

Progression of skills – Design and Technology (Mechanisms)

<https://classroom.thenational.academy/units/mechanisms-levers-and-linkages-7fcb>

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Storybook	Moving Monsters:	Pneumatic toys	Slingshot car	Pop-up book	Automata toys
Design		Explaining how to adapt mechanisms, using bridges or guides to control the movement. Designing a moving story book for a given audience.	Creating a class design criteria for a moving monster. Designing a moving monster for a specific audience in accordance with a design criteria.			Designing a pop-up book which uses a mixture of structures and mechanisms. Naming each mechanism, input and output accurately. Storyboarding ideas for a book.	
Making		Following a design to create moving models that use levers and sliders.	Making linkages using card for levers and split pins for pivots. Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. Cutting and assembling components neatly.			Following a design brief to make a pop up book, neatly and with focus on accuracy. Making mechanisms and/or structures using sliders, pivots and folds to produce movement. Using layers and spacers to hide the workings of	

						mechanical parts for an aesthetically pleasing result.	
Evaluate		Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed. Reviewing the success of a product by testing it with its intended audience.	Evaluating own designs against design criteria. Using peer feedback to modify a final design.			Evaluating the work of others and receiving feedback on own work. Suggesting points for improvement.	
Technical knowledge		To know that a mechanism is the parts of an object that move together. To know that a slider mechanism moves an object from side to side. To know that a slider mechanism has a slider, slots, guides and an object. To know that bridges and guides are bits of	To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. To know that there is always an input and output in a mechanism. To know that an input is the energy that is used to start something			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 and folds to create paper-based mechanisms.	

		card that purposefully restrict the movement of the slider.	working. To know that an output is the movement that happens as a result of the input. To know that a lever is something that turns on a pivot. To know that a linkage mechanism is made up of a series of levers.				
Vocabulary		Adapt, assemble, design, design criteria, input, mechanism model, sliders, test	Axle, design criteria, input, linkage, mechanical, output, pivot, wheel			criteria design input mechanism model motion reinforce research	