Design and Technology

Learning to create a medieval torture device

- **To** research and develop design criteria to inform the design of innovative, functional, appealing product
- **To** investigate and analyse a range of existing products
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- To select from and use a wider range of tools and equipment to perform practical tasks
- To select from and use a wider range of materials and components, including construction materials.
- To stiffen and reinforce more complex structure
- To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- To evaluate ideas and products against your own design criteria
- To consider the views of others to improve our work
- To understand how key inventions linked to this era have helped shape the world

Vocabulary	
Torture	Purpose
Guillotine	Structure
Gallows	Stiff/Rigid
Gibbett	Decorative
Strengthen	Reinforce
Stiffen	Innovative
Reinforce	Function
Construction	Appeal
Specification	Materials
joins	Shape

Researching my medieval device

I am researching this item because. _____

_____

It will have been used to_____

_____

It would have been used by _____

_____

I have researched my ideas by _____

_____

I have found out about ____ different types of medieval devices. They are

1)

2)

3)

4)

The shape of a device affects its strength by

_____
_____
_____
_____

Devices are reinforced by

_____
_____
_____
_____
_____

I have also found out the following:

- _____
- _____
- _____
- _____

Based on my research, I am going to design a

_____

Questions to help guide your research

When was your device made?

Who made it?

Where was it made?

What is this device designed for?

Can you name the different parts of this device?

What types of materials are used in this device?

How do you think this device was joined together?

Who would use a device like this? Why?

Can you describe what each part of this device does?

Do you think this device is sturdy and secure? Why?

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

Why has the device been made this way?

How has the framework been strengthened, reinforced and stiffened?

How does the shape of the framework affect its strength?

How innovative is the design?

Which constructions are the strongest? Why? Explain

How can you make a cube, cuboid, triangular prisms, tetrahedrons etc. using plastic straws, art straws, pipe cleaners etc.?

How can you reinforce your structure?

What textiles might your device require?

Does your device need to How could each of the frameworks be reinforced and strengthened?

be water resistant?

How will you attach other materials?

Who is the intended user and what is the purpose of the frame structure?

Is it a permanent device, or can it be easily dismantled?

How is the device reinforced?

How were/are device finished?

What other device are made in the same way?

Who are the famous designers that build strong structures? What do you know about them?

Evaluating my Medieval Device

I improved my design as I worked by _____

_____

I did/ did not meet my design criteria

My finished product was / wasn't suitable for its user.

We tested the strength of the shelter by _____

_____
_____
_____
_____
_____

My design was successful because: _____

_____
_____

I would improve my design by _____

_____ because
_____
_____

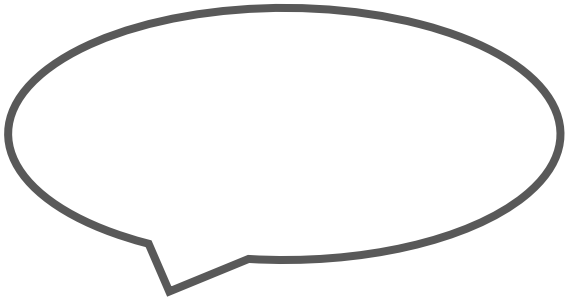
I would also

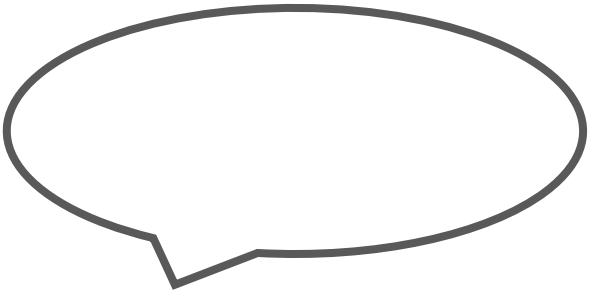
_____
_____
_____
_____

Other people's thoughts.

My evaluation and analysis of this design

Design	
I can research and design a range of interesting, useful and appealing products that are aimed at certain people or groups.	
I can develop and communicate my ideas through discussion.	
I can develop and communicate my ideas through sketches.	
I can develop and communicate my ideas through diagrams.	
I can develop and communicate my ideas through models.	
I can develop and communicate my ideas through patterns.	
I can develop and communicate my ideas through computer-aided design.	
Make	
I can select from and use tools and equipment to perform tasks (for example cutting, shaping, joining and finishing).	
I can select from and use a wider range of materials, including construction materials, textiles and ingredients, according to how useful and attractive they are.	
Evaluate	
I can explore products, say how good they are and explain how they could be better.	
I can explain how good my own product is, listen to the views of others and explain ways I could make it better.	
I understand how key events and people in design and technology have helped shape the world.	
Technology	
I can build structures and explore how they can be made stronger, stiffer and steadier.	
I can explore and use things like gears, pulleys, cams, levers and linkages in my product.	
I understand and can use electrical systems, such as series circuits incorporating switches, bulbs, buzzers and motors in my product.	
I can use computing to program, monitor and control my product.	



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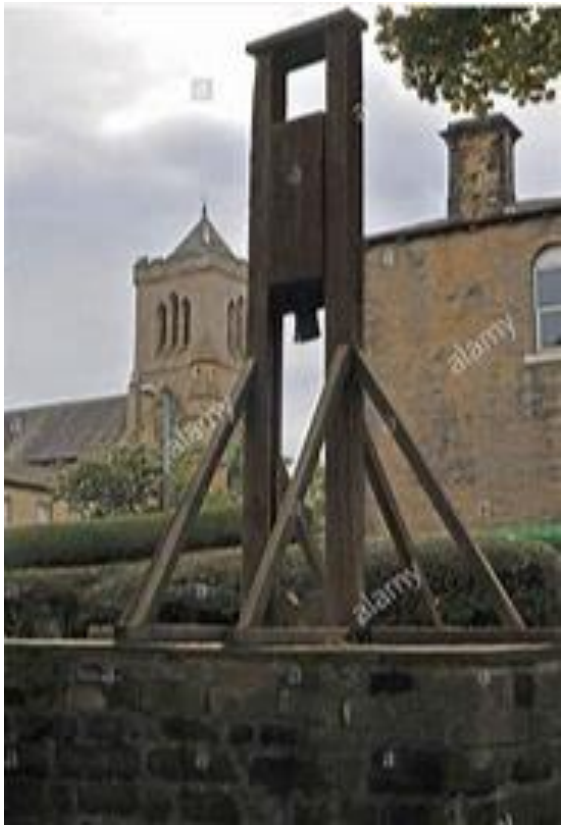
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