

Year 4 - Autumn – How can I create a stable, framed or shell structure?

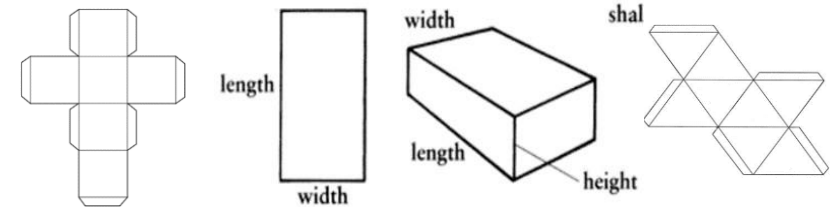
What I need to know by the end of this unit:

- A frame structure is made from beams joined together to make a strong internal framework.
- Shell structures have a strong outer surface that supports the structure without an internal frame.
- Different frame structures are designed for different users and purposes such as supporting wildlife.
- Nets can be folded into three-dimensional shapes and are used by designers to make prototypes.
- Strong structures use secure joints and reinforcements, such as braces or gussets, to improve stability.
- A good design should be suitable for its user, purpose and the materials available.
- Measuring, marking and cutting accurately helps to create a stable structure.
- Finished products should be tested and evaluated to identify strengths and suggest improvements.

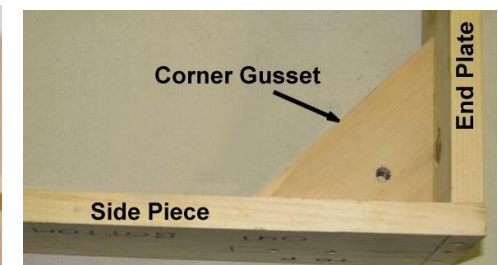
Key Vocabulary – Top 5!

- **Frame** – a structure made from beams joined together to create a strong framework.
- **Structure** - something built from different parts that is designed to support a load.
- **Shell** - a solid outer covering that gives a structure its shape and strength.
- **Brace** – an extra piece added to strengthen a structure and stop it bending or wobbling.
- **Suitability** – how well something meets the needs of its user and purpose.

Technical drawing, nets and tabs



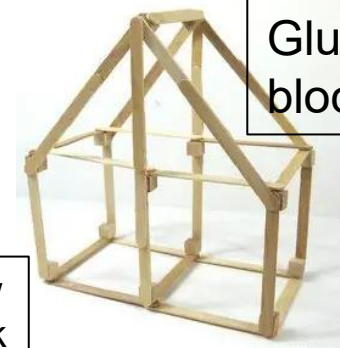
Reinforced butt joint



Glue block



Junior hacksaw and bench hook



Balsa wood sheets and square doweling