



# Holly Park Learning Organiser

## Year 6 - DT



### Construction –Anderson Shelters

#### Prior Knowledge:

Year 3 - Construction—Chairs

To create shell or frame structures.

To strengthen frames with diagonal struts.

Make structures more stable by giving them a wide base.

Strengthen with shapes. E.g triangles



#### National Curriculum

Making products work - know that materials have functional and aesthetic qualities; that systems have an input, process and output;; how to reinforce and strengthen a framework; use the correct technical vocabulary.

Innovator Study - Rafael Sergio Smith - American designer of the Uber shelter for disaster relief

#### Key Vocabulary

<b>Frame</b>	A light structure that surrounds something
<b>Reinforce</b>	To strengthen or support
<b>Triangulation</b>	The formation of or division into triangles to strengthen a structure
<b>Stability</b>	The state of being stable, firmly fixed and not likely to change
<b>Adhesive</b>	A substance used for sticking objects or materials together: glue
<b>Construct</b>	To build or make something (typically a building, road or machine)
<b>Assemble</b>	To fit together the separate component parts of a machine or other object
<b>Joint</b>	The part where two pieces of wood join
<b>Electrical circuit</b>	A pathway that carries an electrical current
<b>Output devices</b>	Components that produce an output e.g. buzzers/motors
<b>Input devices</b>	Components that control a circuit e.g. switches

#### Core Knowledge:

Understand how to strengthen, stiffen and reinforce 3-D frameworks.



Know and use technical vocabulary relevant to the project.

Investigate different frame structures both temporary and permanent e.g bus shelters, tents etc

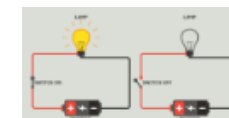
Be aware of the different shelters used in WW2 for protection from bombing –

Anderson Shelters, Morrison Shelters and how they were constructed.

Join the sectioned pieces of wood.

Know how to make a complete electrical circuit

Add a switch and a light to a circuit and house within the shelter



#### Core Skills:

Cut strip wood, dowel, square section wood accurately to 1mm

Join materials using appropriate methods

Learn about different types of joints. E.g butt joints, mitre joints

Build frame works using a range of materials e.g. wood, card  
corrugated plastic

Use glue-gun with close supervision.

Can complete an electrical circuit including a switch and a light bulb

#### Cross Curricular Links

English core text –Rose Blanche by Ian McEwan and Roberto Innocenti

History –WW2

## Design & Technology Skills:

### Designing

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

### Making

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

### Evaluating

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

## Key Questions:

What is an Anderson shelter?

How can I strengthen my shelter?

How will I join the pieces of wood?

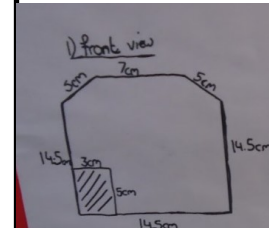
Are my measurements correct?

What worked well?

What challenges did I face?

How can I deal with those challenges?

What would I do differently next time?



## End Points and Areas for Assessment:

### Designing:

Understanding contexts, users and purposes - carry out research; develop a simple design specification; describe the user, purpose and design features of their products and explain how they will work.

Generating, developing, modelling and communicating ideas - generate innovative ideas drawing on research; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design where appropriate.

### Making:

Planning - formulate lists of resources and step-by-step plans; select suitable tools, equipment, materials and components and explain their choices.

Practical skills and techniques - follow procedures for safety and hygiene; use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with accuracy

### Evaluating:

Own ideas and products - identify strengths and areas to develop in their ideas and products against their design specification; consider the views of others to make improvements.

Existing products - investigate how well products have been designed and made, whether they are fit for purpose and meet user needs; why materials have been chosen, the methods of construction used, how well they work, and how innovative and sustainable they are.

Key events and individuals - know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.

### Construction:

products work - know that materials have functional and aesthetic qualities; that systems have an input, process and output;; how to reinforce and strengthen a framework; use the correct technical vocabulary.