

Curriculum enrichment (linked to Enquiry Question)	DT Showcase
Literacy Rich Curriculum	High quality texts

Our Curriculum Key Drivers - Flourishing for All, Diversity and Challenge

L	Enquiry questions	Connect knowledge (Super 6)	Key Teacher subject knowledge	Substantive knowledge	Disciplinary knowledge	Apply (lesson - planned in phases)	Key Vocabulary	Outcome of Lesson
1	To look at objects and understand how they move.		<p>What is a mechanism? (A collection of parts that work together to create a movement, for example, a bicycle.)</p> <p>What is an input and an output? (An input is something that starts a system, for example: pushing a bicycle; an output is the result of the input, for example, bicycle wheels turning.)</p> <p>What is a lever? (Something that turns on a pivot, for example, a door handle.)</p> <p>What is a linkage? (A system of levers, for example, a skeleton.)</p> <p>What are levers and linkages used for?</p> <p>Can you identify a lever or a linkage?</p> <p>Can you name any products that use levers and linkages? (Scissors; seesaw; wheelbarrow)</p> <p>What is a pivot? (A central point from where something can turn, like your elbow.)</p>	<p>I can understand that mechanisms are a collection of moving parts that work together in a machine.</p> <p>I can understand that there is always an input and output in a mechanism.</p> <p>I can identify mechanisms in everyday objects.</p> <p>I can understand that a lever is something that turns on a pivot.</p> <p>I can understand that a linkage is a system of levers that are connected by pivots.</p>	<p>I can help devise whole-class design criteria for what our moving monster should do.</p>	Lesson One	<p>Axle</p> <p>design criteria</p> <p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>Pivot</p> <p>wheel</p>	<p>Year 1: using key terms accurately; identifying the correct terms for levers, linkages and pivots; analysing popular toys with the correct terminology.</p> <p>Year 2: As Year 1, plus identifying useful purposes for pivots and linkages.</p>
2	To look at objects and understand how they move.	Lesson One	<p>Using the <i>Activity: Linkage diagram</i>, strips of pre-cut card, split pins and uncut card, the children can experiment with making the linkages independently.</p> <p>Remind the children to experiment with making several versions of the linkage examples using different widths, lengths and thicknesses of card as you modelled in the Attention grabber.</p>	<p>I can understand that mechanisms are a collection of moving parts that work together in a machine.</p> <p>I can understand that there is always an input and output in a mechanism.</p> <p>I can understand that a lever is something that turns on a pivot.</p> <p>I can understand that a linkage is a system of levers that are connected by pivots.</p>	NA	Lesson 2	<p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>pivot</p>	<p>Year 1: creating functional linkages that produce the desired input and output motions with 2 pieces of card</p> <p>Year 2: As Year 1, plus linking 3 pieces of card with multiple pivots.</p>
3	To explore different design options.	Lesson 2	<p>Know that an input is the energy that is used to start something working. Know that an output is the movement that happens as a result of the input. Know that a lever is something that turns on a pivot.</p>	<p>I can understand that linkages use levers and pivots to create motion.</p> <p>I can think of two of my own points to add to the class design criteria.</p> <p>I can draw two moving monster designs that meet all points of my design criteria.</p> <p>I can design the linkage I will use to make my monster move.</p>	<p>Evaluating own designs against design criteria.</p>	Lesson 3	<p>design criteria</p> <p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>Pivot</p> <p>survey</p>	<p>Year 1: designing monsters suitable for children, which satisfy most of the design criteria; selecting a suitable linkage system to produce the desired motions; evaluating their two designs against the design criteria and deciding on their best design based on this and their peers' feedback.</p> <p>Year 2: Year 1. Plus exploring their own linkage design and explain their choices.</p>

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4	To make a moving monster.	Lesson 3	<p>Model how to use the <i>Activity: Monster head and jaw template</i> as a rough outline to base their monster around (as demonstrated in the <i>Teacher video: Making my monster</i>). Explain that the children can draw above and below the template to add teeth, spikes, scales or fins to make their monster as planned in their design brief.</p> <p>Assemble the monster using the pre-cut strips of thick card approximately 3 cm x 15 cm. During the demonstration, remind the children of the safety aspects when piercing holes in their card using a pencil and modelling dough, sticky tac or a rubber.</p> <p>Demonstrate some possible ways the children can use the materials to create features for their heads, such as eyes, arms or claws.</p>	<p>I can make linkages by connecting levers and pivots.</p> <p>I can understand that materials can be selected according to their characteristics.</p> <p>I can design and make the features of my monster.</p>	<p>I can evaluate how functional my monster is and whether it meets the Design Criteria.</p>	Lesson 4	<p>design criteria</p> <p>Evaluation</p> <p>Linkage</p> <p>Mechanical pivot</p>	<p>Year 1: selecting and assembling materials to create their planned monster features; assembling the monster to their linkages without affecting the function of them; evaluating their designs against the design criteria.</p> <p>Year 2: As Year 1, plus using multiple linkages and sections of card to add complexity to their design.</p>
	Unit complete							