

Year 11 Half Term 1
Mechanical Devices & Finishes

Mechanical Devices			15	Crank and slider	Crank and sliders convert rotary motion into reciprocating motion and vice versa.
1	Linear motion	Movement in one direction along a straight line.	16	Treadle linkage	Treadle linkages convert rotary motion into oscillating motion and vice versa.
2	Reciprocating motion	A repetitive back-and-forth or up-and-down linear action.	17	Rotary systems	Rotary systems drive mechanisms in machinery and equipment.
3	Oscillating motion	A repetitive back-and-forth motion along a curved path	18	Camshaft	It is a rotating axle used to drive other mechanical components.
4	Rotary motion	Objects moving in a circular motion usually around a fixed axis	19	Cams	shaped pieces of material that are attached to the camshaft that change rotary motion into reciprocating motion through a follower.
5	Lever	A simple machine made of a rigid beam and a fulcrum.	20	Gear trains	When two or more gears are joined together.
6	Fulcrum/Pivot point	The support, or point of rest, on which a lever turns in moving a body	21	Idler gear	An idler gear ensures that the direction of the drive gear and the driven gear are the same.
7	First order lever	The load and effort are at opposite sides with the fulcrum positioned at any point between.	22	Pulleys & Belt Drives	They transfer rotary motion, like a gear system. They can be used to change the speed, direction of rotation, or turning force or torque.
8	Second order lever	The effort is at the opposite end to the fulcrum, with the load positioned between.	23	Block and tackle	Block and tackle systems combine pulleys to lift heavy weights.
9	Third order lever	The load is at the opposite end to the fulcrum, with the effort positioned between.			
10	Equilibrium	A state in which opposing forces or actions are balanced so that one is not stronger or greater than the other.			
11	Linkages	Mechanisms which allow force or motion to be directed where it is needed.			
12	Reverse motion linkage	This changes the direction of the input motion.			
13	Parallel motion linkage	Also known as push / pull linkage as it keeps the direction of the output the same as the input.			
14	Bell crank linkage	Input direction is converted through 90 degrees.			

