

PRIOR LEARNING

- Working with card
- Using nets
- Assembling a product.
- Working to a brief and specification.

FUTURE LEARNING

- Plan and complete a design and make project.
- Product analysis
- Maths skills, volume, scales of production.
- Anthropometrics.
- Drawing skills, using templates.

CROSS CURRICULAR LINKS:

- Measuring and marking accurately
- Quantity of materials.
- Levers in the human body.
- Types of lever & motion

DESIGN & TECHNOLOGY: YEAR 8 LEVERS AND LINKAGES

DESIGN:

- Develop design ideas to include Levers and Linkages
- Specification of Success criteria
- Planning the layout of your mechanism.
- CAD: Using 2D design to draw the details of the Design.



TECHNICAL KNOWLEDGE:

- Mechanical Systems pg28
- Working with paper and boards pg52
- Production Systems CAD/CAM PG 4
- Forces and Stresses PG36
- Design Specifications PG 98
- Drawing Techniques PG 108



TOOLS, EQUIPMENT & PROCESSES

- Working with MDF
- Working with 220gsm card
- Craft Knives
- CAD/CAM
- Laser cutter
- Hand drills
- Coping Saws
- Finishing techniques.



MAKE:

- Make card prototypes of different levers.
- Make a final porotype in card and MDF.
- CAM to manufacture Automata body.
- Apply a suitable finish to your final prototype.



EVALUATE:

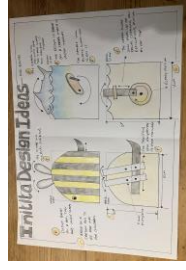
- Design Review
- Prototype - Peer assessment

EVIDENCE IN FOLDER

- ☐ Levers Research
- Date set:



- ☐ Design Work
- Date Set:



- ☐ Practical Work
- Date Set:



CAREER LINKS, INDEPENDENT STUDY IDEAS

- Careers in Engineering,
- Toy and game design and manufacture
- Working with engines and mechanical systems
- Consider how products and things around you move and interact with other objects.

DT 1- MSS BALFRE



KEY WORD	IMAGE	DEFINITION	KEY WORD	IMAGE	DEFINITION
Levers		A lever is a rigid beam that can rotate about a fixed point called the fulcrum. An effort applied to one end of the beam will cause a load to be moved at the other.	Pivot Point/ Fulcrum		The point against which a Lever is placed to get a purchase, or on which it turns or is supported.
Linkages		A mechanical linkage is an assembly of systems connected to manage forces and movement.	Automata		A moving mechanical device
Motion		The action or process of an object moving or being moved.	Mechanical Advantage		Mechanical advantage is a measure of the ratio of output force to input force in a system, used to analyse the forces in simple machines like levers.
Linear Motion		An object moving in a straight line	Design Specification		A design specification is a detailed document that sets out exactly what a product should be like. For example, it could include required dimensions, environmental factors, size, aesthetic factors etc.
Reciprocating Motion		An object that moves forward and backwards in a straight line.	Mechanism		A part of a machine, or a set of parts that work together
Rotary Motion		Objects that move around in a circular motion.			
Oscillating Motion		An object that moves backwards and forward in a curved/arch shape.			