

# Design and Technology

## Mechanisms - Levers

### KNOWLEDGE ORGANISER



design



make



evaluate

#### Essential Vocabulary

score/scoring	Making a better crease in paper so that it folds more cleanly
mechanism	A system of parts which work together to create a specific effect
prototype	The first one of something you make for future reference
lift-up flap	A separate piece of paper or card which can be lifted to reveal something beneath
pop-up	Pop-ups employ various folding devices that cause figures to lift, pop up, rise and unfold, or unfold and extend when a page is opened.
strong	A structure that can support itself

#### Golden Vocabulary

joining	Putting two or more pieces together
finishing	Completing an object by giving it an attractive appearance.
cutting	Where you divide something into pieces



#### Types of Mechanisms

V-Fold	Slider	Moving arm	Parallel fold
<ol style="list-style-type: none"> <li><b>Folding the Paper:</b> Start with a piece of paper folded in half</li> <li><b>Create the V-Fold Mechanism:</b> Take another piece of paper and fold it in half to make a 'V' shape. Add tabs.</li> <li><b>Positioning the V-Fold:</b> Attach the V-shaped folded paper inside the base card using tabs.</li> <li><b>Adjust the Angle:</b> When the card is opened, the "V" shape creates a lift. The wider the angle of the "V", the more dramatic the pop-up effect.</li> <li><b>Adding the Pop-Up Design:</b> You can cut or design the pop-up element in any shape. Attach it to the V-fold mechanism so that it pops up when the card is opened.</li> </ol>	<ol style="list-style-type: none"> <li><b>Prepare the Base:</b> Start with a folded card or paper as the background.</li> <li><b>Make the Sliding Arm:</b> Cut a strip of paper—this will be the sliding part that moves.</li> <li><b>Create a Slot:</b> Cut a small, straight slot in the base. This is where the sliding arm will move back and forth.</li> <li><b>Attach the Arm:</b> Insert the paper strip (the arm) through the slot. Attach one end of the arm to the object or character you want to move.</li> <li><b>Slide and Move:</b> When you pull or push the strip, the attached object moves along with it!</li> </ol>	<ol style="list-style-type: none"> <li><b>Base Fold:</b> Start with a card or paper folded in half.</li> <li><b>Create the Arm (Lever):</b> Cut a strip of paper to act as the "arm."</li> <li><b>Attach One End:</b> Attach one end of the arm to the base (the inside of the card).</li> <li><b>Attach the Moving part:</b> Attach the other end of the arm to the object or figure you want to move.</li> <li><b>Position the Arm at an Angle:</b> The arm should be attached at an angle so that when the card opens, it pulls the object or figure upward or sideways.</li> <li><b>Test the Movement:</b> Open and close the card to see how the arm moves the object.</li> </ol>	<ol style="list-style-type: none"> <li><b>Folding the Paper:</b> Start with a sheet of paper folded in half, like a greeting card.</li> <li><b>Cutting Slits:</b> On the folded edge, make two parallel cuts of equal length.</li> <li><b>Folding the Pop-Up Tab:</b> Open the folded card slightly, and push the cut section inward. This creates a "tab" that sticks out when the card is opened.</li> <li><b>Closing the Fold:</b> When you close the card, the tab folds flat again, but it "pops up" when you open the card.</li> </ol>

