DAYS LANE PRIMARY SCHOOL

Year 6 Mechanisms: Cams
How does the rainforest move?

Meeting	Greater depth
Knowledge • To know that they are **designing, making and evaluating** a rainforest themed automaton. • To know that the **purpose** of the rainforest automation is both educational and entertainment. • To understand the **function** of the rainforest automation is to move via cam mechanisms and also resemble the amazon rainforest e.g. through its design and aesthetics. • To consider the **intended user** and what would make it **appealing** to them. • To build knowledge of **mechanical systems** through research and analysis. • To understand that mechanical (and electrical) systems have an **input, process and an output.** • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • To understand **and use mechanical systems in their products [for example, levers, pulleys, gears and cams].** **Skills** • To **accurately assemble, join and combine materials**. • To select from and **use a wider range of tools and equipment** to perform practical tasks [for example, saws for cutting, shaping, joining and finishing], accurately. • To select from and **use a wider range of materials and components**, including construction materials, according to their functional properties and aesthetic qualities. • To **generate, develop, model and communicate their ideas** through discussion, annotated sketches, cross-sectional diagrams and prototypes. • To accurately **apply a range of finishing techniques**, including those from art and design. • To generate ideas through cross-sectional and exploded diagrams and prototypes. • To use **research** and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • To **evaluate** their product against the original design brief. • To know and use the **key vocabulary**, listed below. • To **confidently select appropriate tools, materials, components and techniques** to use in their products **Vocabulary** **Know, understand and accurately use the following words/phrases:** • **automaton** – a mechanism controlled to follow a set of movements • **mechanical systems** – components that convert input motion to output motion • **mechanism** – a system of parts working together, usually to create movement	Does their planned product have annotation closely linked to design criteria or design justifications based on intended users? Can they evaluate their prototypes and suggest changes to their final design?

• **market research** – gathering information about consumers' needs and wants • **fit for purpose** – well suited for its designated purpose • **target audience** – a particular group at which a product is aimed • **components** - parts • **cams** - a rotating part in machinery, designed to make sliding contact with another part while rotating • **followers** – mechanisms in contact with cams, usually making them rotate • **rotary** - an object spinning on an axis on its own • **linear** - motion in a straight line • **prototype** - a first version, from which other versions are developed	