

ST GREGORY'S RCP – KNOWLEDGE ORGANISER

Topic: Design Technology

Year Group: 6 Autumn

Strand: Structures Frame Structures

What I should already know	Sticky knowledge	Key skills
<ul style="list-style-type: none"> I can give examples of different types of structures. I know how to strengthen a structure by folding, corrugating or ribbing materials I know how to design a product from different perspectives. I know how to plan my design step-by-step including which tools, fabrics and components I will need. I know how to evaluate the quality, manufacture, function and fitness for purpose of my product. I know how to make a prototype to test my design. 	<ul style="list-style-type: none"> I know that frame structures are rigid support structures that use beams, columns and slabs to hold gravity and weight. I know that frame structures give shape and are useful for support and weight bearing. I know some examples of man-made objects that use frame structures and highlight how these are secured and strengthened. I know that beams and columns in a frame structure can be strengthened using foundations or bracing. 	<p>Design:</p> <ul style="list-style-type: none"> I can create a step-by-step plan which can be read by someone else I can use market research to inform my plans and ideas. I can develop a design specification. <p>Make:</p> <ul style="list-style-type: none"> I can make a prototype and discuss this with my peers to amend my design I can use researched information to inform my decisions I can join materials using permanent adhesives I can discuss the materials I have used based on its suitability for the function. <p>Evaluate:</p> <ul style="list-style-type: none"> I can test and evaluate designed products by identifying strengths and areas for development. <p>Technical knowledge:</p> <ul style="list-style-type: none"> I can use knowledge to improve a made product by strengthening, stiffening or reinforcing I can cut strip wood, dowel or square section wood accurately to 1mm. I can stiffen and reinforce complex structures.
Design Brief		
<p>Your challenge is to: create a kite for year 1 to take to the beach. Remember you need to think about how you can reinforce the structure and how tension is used to make the kite fly.</p>		

Vocabulary		Diagrams/Pictures	
Frame structure	A structure made from thin components		
Modelling	The process of making a 3D representation of a product		
Reinforce	Strengthen or support an object with additional materials.		
Stability	Making an object unlikely to give way or overturn.		
Stiffen	Become stiff or rigid		
Temporary	Lasting for only a limited amount of time.		
Tension	A force pulling on a material or structure		
Triangulation	The use of triangular shapes to strengthen a structure		