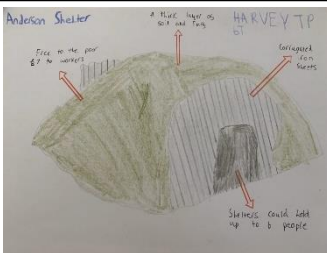


Yr 6 DT - Frame structures - Anderson Shelters

In this unit...
Pupils will learn about:

Anderson shelters which were popular air raid shelters during the Blitz. Pupils will research products, design and build their own Anderson shelters, test and evaluate. Pupils will also apply technical knowledge of structures when creating their product and try new practical skills.

The Anderson Shelter was designed in 1938 and was named after Sir John Anderson who was responsible for preparing Britain to withstand German air raids.



Key Skills:

- ✓ Research products to inform their design
- ✓ Communicate ideas through annotated sketches
- ✓ Select and use a wide range of tools and perform practical tasks
- ✓ Select and use a wide range of materials
- ✓ Evaluate their ideas against own design success criteria
- ✓ Understand the contribution of key individuals
- ✓ Apply understanding of how to strengthen, stiffen and reinforce more complex structures

Questions:

What is an Anderson shelter and who were they for?	Anderson shelters were used during WW2 to protect Britain from German air raid attacks. They were free to those who had an annual income of less than £250. For those that didn't fall into this category, the price was £7.
What were they used for?	Anderson shelters were very effective at saving lives and preventing major injuries during the air raids, but they were really cold during the winter months.
What materials were they made out of?	The main part of the shelter was formed from 6 corrugated steel panels. Flat corrugated steel panels were bolted on to form the sides and end panels. The shelter measured 1.4m wide, 2m long and 1.8m tall. Families were provided with the materials and were expected to construct the shelter from a set of instructions.

Key Vocabulary:

frame	an open structure that gives shape and support to something
structure	a building or other object constructed from several parts.
reinforce	strengthen or support
stable structure	a structure is considered stable if it maintains its geometrical shape when subjected to external force
design	a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
triangulation	the use of triangular shapes to strengthen a structure
tension	a force pulling on the material or structure
compression	the application of pressure to squeeze an object

corrugated	alternating ridges and troughs 
strut	a part of the structure/framework or product
diagonal	a straight line that goes from one, not adjacent, vertices to another inside a shape
vertical	a line that is at right angles to the ground
horizontal	a line that is parallel to the ground

Let's Get Practical! Working with paper straws

Straws come in different sizes.



Paper straws are flexible and can be creased or flattened to make joints.

Try using a wide straw around a narrow one to make sliding and rotating joints.

Straws can be useful when you are making framework structures or moving joints.

How can you fix straws together?



pipe cleaner



sticky tape



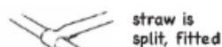
How can you make corner joints?



pipe cleaner



card



straw is split, fitted

