

Mechanisms/ Mechanical Systems

Progression of Knowledge Cycle A

Year R	Year 1	Year 2/3	Year 4/5	Year 6
	<p>Making a Moving Story Book</p> <p><u>Children will know:</u></p> <ul style="list-style-type: none"> - A mechanism is the parts of an object that move together. -A slider mechanism moves an object from side to side. -A slider mechanism has a slider, slots, guides and an object. -Bridges and guides are bits of card that purposefully restrict the movement of the slider. - In Design and technology we call a plan a 'design'. 	<p>Pneumatic Toys</p> <p><u>Children will know:</u></p> <ul style="list-style-type: none"> - Recognising pneumatic systems in everyday objects (e.g. car boot, adjustable chair.) - A problem or need is something that a designer can help to solve. -Extra information on drawings or diagrams can help the user understand a design or idea. -Thumbnail sketches are less detailed quick sketches. -A cross-sectional diagram shows the inside of a product. -An exploded diagram shows how the parts of a product fit together. - Different pieces of equipment will be used at 	<p>Making a Slingshot Car</p> <p><u>Children will know:</u></p> <ul style="list-style-type: none"> - All moving things have kinetic energy. -Kinetic energy is the energy that something (object/person) has by being in motion. -Air resistance is the level of drag on an object as it is forced through the air. -The shape of a moving object will affect how it moves due to air resistance. -Products change and evolve over time. - Aesthetics means how an object or product looks in design and technology. -A template is a stencil you can use to help you 	<p>Automata toys (cams, followers and axels)</p> <p><u>Children will know:</u></p> <ul style="list-style-type: none"> - A mechanism in an automata which uses a system of cams, axles and followers. -Different shaped cams produce different outputs. -Which mechanisms are working together to make a mechanical system. -There are different directions of movement. -Mechanisms can change one type of movement to another. - An automata is a hand powered mechanical toy. -A cross-sectional diagram shows the inner workings of a product.

		<p>different stages in a plan.</p> <ul style="list-style-type: none">-Different tools and equipment have different dangers.-Designers and inventors create products.-Choices of materials and equipment can affect the final product.-Feedback is ideas and suggestions from other people that can help improve their work.-They can choose to use feedback or not.-A mechanical system can allow us to move something more easily.-Mechanical systems have more than one mechanism that moves to make them work.-Mechanical systems are often hidden in products to make them look more appealing.-Pushing air can be used to move a mechanism.	<p>draw the same shape accurately.</p> <ul style="list-style-type: none">-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 and evaluate design ideas and models against a list of design criteria.	
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Mechanisms/ Mechanical Systems Progression of Knowledge Cycle B				
Year R	Year 1	Year 2/3	Year 4/5	Year 6
	As above	<b style="color: #00b0f0;">Making a Moving Monster <u>Children will know:</u> - Mechanisms are a collection of moving parts that work together as a machine to produce movement. -There is always an input and output in a mechanism. -An input is the energy that is used to start something working.	<b style="color: #0000ff;">Making a Pop-Up Book <u>Children will know:</u> - Mechanisms control movement. -Mechanisms can be used to change one kind of motion into another. -How to use sliders, pivots and folds to create paper-based mechanisms. -A design brief is a description of what I am going to design and make.	As above

		<ul style="list-style-type: none">-An output is the movement that happens because of the input.-A lever is something that turns on a pivot.-A linkage mechanism is made up of a series of levers.	<ul style="list-style-type: none">-Designers often want to hide mechanisms to make a product more aesthetically pleasing.	
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