

## Previous Topic

Tomb raiders

# Frame structures – Roman structures

## Year Five

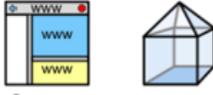
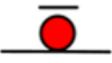
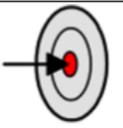
## Next Topic

Mobile phone case

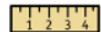
### Prior learning:

- Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.
- Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.

### Vocabulary:

 research	 frame structure	 stability	 annotated sketch
 shaping	 triangulation	 reinforce	 stiffen
 strengthen	 purpose	 user	 design specification

### Equipment

 card	 rulers
 wood	 paper straws
 scissors	 masking tape
 G-clamp,	 junior saws

### Key skills:

- To research key events and individuals relevant to frame structures and understand how to strengthen, stiffen and reinforce 3-D frameworks. To carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.
- To generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. To have a basic understanding of what structures are and how they can be made stronger, stiffer and more stable. To develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.
- To competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. To use finishing and decorative techniques suitable for the product they are designing and making.
- To critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. To know and use technical vocabulary relevant to the project.

### Key Questions:

- How well does the frame structure meet users' needs and purposes?
- Why were materials chosen?
- What methods of construction have been used?
- 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 could each of the frameworks be reinforced and strengthened?
- What materials will you use?
- How will it be joined?
- How will it be reinforced?