



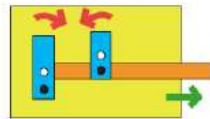
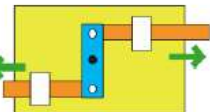
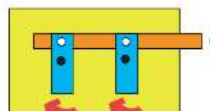
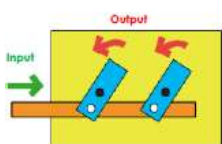
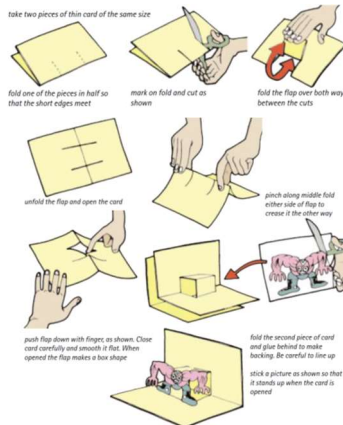
Design and Technology Knowledge Organiser

Year 5: Autumn Term – Mechanical Systems

Levers and Linkages

Design, make and evaluate a pop-up greeting card for a family member for a celebration event.



Key Knowledge	Key Skills	Key Vocabulary																						
Learn this information	Practise and perform these skills	Understand these key words																						
Pop-up Folds: Box fold:  Multiple box fold:  Mouth fold: 	Pop-Up Folds and Mechanisms: Children should be able to apply the following folds and mechanisms for their own design. Levers and linkages: ● Fixed pivot ○ Loose pivot      Box Fold: On the fold of your inside paper, draw and cut a pair of same length parallel lines. The shorter the cuts, the closer the pop-up will be to the back of the card. The longer the cuts, the further it will pop out. Multiple box folds can be used on the same card as the can be created on any part of the fold. Mouth Fold: Draw a symmetrical diamond shape on the fold of the card using dotted lines. Cut a line perpendicular to the fold to the corners of the diamond. Fold outwards from the cut along the dotted lines. Flip the frog over and reverse the same fold. Open the card and the mouth will now pop open, making a diamond shape.  Measure and cut materials accurately: Measure and mark out to the nearest millimetre. Cut materials with precision and refine the finish (such as a more precise scissor cut after roughly cutting out a shape). 	<table><tr><th>Vocabulary</th><th>Definition</th></tr><tr><td>Fixed Pivot</td><td>A paper fastener that joins card strips to the backing card.</td></tr><tr><td>Guide or bridge</td><td>A short card strip used to keep the lever and linkage mechanisms in place and control movement.</td></tr><tr><td>Lever</td><td>A rigid bar which moves around a pivot.</td></tr><tr><td>Linkage</td><td>The card strips joining one or more levers to produce the type of movement required.</td></tr><tr><td>Loose Pivot</td><td>A paper fastener that joins card strips together.</td></tr><tr><td>Mechanism</td><td>A device used to create movement in a product.</td></tr><tr><td>Prototype</td><td>A test model or a product or technology from which improvements, upgrades or fundamental changes can be made.</td></tr><tr><td>Slider</td><td>A rigid bar which moves backwards and forwards along a straight line. Unlike a lever, a slider does not have a pivot point.</td></tr><tr><td>Slot</td><td>The hole through which a lever is placed to enable part of a picture to move.</td></tr><tr><td>System</td><td>A set of related parts or components used to create an outcome. Systems have an input, process and an output. In a lever and linkage mechanism, the 'input movement' is where the user pushes or pulls a card strip. The 'output movement' is where one or more parts of the picture move.</td></tr></table>	Vocabulary	Definition	Fixed Pivot	A paper fastener that joins card strips to the backing card.	Guide or bridge	A short card strip used to keep the lever and linkage mechanisms in place and control movement.	Lever	A rigid bar which moves around a pivot.	Linkage	The card strips joining one or more levers to produce the type of movement required.	Loose Pivot	A paper fastener that joins card strips together.	Mechanism	A device used to create movement in a product.	Prototype	A test model or a product or technology from which improvements, upgrades or fundamental changes can be made.	Slider	A rigid bar which moves backwards and forwards along a straight line. Unlike a lever, a slider does not have a pivot point.	Slot	The hole through which a lever is placed to enable part of a picture to move.	System	A set of related parts or components used to create an outcome. Systems have an input, process and an output. In a lever and linkage mechanism, the 'input movement' is where the user pushes or pulls a card strip. The 'output movement' is where one or more parts of the picture move.
Vocabulary	Definition																							
Fixed Pivot	A paper fastener that joins card strips to the backing card.																							
Guide or bridge	A short card strip used to keep the lever and linkage mechanisms in place and control movement.																							
Lever	A rigid bar which moves around a pivot.																							
Linkage	The card strips joining one or more levers to produce the type of movement required.																							
Loose Pivot	A paper fastener that joins card strips together.																							
Mechanism	A device used to create movement in a product.																							
Prototype	A test model or a product or technology from which improvements, upgrades or fundamental changes can be made.																							
Slider	A rigid bar which moves backwards and forwards along a straight line. Unlike a lever, a slider does not have a pivot point.																							
Slot	The hole through which a lever is placed to enable part of a picture to move.																							
System	A set of related parts or components used to create an outcome. Systems have an input, process and an output. In a lever and linkage mechanism, the 'input movement' is where the user pushes or pulls a card strip. The 'output movement' is where one or more parts of the picture move.																							