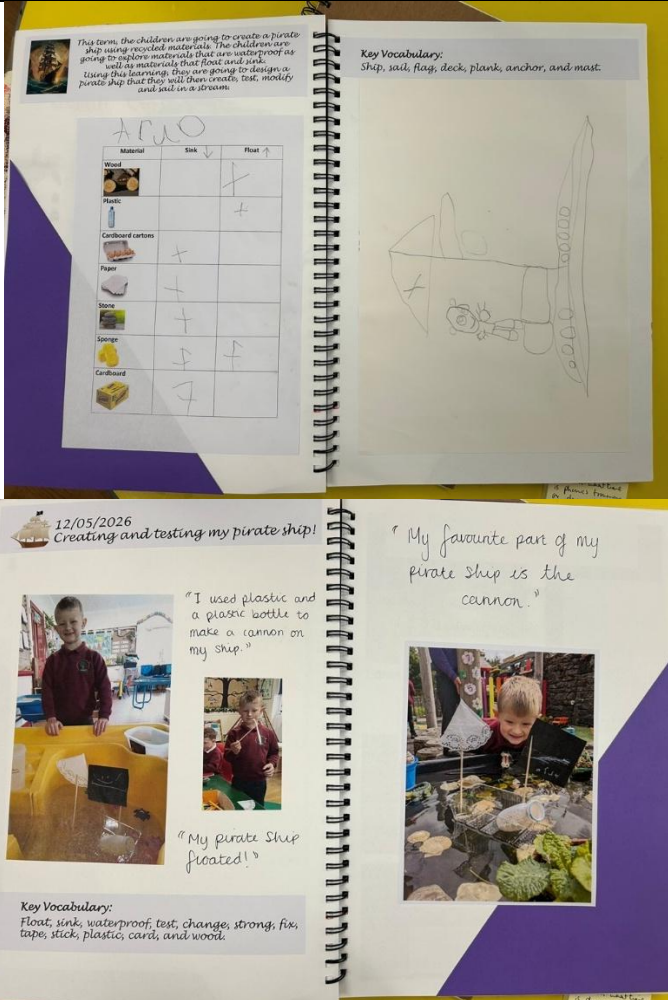
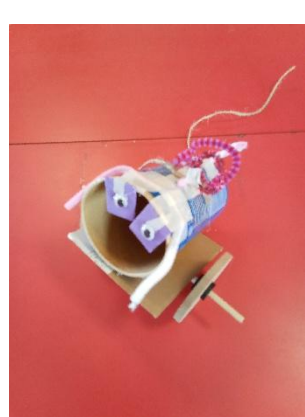


Design & Technology – Mechanisms / Mechanical Systems 2026

Cohort	Drawing Objective																									
Reception	To use a variety of construction kits and junk modelling to make a variety of models and moving vehicles Additional: In design & technology we call a plan a design	 This term, the children are going to create a pirate ship using recycled materials. The children are going to explore materials that are waterproof as well as materials that float and sink. Using this learning, they are going to design a pirate ship that they will then create, test, modify and sail in a stream. <table border="1"> <thead> <tr> <th>Material</th><th>Sink ↓</th><th>Float ↑</th></tr> </thead> <tbody> <tr> <td>Wood</td><td></td><td>+</td></tr> <tr> <td>Plastic</td><td></td><td>+</td></tr> <tr> <td>Cardboard cartons</td><td>+</td><td></td></tr> <tr> <td>Paper</td><td>+</td><td></td></tr> <tr> <td>Stone</td><td>+</td><td></td></tr> <tr> <td>Sponge</td><td>+</td><td>+</td></tr> <tr> <td>Cardboard</td><td>+</td><td></td></tr> </tbody> </table> Key Vocabulary: Ship, sail, flag, deck, plank, anchor, and mast. 12/05/2026 Creating and testing my pirate ship! "I used plastic and a plastic bottle to make a cannon on my ship." "My pirate ship floated!" Key Vocabulary: Float, sink, waterproof, test, change, strong, fix, tape, stick, plastic, card, and wood. "My favourite part of my pirate ship is the cannon."	Material	Sink ↓	Float ↑	Wood		+	Plastic		+	Cardboard cartons	+		Paper	+		Stone	+		Sponge	+	+	Cardboard	+	
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Year 1	Wheels & Axles To know that: • Wheels need to be round to rotate & move • an axle moves within an axle holder which is fixed to the vehicle or toy • the frame of a vehicle (chassis) needs to be balanced Additional: some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles	Summer 2 2026 – Wheels and Axels	
Year 2	Making a Moving Superhero To know that: • mechanisms are a collection of moving parts that work together as a machine to produce movement • there is always an input & output in a mechanism • An input is the energy that is used to start something working • An output is the movement that happens as a result of the input • A lever is something that turns on a pivot • A linkage mechanism is made up of a series of levers Additional: To know some real- life objects that contain mechanisms		
			
			
			
			
			

Y3	Pneumatic Toys: - To understand how pneumatic systems work and that they can be used as part of a mechanism - To know that pneumatic systems operate by drawing in, releasing & compressing air Additional: To understand how sketches, drawings & diagrams can be used to communicate ideas To know that exploded- diagrams are used to show how different parts of a product fit together	Spring 1 Designing and Making a Mechanical Car
Y4	To know that thumbnail sketches are small drawings to get ideas down on paper quickly Making a slingshot car: To understand that: - All moving things have kinetic energy - Kinetic energy is the energy that something (object/person) has by being in motion - The shape of a moving object will affect how it moves due to air resistance To know that air resistance is the level of drag on an object as it is forced through the air Additional: To understand that products change & evolve over time To know that: - Aesthetics means how an object or product looks in design & technology - A template is a stencil you can use to help you draw the same shape accurately - A birds eye view means a view from a high angle (as if a bird in flight) - Graphics are images which are designed to explain or advertise something - It is important to assess & evaluate design ideas & models against a list of design criteria	

Y5	Pop Up Books: • To know that mechanisms control movement • To understand that mechanisms can be used to change one kind of motion into another • To understand how to use sliders, pivots & folds to create paper-based mechanisms Additional: To know that: • A design brief is a description of what I am going to design & make	Automata Toys 
Y6	Automata Toys: To understand that: • Mechanism is an automata that uses a system of cams, axles & followers • To understand that different cams produce different outputs Additional: To know that: • An automata is a hand powered mechanical toy • A cross-sectional diagram shows the inner workings of a product • That a set square can be used to help mark 90 degree angles To understand how to use a bench hook & saw safely	

