

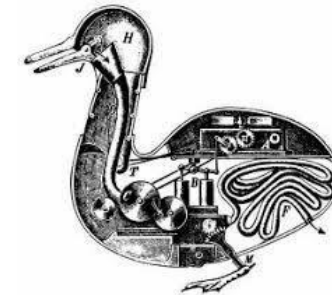
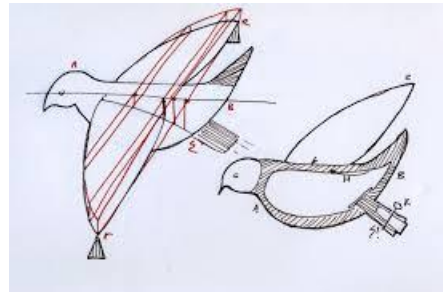
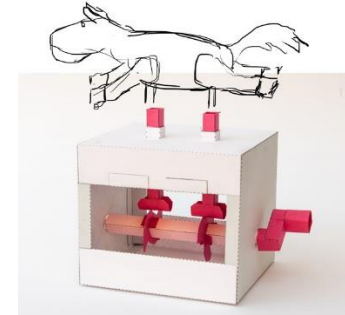
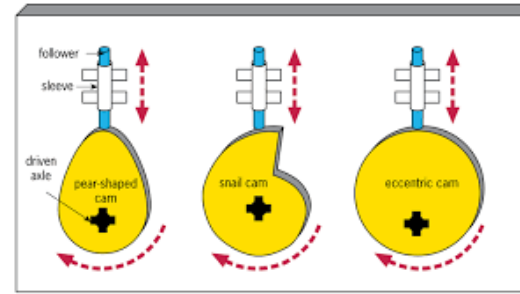
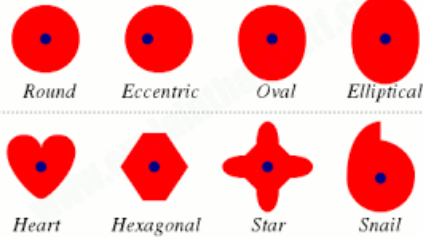


Crofton Junior School – DT Knowledge Organiser – Heroes and Villains – Year 5 Summer Term



Unit of Work	DT – Heroes and Villains – Horse mechanical toy using CAMs
Text Driver the Unit of Work Links to	Beowulf The Highway Man
Key Strand	Master Practical Skills – Mechanics Master Practical Skills – Construction Take Inspiration from Design Throughout History
Overview of the Unit of Work	Pupils will learn how to create a mechanical toy horse using cams. They will construct their toy using a range of practical skills and design a product that improve upon existing products throughout history. They will look at the history of mechanical toys and how they have adapted over the years, specifically the work of Archytas of Tarentum (Ancient Greek – born 428BC), Leonardo da Vinci (Italian Renaissance - born 1452) and Jaques de Vaucanson (French – born 1709).
Prior Learning & Vocabulary	During the Summer Term of Year 3, pupils will have looked at mechanics whilst making their linked lever firework toy. Vocabulary: design, make, evaluate, technical, purposeful, appealing, criteria, generate, develop, model, communicate, ideas, templates, tools, practical, materials, components, construction, pivot, fulcrum, linear, rotary, reciprocating, oscillating
Sticky Knowledge	Pupils will learn: <ul style="list-style-type: none">• One of the first mechanical toys was a flying pigeon by Archytas of Tarentum created 400 years BC.• In 16th Century Leonardo da Vinci created his mechanical lion as a present for King Louis XII. The lion could walk and reveal a cluster of lilies from his chest.• In 1738 Frenchman Jacques de Vaucanson invented one of the first mechanical robots - a duck that was able to eat wheat, drink and excrete.• Large global businesses are now responsible for the production of all kinds of toys e.g. Mattel (founded in 1945) and Hasbro (founded in 1923).• To convert rotary motion to linear using CAMs.• To use innovative combinations in product designs.• Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.• Create innovative designs that improve upon existing products.• Evaluate the design of products so as to suggest improvements to the user experience.

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Some common types of cams



New Vocabulary

convert – to change something
 rotary – revolving around a centre or axis
 linear – extending along a straight line
 cams – a series of shapes to aid movement in DT
 innovative – a product featuring new and exciting methods

Post Learning

During the Autumn Term of Year 6, pupils will look at construction again whilst creating their constellation frames.