



Knowledge Organiser for Foundation Subjects in St Margaret Mary's Catholic Junior School

Loving, learning, growing together with Jesus

Topic: Structures – frame structures

Subject: DT

Year Group: 5

Term: Spring

Vocabulary Bank

Vocabulary	Definition
capacity	the maximum amount that something can contain
edge	A line segment on the boundary joining one vertex (corner point) to another.
face	the individual flat surfaces of a solid object
frame structure	a structure that is made stable by a skeleton that is able to stand by itself as a rigid structure
height	the measurement of someone or something from head to foot or from base to top
length	the measurement of something from end to end
material	the matter from which a thing is or can be made
permanent	lasting or intended to last or remain unchanged indefinitely
reinforce	to strengthen or support (an object or substance)
strengthen	to make or become stronger
temporary	lasting for only a limited period of time; not permanent
three dimensional	an object or shape that has three dimensions – length, width and height
vertex	the highest point
width	the measurement of something from side to side
annotated diagram	a labelled drawing showing design ideas
design specification	to create a plan or scheme either from new ideas or by presenting existing materials in a new way
evaluate	the assessment of how an object functions compared with its specification
functional	the intended use of any product
innovative	a product or idea featuring new methods
market research	Used to find out people's needs and tastes, often by questionnaire.
purpose	the reason for which something is made
useful	something that is able to be used for a practical purpose or in several ways
user	the person who the product is created for

Key Facts

- Structures are things that are built for a purpose, for example to support something or hold something.
- Frame Structures are rigid support structures that use beams, columns and slabs to hold large forces of gravity and weight.
- Frame structures give shape, and are useful for support & weight bearing.
- Unlike shell structures, frame structures have joints, which are formed according to the design requirements and materials being used.
- Some examples of man-made objects that use frame structures are houses, skyscrapers, bridges, scaffolding, tables, and roller coasters!
- The system of beams and columns in a frame structure can be further strengthened through the use of other features, e.g. foundations, bracing.

A Famous Frame Structure



Name: The Eiffel Tower
 Location: Paris, France
 Height: 324m Built in: 1889
 Purpose: Observation/
 Broadcasting Tower
 Materials: Wrought Iron

The Eiffel Tower is one of the most famous structures in the world. The main architect who designed the Eiffel Tower was Stephen Sauvestre, whilst Gustave Eiffel was the chief engineer.

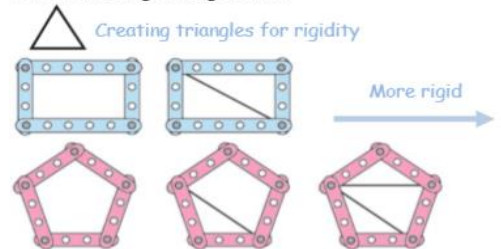
It uses a diagonal bracing structure throughout, to prevent side-to-side movement in the wind.

Joints

Joining thin sectioned pieces of wood



Understanding triangulation



End product

Create a bird hide.