

Animal Mechanisms - D.T.

Year 4
Autumn 2

Overview

In this topic, the children combine art and D.T. to design and create their own 3-D model of an animal, which includes a crank mechanism to move the animal's tongue. The children will follow a design process to choose and design their 3D animal, learning about scale and accurate measuring / cutting. They will then create a crank arm and crank mechanism that fits in place on the animal and powers the tongue of the animal to move.



Key knowledge - D.T.

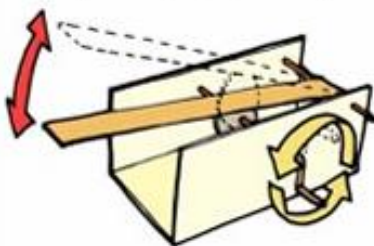
- Follow a design brief, which is to: create a 3D model of an animal that is accurately to scale and incorporates a crank mechanism to make the animal's tongue move.
- Research different animals and consider outlines, body shapes, details and scale.
- Develop an improved understanding of scale of different body parts.
- Draw, cut and measure accurately.
- Show an understanding of how the crank works and successfully assemble and attach the crank to make the mechanism work.
- Test your product and evaluate its effectiveness based on the design brief and success criteria set.

Tools or materials you may use in this topic:

Card Scissors
Saws Wooden sticks
Wire cutters
Masking tape
Pens Rulers
Glue Glue spreaders
Wire
Sawing boards



a simple crank mechanism for chewing
the head (not shown) is fixed; the lower jaw moves



a simple cam and lever mechanism for roaring
the lower jaw (not shown) is fixed; the rest of head moves

Key Vocabulary

Word	Definition
Crank	A simple mechanism. When the crank arm is turned, the crank moves an attached object (tongue).
Mechanism	A system of moving parts working together to make something work or move.
Scale	Judging the correct size and proportion of one object compared to another.
3-D	3 dimensional - a solid shape.
Proportion	Comparing one object's size to another - are they the right respective sizes?
Design brief	Criteria that must be fulfilled in your designs.
Evaluate	The process of deciding what went well and what can be improved.
Adjustment	Making a small change to improve something.