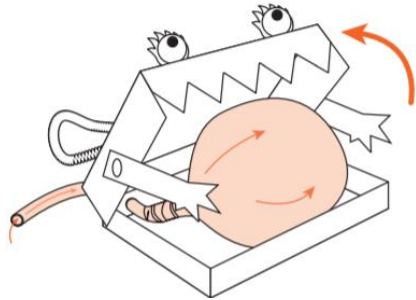




TOPIC:

Mechanisms – Pneumatic Toys



TOPIC:

Mechanisms – Pneumatic Toys

YEAR GROUP:

Y3

TERM:

Autumn

What I already know...

Continuing to build on the KS1 Design Technology curriculum:

Design:

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria Technical knowledge
- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

What I will know after this unit...

- I will understand that mechanics are a system of parts that work together to create motions
- I will understand that pneumatic systems can be used as part of a mechanism and they can be used in a variety of objects
- I will understand that pneumatic systems force air over a distance to create movement
- I will be able to develop design criteria from a design brief using thumbnail sketches and exploded diagrams
- I will be able to design and make a pneumatic toy using recycled household objects
- I will understand the different types of drawings to support my design
- I will create a pneumatic system to create a desired motion in a secure housing
- I will know how to use these various components to make a functional and appealing pneumatic toy

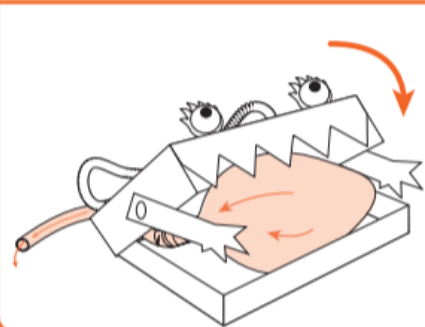
Key Vocabulary

exploded-diagram, function, input, lever, linkage, mechanism, motion, net, output, pivot, pneumatic system, thumbnail sketch

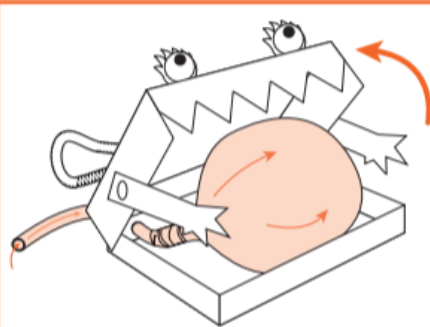
Mechanical systems - Pneumatic toys

Exploded-diagram	A diagram which shows all of the parts of a product, including the internal and external parts.
Function	How something works.
Input	Input is the motion used to start a mechanism.
Linkage	Lengths of material (for example, metal or card) that are joined together by pivots, so that the links can move as part of a mechanism.
Mechanism	The parts of an object that move together as part of a machine.
Motion	The movement an object makes when controlled by an input or output (e.g. left, right, up, down).
Net	A 2D flat shape, that can become a 3D shape once assembled.
Output	Output is the motion that happens as a result of starting the input.
Pivot	The central point, pin, or shaft on which a mechanism turns or swings.
Pneumatic system	A mechanism that runs on air or compressed gas.
Thumbnail sketch	Small drawings to get ideas down on paper quickly.

When air exits the balloon, the monster's mouth closes.



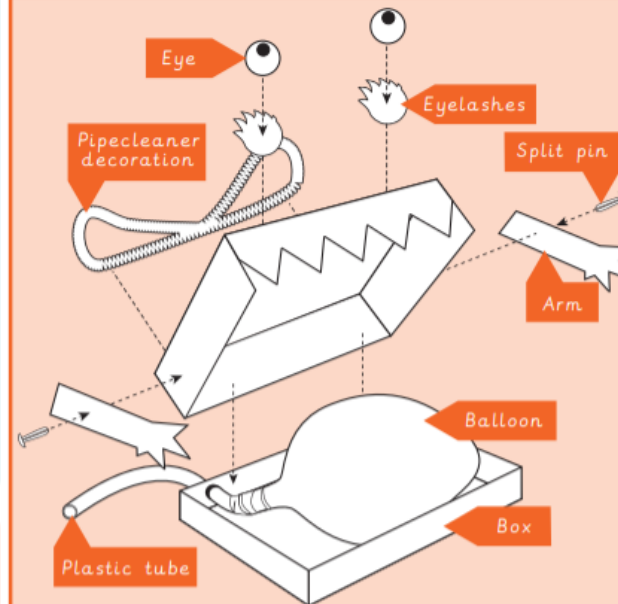
When air enters the balloon, the monster's mouth opens.



Key facts

Kapow
Primary

Exploded-diagrams allow us to see how a product is put together and the different components inside.



You will need:

