

# Design and Technology Knowledge Organiser

Southwold Primary School



Topic: How can air make a toy move?

Year LKS2

Strand: Mechanical Product

What should I already know?

- Wheels need to be round to rotate and move.
- For a wheel to move it must be attached to a rotating axle.
- An axle moves within an axle holder which is fixed to the vehicle or toy.
- The frame of a vehicle (chassis) needs to be

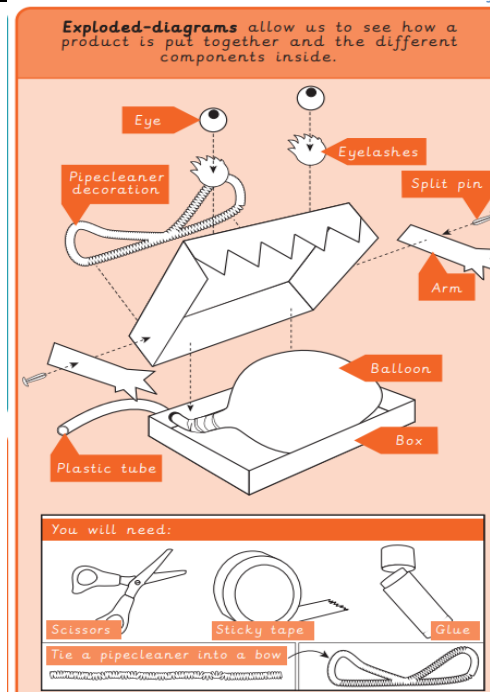
What will I know by the end of this unit?

- That mechanisms are a system of parts that work together to create motion.
- That a pneumatic system can be used as part of a mechanism.
- Pneumatic systems are used in a range of everyday objects.

Design Technology: Skills and Enquiry

- How does air make components move?
- How can we force air over a distance to create movement?
- How do we design and assemble appropriate 'housing' for the pneumatic system to create the desired motion?
- How do I communicate my ideas clearly?

Design



What will I be able to do by the end of this unit?

- 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.
- Select appropriate equipment and materials to build a working pneumatic system.

Vocabulary

<b>Exploded diagram</b>	A diagram showing all the parts of the product-internal and external.
<b>function</b>	How something works.
<b>input</b>	The motion used to start the mechanism.
<b>linkage</b>	Lengths of material.
<b>mechanism</b>	The parts of an object that move together.
<b>motion</b>	The movement an object makes when controlled by an input or output.
<b>net</b>	A 2D flat shape that can become a 3D.
<b>output</b>	The motion that happens as a result of starting the input.
<b>pivot</b>	The central point, pin or shaft on which a mechanism turns or swings.
<b>Pneumatic system</b>	A mechanism that runs on compressed air.
<b>Thumbnail sketch</b>	Small drawings to get ideas down on paper quickly.

