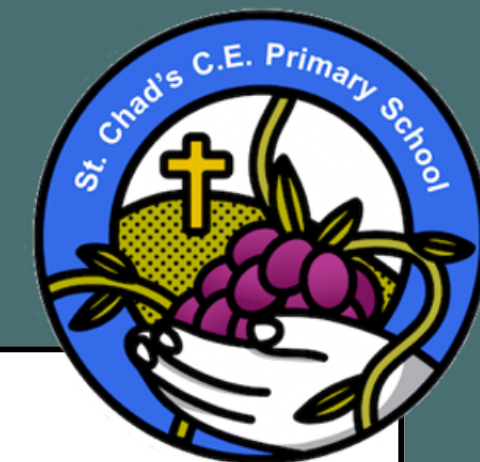




DT- Year 3/4 Spring Cycle A - Construction

Roman Shields

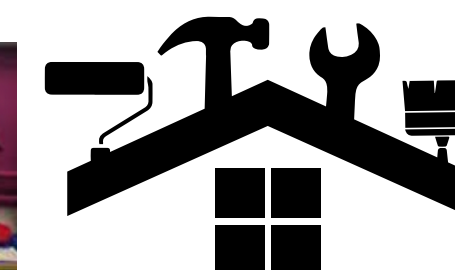


What do I know already? I know how to:

- build simple structures, exploring how they can be made stronger, stiffer and more stable
- use safe ways of cutting materials
- select from, use and talk about a wide range of materials and components, according to their characteristics.

Construction

You have already constructed a Tudor house for the Great Fire of London in KS1 and have recently constructed a Miner's Lamp. Now you will further apply your understanding of how to strengthen, stiffen and reinforce more complex structures.



What will I know? I will know how to:

- measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques to make a Roman shield
- independently use safe ways of cutting materials including a junior hacksaw
- apply my understanding of how to strengthen, stiffen and reinforce more complex structures (joining, folding, layering/corrugated, shape and own ideas)
- start to consider how materials have both functional properties and aesthetic qualities, and choose the most appropriate material for the project



Roman Shields - Your task:

'Design and make a shield to keep a Roman soldier (you) safe in battle'

Test it:

On the playground test out your shields. Are they fit for purpose? Recreate a testudo (tortoise). Your teachers are the enemy and are going to be throwing sticks of cardboard (instead of arrows!). Do any get through? Have you protected yourselves?



