



Mechanisms

Year 4 Spring Term

Design Technology

What I already know?

- I have constructed a wheel and axel to create a moving product
- I have planned and designed a pulley system with a lever.
- I have designed and evaluated the effectiveness of my product.

Al Jazari

Inventor



Al-Jazari was a scientist, inventor, mathematician, and the first Arab mechanical engineer. He became famous for inventing machines, many of which were automatic, including the Elephant Clock and mechanical devices like the crankshaft by using robotics.



Technical knowledge

How mechanical systems such as linkages and lever create movement.

Vocabulary

Cam	The cam is a profiled disc, cylinder or sphere that rotates.
Mechanism	A system of parts working together in a machine; a piece of machinery.
Pear	Pear shaped cams are used on the shafts of cars. The follower remains motionless for about half of the cycle of the cam and during the second half it rises and falls.
Circular	Circular cams or eccentric cams produce a smooth motion. These cams are used in steam engines.
Heart	Heart shaped cams allow the follower to rise and fall with 'uniform' velocity.
Drop	Drop cams cause a drop half way around the cam.

Essential Knowledge

Design

I will plan and a design a mechanism using different types of cams and use a design criteria.

Explain how different parts of the cams work.

Make

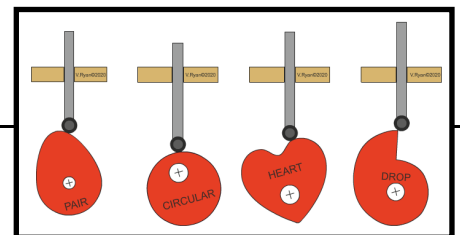
I will use different types of cams to show a moving mechanism. Order the main stages of making.

Evaluate-

Who designed and made the products

When products were designed and made

Refer to the design criteria and use this to evaluate their product.



Connecting Concepts

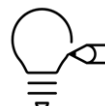
Design:

function, inspiration, innovation



I will plan and design a mechanism using different types of cams.

Practical Knowledge



I will create cams that are purposeful.