Technical Knowledge

Mechanisms

(A mechanism is where materials or components are connected to make movement)

Class Year Gp	NC Knowledge	Skills
EYFS Links		
Key Stage One **Children will learn to explore and use mechanisms (eg sliders, levers,wheels and axles) in their products**		
	NC Knowledge	**Skills**
Rainbow Y1 **Amethyst Y1**	**TK** - Understand how a slider makes an object move. M to develop knowledge of tools used for: - cutting - shaping - joining - finishing	**Ev -** explore and evaluate a range of existing products (with sliders) **M** - select from and use a range of tools and equipment to perform practical tasks and explain my choices **M** - select from and use a wide range of materials and components, according to their characteristics and explain my choices. **Ev**- Explain what I'm making and why. **E** - Consider what I need to do next.

Amethyst Y1 **Amber Y2**	**TK** - Understand how a lever makes an object move *A lever moves around a pivot. We can move it I a curved motion.* M to develop knowledge of tools used for: - cutting - shaping - joining - finishing **TK** - Understand how wheels makes an object move **M** – join materials in different ways and evaluate pros and cons	- cutting - shaping - joining - finishing **E -** explore and evaluate a range of existing products (with levers / wheels) **M -** select from and use a range of tools and equipment to perform practical tasks and explain my choices. **M -** select from and use a wide range of materials and components, according to their characteristics and explain choices. **M -** Measure, mark out, cut and shape materials and components, with support.

Key Stage Two

Children will learn to understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

	NC Knowledge	Skills
D / R Q	**TK** - to understand how pulleys and gears make objects move **M** to develop knowledge of a wider range of tools used for: - cutting - shaping - joining - finishing **TK** - use simple lever and linkages to create movement.	E - investigate and analyse a range of existing products M - select from and use a wider range of tools and equipment to perform practical tasks with increasing accuracy M - select from and use a wider range of materials and components according to their functional properties and aesthetic qualities, giving reasons for their choices. M- measure, mark out, cut and shape materials/components with increasing accuracy .
A /E	**TK** - Begin to use cams, pulleys or gears to create movement. (Cams change rotary motion to linaer) **M** to develop knowledge of a wider range of tools used for: - cutting - shaping - joining - finishing **E -** investigate and analyse a range of existing products	**M**- Use selected tools/equipment with precision **M** – in planning stages list tools and equipment needed giving reasons for choices **M -** Accurately measure, mark out, cut and shape materials/components **M** Accurately assemble, join and combine materials/components. **M** Accurately apply a range of finishing techniques.

Children will learn to understand and use electrical systems in their products (eg seris circuits incorporating switches, bulbs, buzzers and motors)		
	NC Knowledge	**Skills**
	Y4 Science In Y4 children were taught to construct a simple seris circuit with basic parts switches, bulbs, buzzers and motors	
		TK – include knowledge of electrical circuit and include in a design make **E -** Refine product after testing, considering aesthetics, functionality and purpose