



# Knowledge Organiser for Year DT frame structures

**Key idea:** Understand how to strengthen, stiffen and reinforce 3-D frameworks.

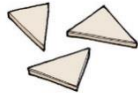
## Tier 3 vocabulary



**Framework** - a structure assembled from long thin parts e.g. a pylon or girder bridge.

**Prototype** - The first model made to decide if the design works, if it is the right size, comfortable, safe, attractive or suited to the user's needs.

**Annotations** - brief notes added to design sketches to make things clearer or to give more detail



**Jinks' corner** - the name given to triangular pieces of card that are used to join two pieces of wooden strip at right angles to one another

**Reinforcing** - strengthening or stiffening a part in a product so that it can perform its function better i.e. is less likely to break or bend

## Tier 2 vocabulary

**Design brief** - A single sentence that states exactly what the design problem is.

**Stable** - Not likely to fall over

**Strength** - that property of a material concerned with how difficult it is to break. A strong material requires a large force to break it.

## Key places



Ironbridge, U.K.



Statue of Liberty, U.S.A.



Eiffel Tower, France



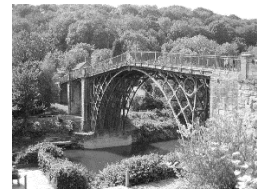
## Knowledge Item 1



Frame structures: cranes, bicycle frames, kites, tents, goal posts

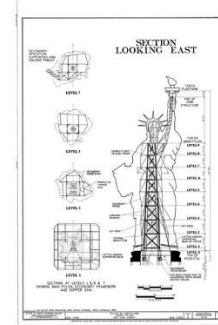
## Knowledge Item 2

Frame structures: bridges, e.g. Ironbridge



## Knowledge Item 3

Frame structures: statues (internal), e.g. Statue of Liberty



## Knowledge Item 4

Frame structures: towers, e.g. Eiffel Tower, Blackpool Tower



## Knowledge Item 5

Strengthening techniques for strength and stability: triangulation, Jinks' corners



## Key places



Built in 1779

Ironbridge, U.K.

Height: 16.75 metres



Completed in 1886

Statue of Liberty,  
U.S.A.

Height: 93m

## Key Statistics



Completed on 1889

Eiffel Tower,  
France

Height: 324 metres