

# D&T – Frame Structures

## Year 5: Autumn 2

### Key Vocabulary

**Frame Structure** - a structure made from thin components eg a tent frame.

**Triangulation** - the use of triangular shapes to strengthen a structure.

**Strut** - a part of a structure under compression.

**Tension** - a force pulling on a material or structure.

**Tie** - a part of a structure under tension.

**Diagonal** - a straight line that goes from one corner to another inside a shape.

**Horizontal** - a line that is parallel to the ground.

**Vertical** - a line that is at right angles to the ground.

**Modelling** - the process of making a 3-D representation of a structure or product.

**Compression** - the application of pressure to squeeze an object.

### Key Questions

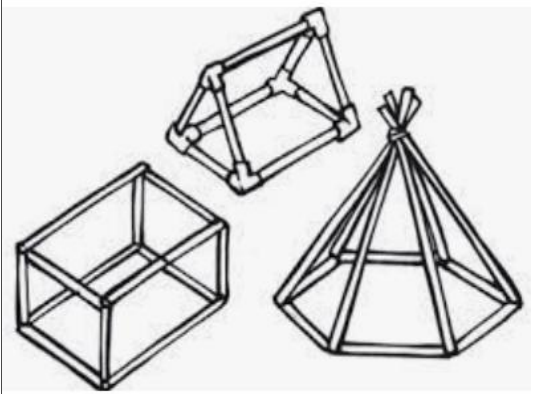
How well does the frame structure meet the users' needs and purposes?

How has the framework been strengthened, reinforced and stiffened?

How does the shape of the framework affect its strength?

How innovative is the design?

How will you make the product stable?



### Key Skills

- Research key events and individuals relevant to frame structures.
- Develop a simple design specification to guide the development of ideas and products, taking account of constraints including time, resources and cost.
- Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.
- Critically evaluate products against the design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.
- Understand how to strengthen, stiffen and reinforce 3-D frameworks.

### Website Links

<https://kidworldcitizen.org/world-architecture-for-kids/>

<https://www.youtube.com/watch?v=Pp9U6lYoIqg>

<https://www.bbc.co.uk/teach/class-clips-video/true-stories-isambard-kingdom-brunel/zjrtvk7>

### Concepts

Technical knowledge Technical knowledge is an understanding of modern technology, its working and advances. Your detailed understanding of anything that can be applied or reasoned with in any shape or form for any issues or applications is technical knowledge.

Designing A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made. The designer must consider the purpose and the intended user of the product being created.