



Year 6	Topic Title: Structures – Raid Shelters (can be done in small groups)		Key Vocabulary
<p>National Curriculum Objectives:</p> <p>Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups § generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately § select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate Investigate and analyse a range of existing products § evaluate their ideas and products against their own design criteria and consider the views of others to improve their work § understand how key events and individuals in design and technology have helped shape the world</p> <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Using knowledge gained in History lessons about WW2: Know what an Air raid shelter is and why they were built. Know the difference between an Anderson Shelter and a Morrison Shelter. Describe what air raid shelters look like on the inside and the outside. Research what materials they were made out of using the internet. Design and label an Air Raid shelter using the correct proportions (scaled measurements to correct cm and mm) Test materials in a Science Experiment to see which material would be strongest for the roof of the air raid shelter by dropping objects of different weights on to it at different heights. Write what materials you will use including measurements Plan how to make the air raid shelter step by step Make the Air Raid shelter Test the strength of the air raid shelter Evaluate the design and write what you would do differently if you were to make it again. Take photographs of the design and create a Book using Book Creator on the iPad of how you made the design including facts and figures. Present to your class in groups</p>		<p>Design Make Evaluate Air raid shelter Anderson shelter Morrison shelter Materials Strength Test Strongest Weights Heights Measure Present</p>
Possible Community Links	Previous Learning Experiences:	Future Learning Experiences	Cross Curricular Links
	Year 4 – Structures (Making a stand for a phone or tablet)	KS3 DT Projects – Woodwork	History – WW2 Maths - Measurement



Year 6	Topic Title – Periscopes		Key Vocabulary
<p>National Curriculum Objectives:</p> <p>Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups § generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately § select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate Investigate and analyse a range of existing products § evaluate their ideas and products against their own design criteria and consider the views of others to improve their work § understand how key events and individuals in design and technology have helped shape the world</p> <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>As part of the Science topic – Light – children to investigate how a simple periscope works.</p> <p>Research what a periscope looks like and have one already made so the children can look at it and see how it works.</p> <p>Children to work in groups to predict how they think the periscope works (children should use their scientific knowledge at this point)</p> <p>Know that a periscope is a device used to see over walls or around corners.</p> <p>Know that the rays of light that hit the mirrors of the periscope are reflected twice.</p> <p>Know that the beam of light is reflected through 90 degrees because the mirrors are at a 45-degree angle to the path of the light ray.</p> <p>Design their own periscope in detail by drawing an exploded diagram and labelling materials they will use as well as colours.</p> <p>Children to make a periscope and use a 30cm ruler and protractors to measure.</p> <p>Children to use a glue gun, tape, fastenings of their choice to construct the periscope.</p> <p>Children to decorate, paint, colour their periscope to their final design.</p> <p>Evaluate final design and discuss how it could be made better, what you could have done better.</p>		<p>Design</p> <p>Make</p> <p>Evaluate</p> <p>Periscope</p> <p>Light</p> <p>90 degrees</p> <p>45 degrees</p> <p>Ray</p> <p>Device</p> <p>Mirrors</p> <p>Reflect</p> <p>Beam</p> <p>Exploded diagram</p> <p>Protractor</p> <p>Measure</p> <p>Decorate</p>
Possible Community Links	Previous Learning Experiences:	Future Learning Experiences	Cross Curricular Links
Maritime Museum	Year 4 – Structures (Making a stand for a phone or tablet)	KS3 Science and DT	Science - Light