Year 3 – DT
Spr 1
Pneumatics / Levers / engineering

Key Facts

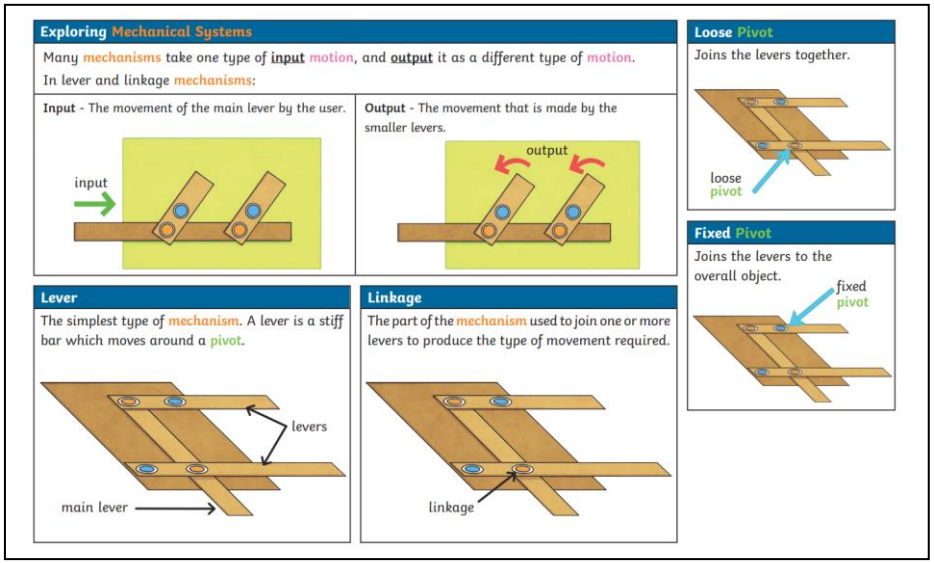
Lots of objects use air to help them move. For example, a sliding whistle, a bicycle pump, a beach ball, an arm band.

Pneumatic systems are systems that use air pressure to make things move or work properly. Lots of machinery in factories use pneumatics too.

A pneumatic drill

Pneumatic drills use air pressure to push the chisel down while a spring pushes it back up. This repeats very quickly and is strong enough to cut through rock and pavements.

Styles



Key Learning:

Designing

- Generate realistic ideas and design criteria through discussion, focusing on the needs of the user.
- Use annotated sketches and prototypes to develop, model and communicate ideas.

Making

- Order the main stages of making.
- Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.
- Select from and use finishing techniques suitable for the product.

Evaluating

- Investigate and analyse books and, where available, other products with lever and linkage mechanisms.
- Evaluate our own products and ideas against criteria and user needs, as we design and make.

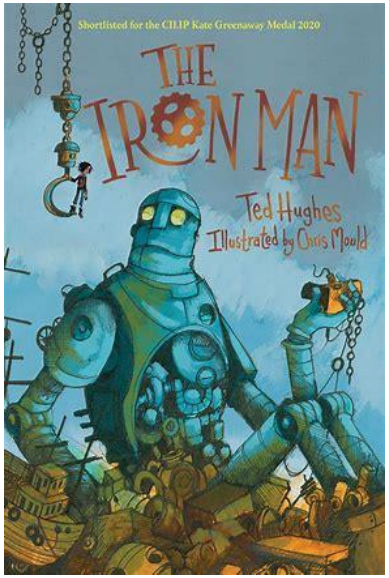
Technical knowledge and understanding

- Understand and use lever and linkage mechanisms and pneumatic systems.
- Distinguish between fixed and loose pivots.

Prior Learning:

- Explored and used mechanisms such as flaps, sliders and levers.
- Gained experience of basic cutting, joining and finishing techniques with paper and card.

Books for support/ Enrichment Opportunities:



Subject Specific Vocabulary	
Key word	Definition
Mechanism / mechanical system	Something that uses related components which act together to create a movement
Motion	Movement from one place to another
Pivot	To turn on a central point
Rotary motion	Turning around in a circle eg a wheel
Linear motion	Moving in a straight line, eg paper trimmer
Reciprocated motion	Moving forwards and backwards in a straight line, eg cutting with a saw.
Oscillating motion	Swinging from side to side in an arc, eg pendulum in a clock
Pneumatics	Systems that use air pressure to make things move or work properly