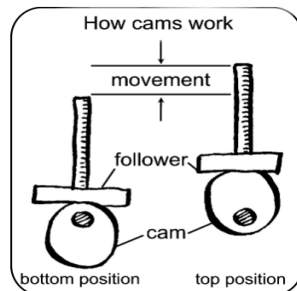
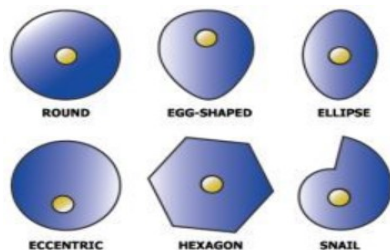
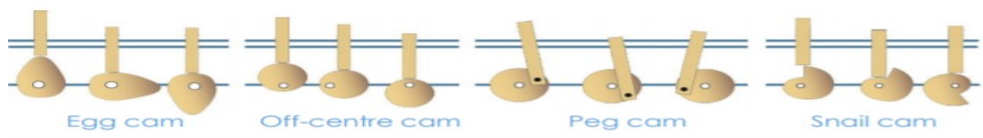


**Real life examples**

- **Cam** mechanisms change one type of movement/motion into another.
- The cam is the input and will move in one way (normally a **rotary motion**). The **follower** provides the output which will move in a different motion such as up and down (a **reciprocating motion**).
- Rotary cams are very common in engines, machines and toys.
- There are many different shapes of cam.



- The shape, size and position of the cam will determine the distance and movement of the follower.



**Steps to Success**

**Designing:**

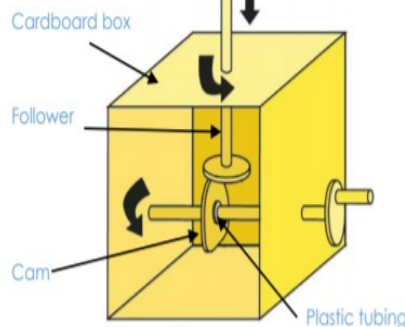
- What moving toy will you make? What will be its purpose? Who will use it?
- What structure will you use?
- What net will you need to draw?
- What cam mechanism will you use? How will it move?
- What materials and tools do you need?
- What order will you work in?
- What constraints are you working to?

**Making:**

- How will you make the structure strong and stable?
- Where will the moving part be?
- How will you join the cam mechanism to the structure?
- How will you finish it to make it look attractive?

**Evaluating:**

- Does the product meet the needs, wants and interests of the user group?
- What could you change to make it better?



**Vocabulary:**

<b>cam</b>	a mechanism that changes one sort of movement to another. Cams can be an off-centre wheel or a specially shaped wheel.
<b>follower</b>	the device that follows the movement of the cam: a lever or a slider
<b>guide</b>	a piece of material used to guide the movement of a slider
<b>lever</b>	a rigid bar which moves around a pivot.
<b>mechanism</b>	a device used to create movement in a product.
<b>oscillating motion</b>	moving to and fro around a pivot point, as in a lever.
<b>pivot</b>	a rod or pin upon which another part rotates, swings, or moves back and forth
<b>reciprocating motion</b>	a backwards and forwards movement in a straight line, as in a slider.
<b>rotary motion</b>	a movement that goes round.
<b>slider</b>	a rigid bar which moves backwards and forwards along a straight line.
<b>spacer</b>	a piece of material used to create extra space to allow moving parts to move freely.

**Golden Threads**

User	who the product is for
Purpose	the job your product is supposed to do
Functionality	to do the job (purpose) it is meant to do
Design Decisions	making choices about your design
Innovation	using your own ideas or methods
Authentic	making a real life product