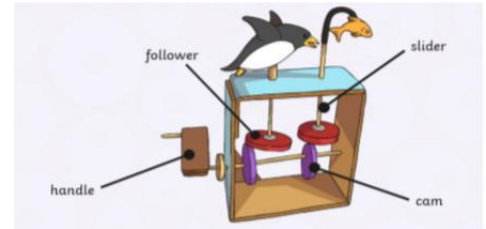


Moving Toys - Cams



Key knowledge and experiences.

Explore and describe the simple movement in a toy or mechanism such as an ice cream scoop or bottle opener. Investigate simple levers, pulleys and gears and explain how they work.

Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Know that a cam mechanism is made up of three components: a cam, slider and follower.

The mechanism causes components to move in different ways.

Cam mechanisms create linear and rotary movements and convert rotary into linear.

Cams come in different shapes which create different motions.

Cams can be made from metal, plastic or wood.

Be resilient and resourceful when faced with problems.

The designing and making process.

Use research to develop a simple design following the design brief.

Design functional, appealing toy that is fit for purpose.

Develop and communicate ideas through discussion and annotated diagrams.

Meet a design brief.

Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.

Accurately assemble, join and combine materials and components.

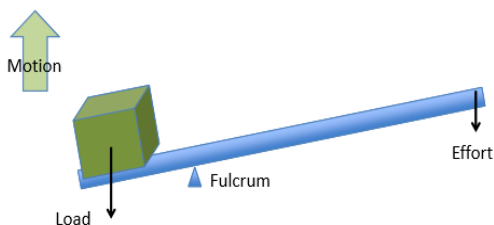
Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished.

Critically evaluate their final product against the design brief.

Design Brief:

Blackpool Zoo would like a new toy to sell in their shops. They would like it to have a mechanical element to make it more fun and interactive. Because it is for the zoo, they would like it to have an animal or dinosaur theme. It is for a child, so consider aesthetics and safety.

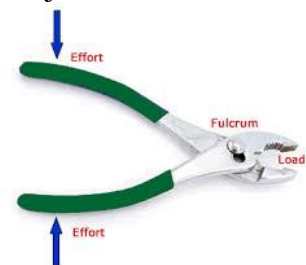
Can you lift Mr. Carroll?










Catapult



Do other objects use forces like this?



Key vocabulary	Definition
Mechanism	A device or machine for doing something.
Aesthetic	Concerned with how beautiful something looks.
Frame	A rigid structure used as a major support
Reinforce	To strengthen with added material.
Stability	Firmness in position.
Axle	A rod or spindle passing through the centre of a wheel or wheels.
Cam	A roughly circular shape that creates movement.
Handle	Part of something specifically to be held by the hand.
Follower	A flat disc or long thin bar designed to follow the shape of the cam.
Slider	A guide to keep the follower travelling straight.
Guide	A piece of material used to guide the movement of something.
Junior hacksaw	
Bradawl	
Glue Gun	
Dowel	
Square section timber	
Wooden wheel	
Bench Hook	
Mitre Box	