



Unit Planner – Design Technology Year: 5 Title: Bridges

Unit Overview	In this unit the children will build on their knowledge of structures and learn about different types of bridges and how they are build. They investigate engineering and use materials to build a prototype bridge for a specific purpose. Children use different materials to make the bridges stronger and stiffer, and evaluate their product using technological language.	
Prior Learning/ Links	EY – Children have used materials and tools to make simple products. KS1 – Children made vehicles from different materials and discussed how they are constructed. KS2 – Children make thrones, learning about how materials are joined together.	
Unit Title:	Substantive Knowledge	Disciplinary Knowledge
Key Questions: Why are bridges needed? How are bridges build and what choices are made about which type of bridge to build? How do you make structures stronger?	<ul style="list-style-type: none"> • Children can name famous bridges in the UK and the world: Sydney harbour bridge, Golden Gate Bridge, Tyne Bridge, Forth Bridge. • Children can name reasons why bridges are needed? What obstacles do they avoid and what they carry? Water, roads, within buildings. They carry people, trains, traffic, canals. • Children know different types of bridges including beam bridge, suspension bridge and arch bridge. • Children can talk about parts of a beam bridge and what makes it strong. • Children can explain how a bridge is built and how to make them stronger. • Children can use substantive and disciplinary language to talk about their findings. • 	Critical Evaluation <ul style="list-style-type: none"> • To identify and learn about a range of significant designers of vehicles/food/architecture etc. • To evaluate current products and suggest viable improvements • To consider why products change over time due to –money, safety, opp Purpose/ Audience or Design <ul style="list-style-type: none"> • Use design to make a product fit for purpose and for a specific audience • Use annotated sketches and diagrams to communicate ideas Present ideas and designs to others using a range of media Making/ Technological Knowledge <ul style="list-style-type: none"> • Selecting tools and materials appropriate for tasks. <ul style="list-style-type: none"> - Explain choices made to construct a product based on characteristics • Make product stronger, stiffer and more complex • Safety and accuracy
Vocabulary	Trips/ Visits/Useful Websites/ Resources	Key Misconceptions:
Substantive: Bridge Beam	MATERIALS BELOW CAN BE USED TO DELIVER THE WHOLE UNIT – USE S PLAN TO DECIDE ON WHICH AND WHERE.:	That there is only one type of bridge and it is simple – 2 poles and a flat piece.



Unit Planner – Design Technology Year: 5 Title: Bridges

<p>Arch Pier Deck Parapet Span abutments</p> <p>Disciplinary: Structure Materials Design Strength Tools Tension Compression balance</p>	<p> STEM</p> <p>Act 1 Makethingswork brid&struc talltower (stem.org.uk)</p> <p>Learning About Bridges - Rochester Bridge Trust</p>	
--	---	--