

Year 4 Mechanical Systems: Pneumatics

Who is our mighty mascot?

Meeting	Greater depth
<p>Knowledge</p> <ul style="list-style-type: none"> • To know that they are designing, making and evaluating a moving mascot for children for Chinese New Year (design brief). • To know the purpose of their moving mascot is to entertain and celebrate Chinese New Year. • To consider the intended user and what would make it appealing to them. • To understand the function of the pneumatic system is to create a moving part of a mascot. • To consider the aesthetics of the product and what will make it attractive and interesting. • To know and sequence the main stages of making. • To understand and use pneumatic mechanisms • To explore and test the way different systems work using different components (tubing, syringes and balloons). 	Can you use more than one pneumatic system to create different types of movements?
<p>Skills</p> <ul style="list-style-type: none"> • To investigate and analyse books, videos and products with existing pneumatic systems. • To generate realistic and appropriate ideas and their own design criteria through discussion, focussing on the needs of the user. • To use annotated sketches and prototypes to develop, model and communicate ideas. • To select and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. • To select and use finishing techniques suitable for the product they are creating. • To evaluate their own products and ideas against criteria and user needs, as they design and make. • To know and use the key vocabulary, listed below. 	
<p>Vocabulary</p> <ul style="list-style-type: none"> • Tubing – a length of metal/plastic/glass etc. in a tubular form • pneumatic system – components using compressed air to make things move • input movement – the force put into a mechanism • output movement – the force coming out of a mechanism • compression – pressing something into a smaller space 	

- **pressure** - continuous physical force placed on or against an object
- **inflate** – fill with air or gas
- **deflate** – empty of air or gas
- **pump** – a device used to raise or move compressed gases into objects