Year 1/2

National curriculum:

Design purposeful, functional, appealing products for themselves and others to use based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. select from and use a range of tools and equipment to perform practical tasks. select from and use a wide range of materials and components. 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.

Prior Knowledge:

- Identify whether a mechanism is a side-to-side slider or an up-and-down slider and determine what movement the mechanism will make.
- Clearly label drawings to show which parts of their design will move and in which direction.
- Make a picture, which meets the design criteria, with parts that move purposefully as planned.
- Evaluate the main strengths and weaknesses of their design and suggest alterations.

Key Vocabulary:

Axle

wheel

design criteria

input

linkage

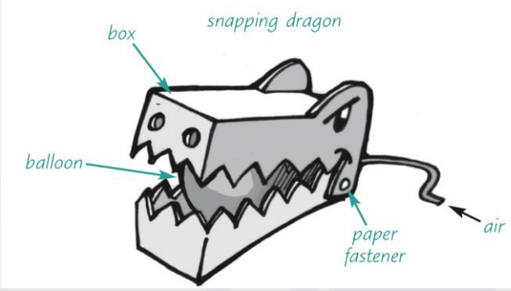
mechanical

output

pivot

DT: Year 1 and 2 –

Mechanisms: Making a moving monster



Enquiry Questions:

What mechanisms work together to produce movement

What does the input into a mechanism do?

What is the output of a mechanism?

What different types of levers are there?

Enrichment

Explore a variety of toys with different mechanisms.

Design a worry monster for the class.

Context:

Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster.

Sticky Knowledge:

- To know that mechanisms are a collection of moving parts that work together as a machine to produce movement.
- To know that there is always an input and an output in a mechanism.
- To know that an input is the energy that is used to start something working.
- To know that an output is the movement that happens as a result of the input.
- To know that a lever is something that turns on a pivot. To know that a linkage mechanism is made up of a series of levers.

Skills:

- Creating a design criteria for a moving monster as a class.
- Designing a moving monster for a specific audience in accordance with a design criteria.
- Making linkages using card for levers and split pins for pivots.
- Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.
- Cutting and assembling components neatly.
- Evaluating own designs against design criteria.
- Using peer feedback to modify a final design.