

TERM: Spring 2 A			THEME: Structures																			
Prior Learning			Substantive Knowledge																			
The children have learnt that design and technology is a process in which an item is made to either solve a problem or entertain. They have gained experience of designing a product for a purpose, practising creating a prototype and then making the product using skills they have learnt. Revised Vocabulary <table><tr><td>technology</td><td>lever</td><td>machine</td></tr><tr><td>mechanism</td><td>predict</td><td>material</td></tr><tr><td>bridge</td><td>transport</td><td>building</td></tr><tr><td>cylinder</td><td>wall</td><td>space</td></tr><tr><td>join</td><td>rectangle</td><td>triangle</td></tr><tr><td>neatly</td><td>pole</td><td>fix</td></tr></table>			technology	lever	machine	mechanism	predict	material	bridge	transport	building	cylinder	wall	space	join	rectangle	triangle	neatly	pole	fix	• Know that a bridge is a structure designed to carry a road, pathway across a river, road or other obstacle. • Know that a freestanding structure will stand up on its own without being supported by another object. • Know that cylinder shapes are used to create structures. • Know that a staggered joint is stronger than single file columns with bricks. • Know that a frame structure is made from thin pieces of material used to create the shape of the structure. • Know that triangles are the strongest shape structures in the world. • Know that a tab is a small flap used to join it to another object.	
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Disciplinary Knowledge			New Vocabulary																			
• Use equipment & tools appropriately and confidently (ELG) • Explore existing products and investigate how they have been made (including teacher-made examples). • Name the tools they are using. • Explore ideas by rearranging materials. • Know how to make a simple structure more stable. • Use mock-ups e.g. recycled material trial models to try out their ideas. • Talk about their design as they develop and identify good and bad points. • Start to use technical vocabulary. • Join materials in a variety of ways. • Use pictures and words to convey what they want to design / make. • Say what they like and do not like about items they have made and attempt to say why.			structure	a building or object made from several parts																		
	freestanding	not attached to or supported by another structure																				
	hollow	having an empty space inside																				
	pedestrian	a walking person																				
	pattern	A repeated design																				
	barrier	a structure that is put in place to stop people/animals moving easily between areas																				
	famous	Known about by many people																				
	frame	A structure that surrounds something like a door or window																				

- Show how to stiffen some materials.

stability	the strength to not move or change
base	the part on which a structure is based
tab	a small flap used to join it to another object
brief	a description of what we will make
plan	How we will make an object