



How can I create a moving toy using levers and cams?

4. Health and Safety

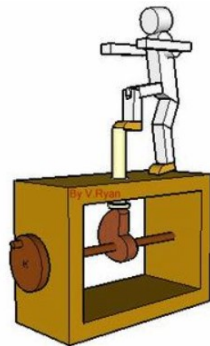


- Do's**
- Fix the wood in a vice or clamp.
 - Hold the saw with one hand.
 - Place the other hand on the table away from the saw.
 - Start by pulling the saw back before gently sawing.

- Don'ts**
- Walk or run while holding the saw.
 - Saw extremely quickly.
 - Place your fingers near the blade.
 - Touch a glue gun without teacher supervision.

1. How do cam and lever toys work?

When you turn the lever the shaft turns.
 The cam is attached to the shaft so the cam turns.
 The cam is attached to the follower, so the follower turns.
 The toy is attached to the slider so it moves up and down.

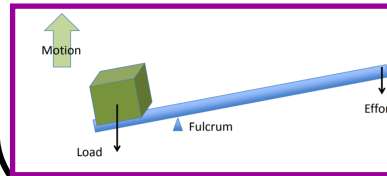
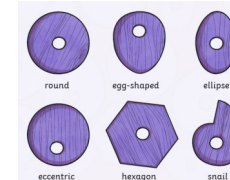


Tools and equipment

- Hacksaw: to cut the wood accurately
- Ruler: to ensure the measurements are accurate
- Glue-gun to join the wood together

2. How do cams and levers work?

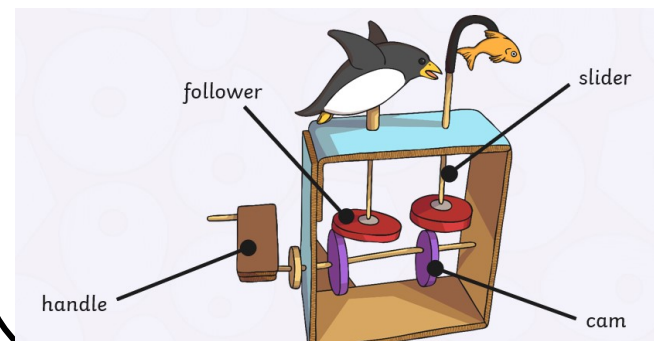
The shape of the cam makes the object move up and down at different points.



A lever will allow a greater mass to be moved with less force.

3. What do I want my design to look like?

- An exploded diagram shows how a product can be assembled and how the separate parts fit together. The diagrams also show components that would usually be hidden in a solid drawing.



Applying Past knowledge

This links to your learning when you created a pneumatic toy and a photo frame in year 3.

Key Vocabulary

- **Mechanical system:** when different parts work together to create motion.
- **Components:** different parts
- **Motion:** movement
- **Cams:** components to help create movement.
- **Functional:** it works for a specific purpose or task
- **Appealing:** Something that looks nice.

