

KS2 - DT - Automata Animals - Knowledge Organiser

Assessment of Key Skills

By the end of this unit...

all children should be able to:

- Generate, as a group, one viable idea after discussion
- Cut materials accurately and safely selecting appropriate tools
- Assemble a simple cam mechanism as part of the design.
- Use tools with some accuracy and finish their automata animal in a design that they have prepared with some assistance.

...most children will be able to:

- Use design criteria to evaluate what they did well
- Use research to develop design criteria.
- Use their knowledge of the animal and movement made by the cam in the design of their automaton.
- Measure, mark out and cut materials accurately and safely to the nearest cm using a wider range of tools and equipment.
- Work mainly independently to make a mechanical device, selecting materials to make a framework, handle, cam mechanism and finishing the device.
- Use peer feedback and design criteria to help guide the evaluation process.

...some children will be able to:

- Use research to develop design criteria centred on the brief.
- Create a detailed design with at least two moving parts.
- Cut materials with precision to the nearest mm and refine the finish with appropriate tools
- Make an accurate functioning model with a quality finish
- Continually evaluate their work as it develops and at the end against design criteria and the design brief.

Key Vocabulary

Endangered, vulnerable, appearance, habitat, research, design brief. Cam, follower, mechanism, components, mechanical systems, rotary, linear, convert, motion, dwell, snail, egg shaped, eccentric, ellipse, hexagon, round, off centre, offset, aesthetic, innovative, square section wood, hacksaw, vice, corner joints, framework, measure, accurately, smooth, finish, notch, mount, prototype, axle, shaft.

I can research ideas about different animals to inform my design.

I can explain how simple cam mechanisms work

I can make a simple mechanism to help me understand cams.

I can choose appropriate sheet materials to make a simple cam mechanism.

I can use research and develop design criteria to inform my design.

I can use my research about animals from lesson 1 to inform my design.

I can build a framework accurately using a wider range of tools and equipment.

I can evaluate my product.

I can understand and use a mechanical system.

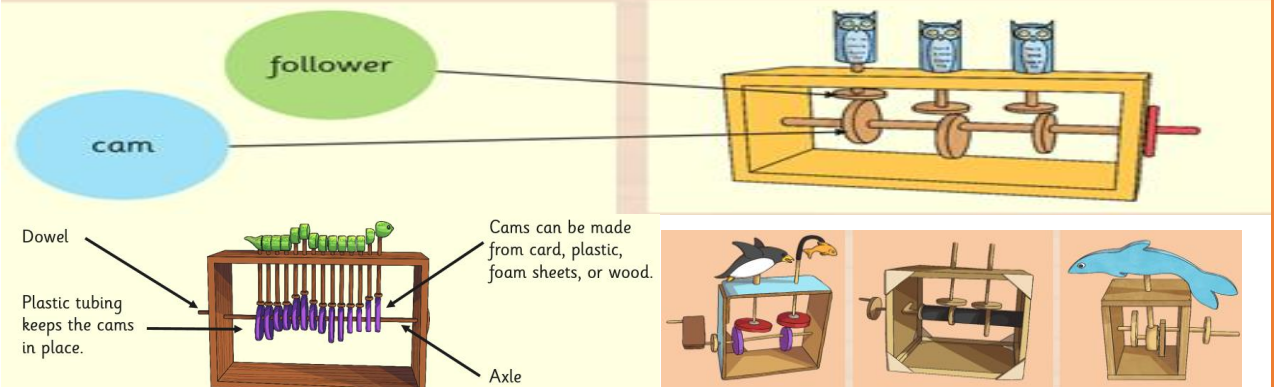
Moving animals with componenets.

A cam mechanism is made up of two main components - a **cam** and a **follower**.

Cam - a rotating disk shaped to convert rotary into linear motion.

The mechanism causes components to move either in a **linear motion** (a straight line) or a **rotary motion** (goes round) .

Follower - the component which follows the movement of the cam.



WWF- The 'World Wide Fund for Nature' is an international non-governmental organisation founded on April 29, 1961.

Endangered Animals Alphabet



