



Objectives and Sticky Knowledge

Previous Knowledge Recap:

1. I understand that mechanisms are a collection of moving parts that work together in a machine
2. I know that there is always an input and output in a mechanism
3. I can identify mechanisms in everyday objects

Land Objectives and Sticky Knowledge:

| To design a pneumatic toy. | To make a pneumatic toy. | To test and evaluate a pneumatic toy. |
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| <ul style="list-style-type: none">*Draw accurate diagrams with correct labels, arrows and explanations.*Correctly identify definitions for key terms.*Identify five appropriate design criteria.*Communicate two ideas using thumbnail sketches.*Communicate and develop one idea using an exploded diagram. | <ul style="list-style-type: none">*Select appropriate equipment and materials to build a working pneumatic system.*Assemble their pneumatic system within the housing to create the desired motion. | <ul style="list-style-type: none">*Create a finished pneumatic toy that fulfils the design brief.*To say what is good about their toy and suggest how it could be improved. |

Links with 'Communication' Golden Thread:

Links with CST and CKA Values Crown:

Year 3 D&T Pneumatic Toy



Sky Objectives:

1. Know how to carry out research into the needs of different individuals and design a functional product using a given design criteria. Draw a labelled sketch of product, showing understanding of order, tools and equipment.
2. Select tools and techniques for making their products and measure, mark-out, cut and score with some accuracy. Think about their ideas and be willing to change things if needed. Use finishing techniques to strengthen and improve their product using a range of equipment including ICT.
3. Evaluate their product against original design criteria e.g how well it meets it's intended purpose. Disassemble and evaluate familiar products.

Mechanical systems - Pneumatic toys

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| 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. |

