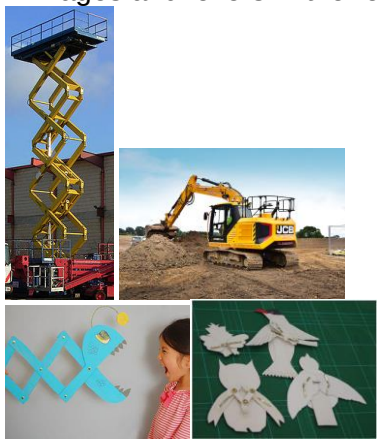
Design and Technology Year 4 Mechanisms-Levers and Linkages

Prior Learning

In year 1the children learned about basic levers and sliders and had the opportunity to experiment with examples and make their own.
In Year 2 they built upon this by adding to their mechanism understanding by learning about wheels and axles.

This unit will be their third time learning about mechanisms and exploring both the engineering and also the design aspects.

Linkages and levers in the real world



What is a linkage?

A linkage is joined to one or more levers to provide movement. A lever and a linkage combined creates a mechanism.

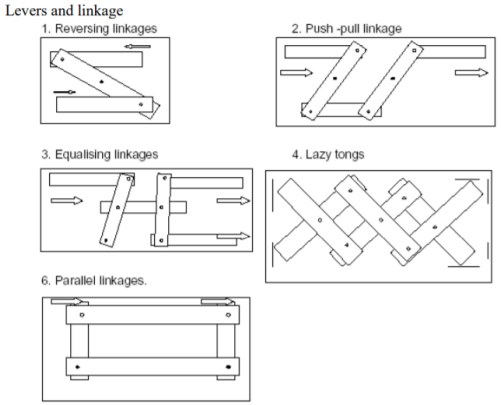
Key Vocabulary

Mechanism-a device used to create movement.
Lever- a rigid bar that moves around a pivot.
pivot-
loose pivot-a paper fastener that joins two strips of card together.
fixed pivot-a paper fastener that joins system- a set of related parts used to create an outcome.

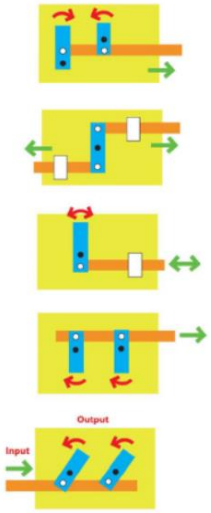
Intended Outcomes

1. **To identify levers and linkages in the real world.**
2. **To explain how a lever works.**
3. **To explain how linkages create movement and how the direction can be changed.**
4. **To create levers and linkages that move in different ways.**
5. **To create a product that includes a lever with linkages.**
6. **To design a product which follows the brief but also takes into account the research they undertake.**
7. **To evaluate the effectiveness of the product by referring to the specification.**

Techniques



(Black dots-Fixed pivot & White dots-free picots)



Useful Website and Hints

https://www.twinkl.co.uk/resource/tp2-d-093-planit-dt-lks2-mechanical-posters-lesson-2-levers-and-linkages-lesson-pack

https://www.youtube.com/watch?v=0MYF8YCf2jQ