms: Fairground wheel(Y2)**	**Additional unit Structures: Baby bear's chair**
Skills design	Learning the importance of a clear design criteria Including individual preferences and requirements in a design	Designing smoothie carton packaging by-hand or on ICT software	Selecting a suitable linkage system to produce the desired motions Designing a wheel Selecting appropriate materials based on their properties	Generating and communicating ideas using sketching and modelling Learning about different types of structures, found in the natural world and in everyday objects
Skills make	Making stable structures from card, tape and glue Learning how to turn 2D nets into 3D structures Following instructions to cut and assemble the supporting structure of a windmill Making functioning turbines and axles which are assembled into a main supporting structure	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	Selecting materials according to their characteristics Following a design brief	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
Skills evaluate	N/A	Tasting and evaluating different food combinations Describing appearance, smell and taste Suggesting information to be included on packaging	Evaluating different designs Testing and adapting a design	Exploring the features of structures Comparing the stability of different shapes Testing the strength of own structures Identifying the weakest part of a structure Evaluating the strength, stiffness and stability of own structure
Knowledge	**Technical:** To understand that the shape of materials can be changed to improve the strength and stiffness of structures To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses) To understand that axles are used in structures and mechanisms to make parts turn in a circle	**Cooking and nutrition:** Understanding the difference between fruits and vegetables To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber) To know that a blender is a machine which mixes ingredients together into a smooth liquid To know that a fruit has seeds and a vegetable does not To know that fruits grow on trees or vines	**Technical:** To know that different materials have different properties and are therefore suitable for different uses **Additional:** To know the features of a ferris wheel include the wheel, frame, pods, a base an axle and an axle holder To know that it is important to test my design as I go along so that I can solve any problems that may occur	**Technical:** To know that shapes and structures with wide, flat bases or legs are the most stable To understand that the shape of a structure affects its strength To know that materials can be manipulated to improve strength and stiffness To know that a structure is something which has been formed or made from parts

	To begin to understand that different structures are used for different purposes To know that a structure is something that has been made and put together **Additional:** To know that a client is the person I am designing for To know that design criteria is a list of points to ensure the product meets the clients needs and wants To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity To know that windmill turbines use wind to turn and make the machines inside work To know that a windmill is a structure with sails that are moved by the wind To know the three main parts of a windmill are the turbine, axle and structure	To know that vegetables can grow either above or below ground To know that vegetables can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber)		To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move To know that a 'strong' structure is one which does not break easily To know that a 'stiff' structure or material is one which does not bend easily **Additional:** To know that natural structures are those found in nature To know that man-made structures are those made by people
Vocabulary	Axle, bridge, design, design criteria, model, net, packaging, structure, template, unstable, stable, strong, weak	Fruit, vegetable, seed, leaf, root, stem, smoothie, healthy, carton, design, flavour, peel, slice	Design, design criteria, wheel, Ferris wheel, pods, axle, axle holder, frame, mechanism	design criteria, man-made, natural, properties, structure, stable, shape, model, test