



# Year 3 - Autumn - Design & Technology Knowledge Organiser

## What I already know...

How to design functional and purposeful products.

How to cut accurately using tools such as scissors.

How to make simple moving mechanisms using linkages.

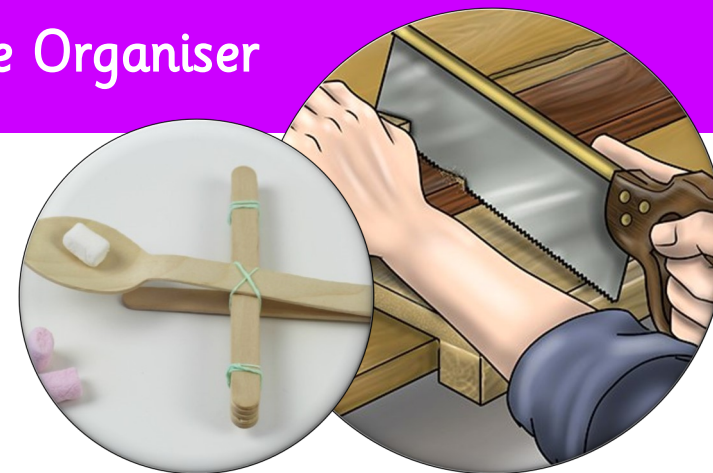
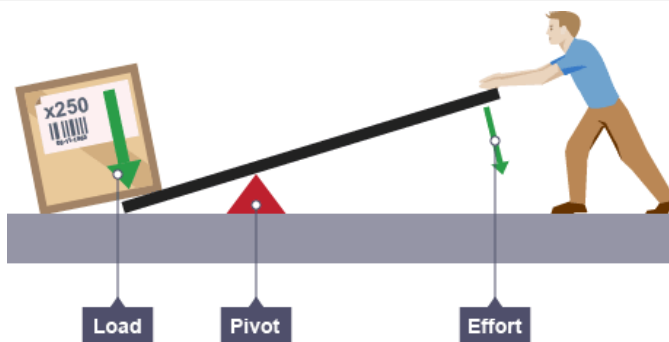
That evaluations happen to help us improve products and learn from mistakes.

## What I will learn...

- How to cut safely using a saw.
- That I should cut with a smooth forwards and backwards movement.
- That you can join materials effectively using glue or tape.
- That you can strengthen materials through folding, layering and overlapping.
- A lever is a simple machine used to lift objects.
- Most moving vehicles use wheels and axles.
- An axle is a bar that goes through wheels keeping them in place and allowing them to turn.

## Key Vocabulary

|         |                                                                    |
|---------|--------------------------------------------------------------------|
| Lever   | A machine to help us lift things.                                  |
| Arm     | Where you apply force to lift the load                             |
| Fulcrum | The pivot point of the arm.                                        |
| Load    | The object you are lifting.                                        |
| Force   | The amount of pressure you apply to the arm to lift the load.      |
| See-saw | An example of a simple lever.                                      |
| Axle    | A bar which keeps wheels in the correct place on a moving vehicle. |



## Making a difference at The Merton

Children will explore how Roman chariots and catapults were used in entertainment and war. They will learn how catapults use a simple lever action and will plan and design their catapults made of Lego.

They will design and make chariots using card, alongside cutting wood carefully to create axles. Children will work independently to make their chariots, but collaboratively to design and build Lego catapults.

## Making a difference at home

Can you find any levers at home. How do they work and what is their purpose?

Watch the video below to see how to make your own balloon car which needs axles:

[Axles - BBC Teach](#)