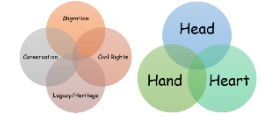




Year 5 – Autumn – DT – Pupil Knowledge Organiser



What do I already know?		What am I learning now?	
<ul style="list-style-type: none"> Mechanical systems have an input, process and an output. In a pneumatic system, the input is the air pressure, and the output is movement. An axle helps a wheel turn smoothly. Free axles are where the axles are connected to and move with the wheels. Structures can be made more stable by giving them a wide base. The weight of the structure needs to be evenly spread to make it secure. 		<ol style="list-style-type: none"> What is a cam mechanism? Can we design a toy with a cam mechanism? How do we strengthen the structure around a cam? Can we plan the stages of make a cam mechanism? Can we accurately make a prototype product? Does our product meet the design specification? 	
Key Knowledge: Mechanisms	Key Knowledge: Structures	Key Knowledge: Design, Make, Evaluate	Key Vocabulary
<p>A cam turns rotary motion into linear motion.</p> <p>This movement (called reciprocating motion) is repeated and in a straight line.</p> <p>A crank is used to turn an axle which turns the cam.</p> <p>Cams come in different shapes and sizes. Each shape determines the movement of the follower.</p>	<p>Toys with cam mechanisms need sturdy frameworks to support the moving parts.</p> <p>Adding support structures like braces to frames can strengthen the toy's overall stability.</p>	<p>In Design and Technology we follow a process:</p> <p>design</p> <p>Develop a design specification based on in-depth research.</p> <p>make</p> <p>Accurately assemble, join and combine materials and components.</p> <p>evaluate</p> <p>Learn from existing products.</p> <p>Critically assess the success of a product, based on the design specification and the views of others.</p>	<p>crank</p> <p>axle</p> <p>cam</p> <p>follower</p> <p>motion</p> <p>rotary</p> <p>linear</p> <p>force</p> <p>framework</p> <p>exploded diagram</p> <p>A crank is a handle that you turn in a circle.</p> <p>A pin or shaft on which a wheel or pair of wheels turn.</p> <p>A specially shaped wheel that moves anything resting on its edge when turned.</p> <p>A lever which is moved by the rotary motion of a cam.</p> <p>Movement.</p> <p>Where objects move in a circular path or spin around a central point.</p> <p>Movement of an object in a straight-line path.</p> <p>A push or pull on an object which can cause an object to accelerate, slow down, remain in place, or change shape.</p> <p>A structure supporting or containing Something.</p> <p>A way of designing that shows all the parts of something spread out, so you can see how they fit together.</p>