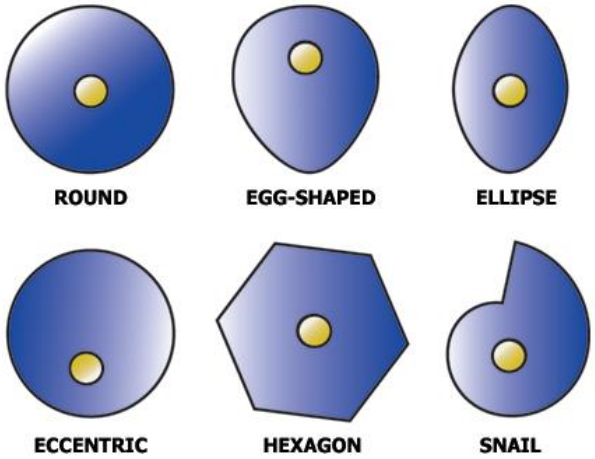
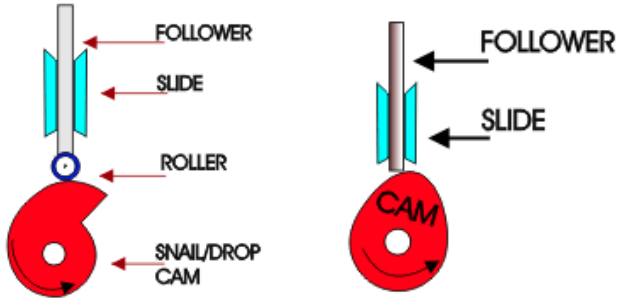
Mexborough St Johns DT Knowledge Organiser: Mechanisms- Cam Toys Y5

Types of Mechanisms:



Cams come in different shapes. Each shape creates a different movement.



Vocab:

Mechanism: A device used to create movement in a product.

Slider: A rigid bar which moves backwards and forwards along a straight line.

Axle: A rod or spindle through a cam.

Cam: A slide or roller attached to a rotating shaft to give a particular type of motion

Cam Shaft: A shaft with one or more cams attached to it.

Snail Cam: A cam that produces a slow rise and quick drop movement

Eccentric Cam: A disc with its centre of rotation positioned 'off centre'. This means as the cam rotates the flat follower rises and falls at a constant rate

Linear Motion: Movement in a straight line.

Rotation: The action of rotating about an axis or centre

Follower: The follower is in contact with the cam and causes the slider to move the object from rotational to linear mo

Mentionable Mechanisms and People:

The first cam mechanism was used in 600 BC, in China, on a crossbow trigger.

In the 19th century, European toy makers began to make cheap toys using cam mechanisms made out of wood and depicting a moveable scene.

Now, cams are used in washing machines, sewing machines and door locks.

Key Skills and Knowledge:

- Mechanisms create movement, so you need to decide which shape cam will be most appropriate.
- All things are designed with specific purpose and audience.
- A strong cam shaft is essential to support the cam mechanism and display above.
- Axles must be free to rotate.
- Designs and prototypes need to be evaluated and adapted based on need.