



**Area: Construction**

**Year: 5**

**Subject: Design and Technology**

**What should I already know?**

- how gears and pulleys work
- to use tools safely with some adult support
- examples of real-life mechanisms

**How will I use this learning in the future?**

In Year 6, you will learn to apply skills learnt throughout KS2 and understand how computer programming can enhance products.

**What vocabulary should I learn?**

<b>cam</b>	a mechanism that rotates to create movement
<b>chuck</b>	the part of a drill that spins
<b>circuit</b>	to move all the way around a path
<b>conductor</b>	a material that permits a flow of energy
<b>follower</b>	the part that moves as a result of a handle turning an axis containing cams and the cams moving a slider
<b>guard</b>	a part on equipment that protects the user from damage or harm
<b>plane</b>	to make a surface smooth or even
<b>slider</b>	the middle element of a cam mechanism that is moved by the cam to move the follower
<b>trigger</b>	the part of a drill that is pressed to make the drill bit rotate

**What should I be able to do by the end?**

**Designing**  
Decide which design idea to develop.

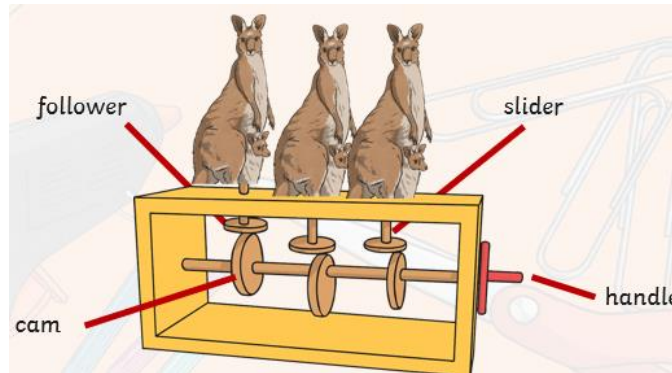
**Evaluating**  
Analyse a range of existing products and consider how it may have developed over time.

Evaluate ideas and products against own design criteria and consider the views of others to improve work.

**Name and use power tools safely and accurately with support from an adult.**



**Cams:**  
A cam mechanism is made up of three components: a cam, slider and follower. The mechanism causes components to move. Cams can be made out of metal, plastic or wood.



**Electrical Systems:**  
Use circuits within products to enhance them and enable them to fulfil design criteria. Electricity travels round a circuit. Batteries and wires are connected to devices such as buzzers and bulbs in order for them to work.

**How do electrical systems enhance products?**



**A Torch:**  
A torch is one of the simplest battery powered products. When the switch is pressed, a conductor material is positioned into a circuit, making it a closed circuit and powering the lightbulb.



**Handheld Fan:**  
Like a torch, when the switch is pressed, a conductor material is positioned into a circuit. With this product a motor is operated.

**What should I know by the end?**

**Careers using construction skills:**

- Builder:** builders build and repair buildings
- Engineer:** engineers work in a variety of fields to develop products and make them fit for purpose
- Electrician:** electricians install and maintain electrical systems
- Firefighter:** firefighters use equipment to control and put out fires
- Locksmith:** locksmiths are skilled in the installation and repair of locks and security devices
- Set Designer:** set designers create the overall look of a theatre, television or film production.