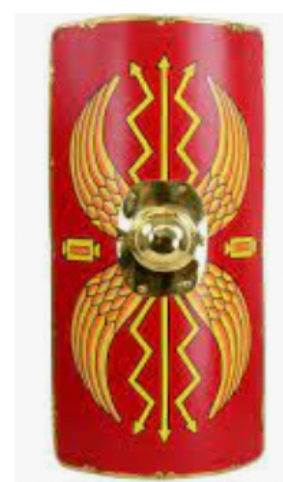
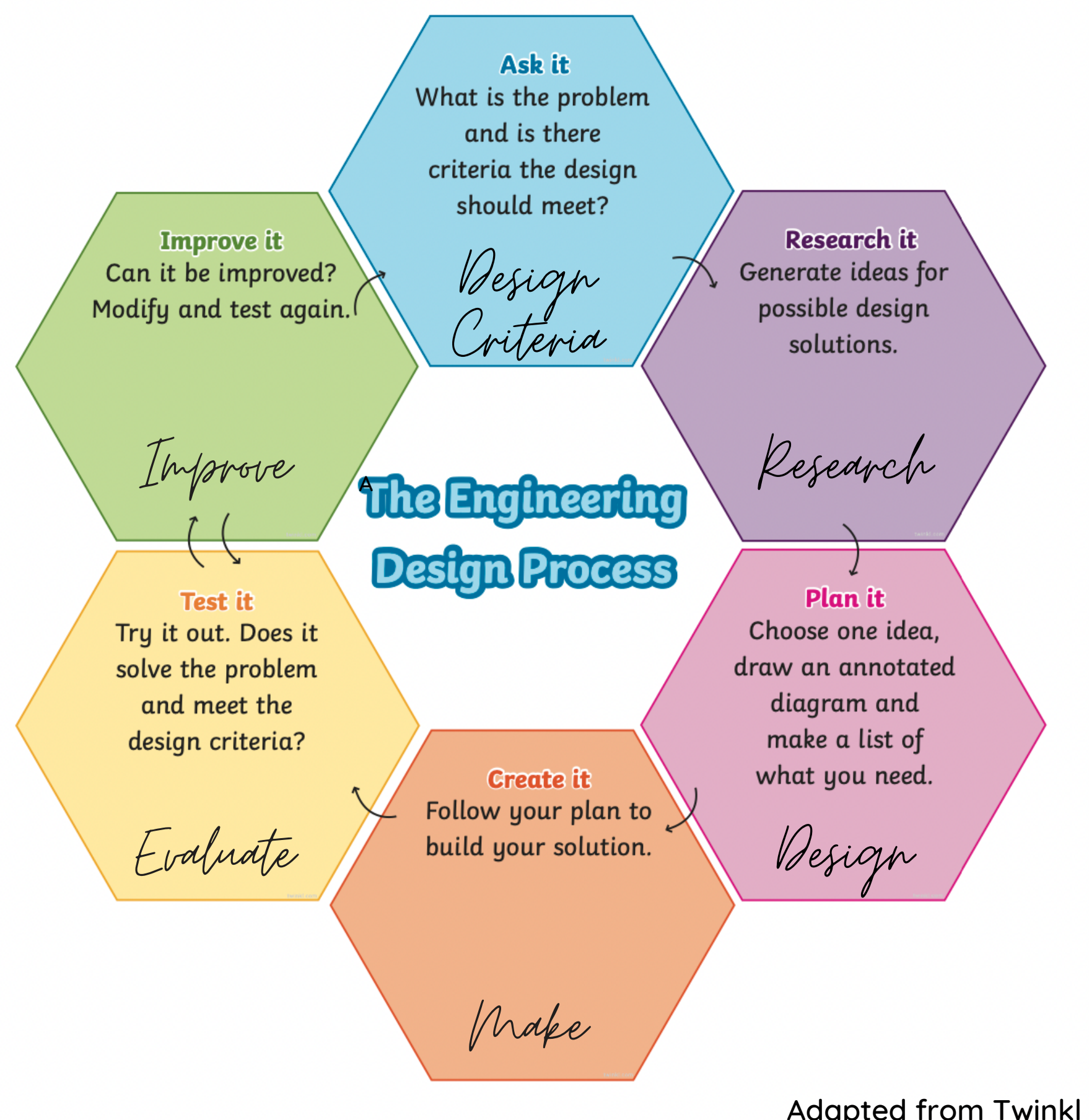
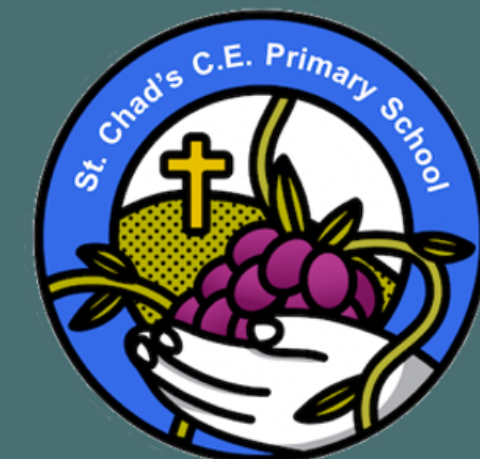
Key Vocabulary:

strengthen		to make materials stronger	corrugated		to shape or bend into parallel, wavelike ridges and grooves.
stiffen		to make firmer and difficult to bend	finishing		techniques used on a product to help them achieve a high quality finish.
materials		any substance that an object is made from	functional		the way something works or how useful it is
reinforce		to strengthen by additional assistance, material, or support.	aesthetic		how the product looks, its pleasing qualities



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Roman Shields



Designer/Craftsmen

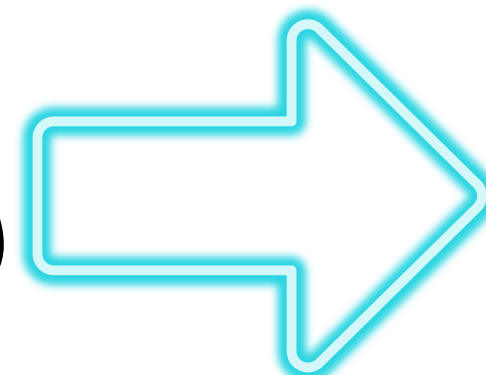
- The most famous Roman Shield is the Legionnaire Scutum.
- The shields were mostly made of wood - a few layers glued together to make the curved shape. Some extra strips of wood were glued on the back for more strength. Designs were usually painted onto the front.
- The shield could also be used in a special formation called a testudo (tortoise). The soldiers formed a complete shell to cover themselves.

Arnolds

- Since 1977, Arnolds made riot shields designed by and for the Metropolitan Police - the first shields ever to be used in the UK.
- Made from transparent polycarbonate - a strong and light weight material
- The shape is inspired by that used by the Roman Shields to prove full coverage for the police.



When designing think about:



- User - who is the product for?
- Purpose - what task does the product need to perform?
- Functionality - will it work?
- Design Decisions - what choices do you have?
- Innovation - how is your product unique?
- Authenticity - is the product believable?

