



# Design and Technology – Year 5

## Summer 1 – Design, make and evaluate a moving message using a cam mechanism

In Design & Technology I have already learnt:

Sliders and levers produce different types of movement.

To measure, mark and cut out materials.

To join paper and card, using temporary fixing materials such as paper fasteners and permanent fixing materials such as tape and glue.

To make a linkage mechanism I need more than one lever.

Pivots can be fixed or loose.

To change the amount of movement in the output I need to move the fixed pivot.

Oscillating motion involves moving backwards and forwards in an arc.

Reciprocating motion involves moving forwards and backwards in a straight line

Design, make, evaluate, user, purpose, ideas, design criteria, product, function, Mechanism, lever, slider, pivot, guide or bridge

Pull, push, up, down, straight, curve, backwards and forwards, Card, masking tape, paper fastener, join, dowel, finish, mechanism, Linkage, linear, oscillating, reciprocating, input, output

**I understand that a cam can be used with a lever or slider to change rotary motion into oscillating or reciprocating motion.**

I understand the relationship between a cam and a follower and that different shaped cams produce different movements.

**I can make cam mechanisms with a lever follower and a slider follower.**

I can consider the characteristics of the cam mechanism when designing.

**I can use a hand drill to make holes.**

**I can use tools, e.g. a junior hacksaw for cutting safely and effectively.**

**I can use a G clamp to my bench hook to the table**

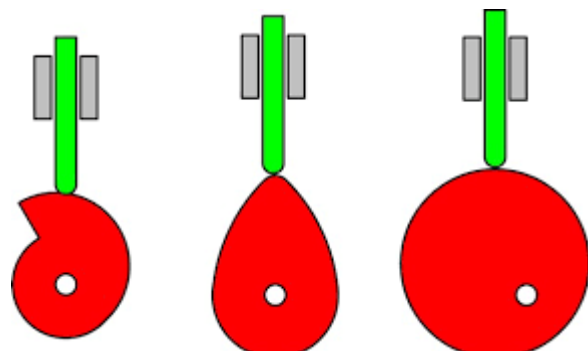
New Design & Technology words:

**Cam**, snail cam, off centre cam, peg cam, pear shaped cam, **follower**, shaft, crank, handle, housing, input movement, output movement, mechanical system, robust.

**Junior hacksaw, G clamps, bench hooks, hand drill.**



Victorian toys which use cams to produce movement



A variety of cams which produce movement