

DESIGN ENGINEERING PATHWAYS

YEAR 7 MECHANISMS LP

DECLARATIVE KNOWLEDGE I know			PROCEDURAL KNOWLEDGE I can do		
K1	There are three types of classes of lever		C1	Use Solidworks to make cam systems using relationships, smart dimensions, trim tool and animate them.	
K2	What is a cam and that different shaped cams produce different types of output on a displacement graph.		C2	Carry out calculations on cams.	
K3	What is a pulley and what they can be used for.		C3	Label a diagram of an electric motor showing the forces involved.	
K4	There are different forms of energy including: Light, Thermal etc. and how devices convert from one to the other.		C4	With help and support use the following tools: <ul style="list-style-type: none"> • pliers • screwdriver 	
K5	How electric motors work using Fleming Left hand rule and with help how brushes help a motor to work.		C5	Use PVA glue and build a frame.	
K6	What is a cam and that different shaped cams produce different types of output i.e. up/down or side to side.		C6	Sketch ideas using pencil and label with useful instructions i.e. materials, dimensions etc.	
K7	The importance of good well labelled sketches in the design process.		C7	With support, I can design SolidWorks parts from sketches then import them into 2D Design and email the lasercutter.	
			C8	Use the lasercutter to cut out my unique parts.	
			C9	Use 2D design to import images, add text to pieces to be cut out.	
			C10	Use Solidworks to build parts from technical drawings, assemble the parts and with help animate them.	
			C11	With help and support, use progression over time, independently evaluate the quality of the product, related research and design tasks.	
			C12	With help and support, identify targets for improvement in future products.	