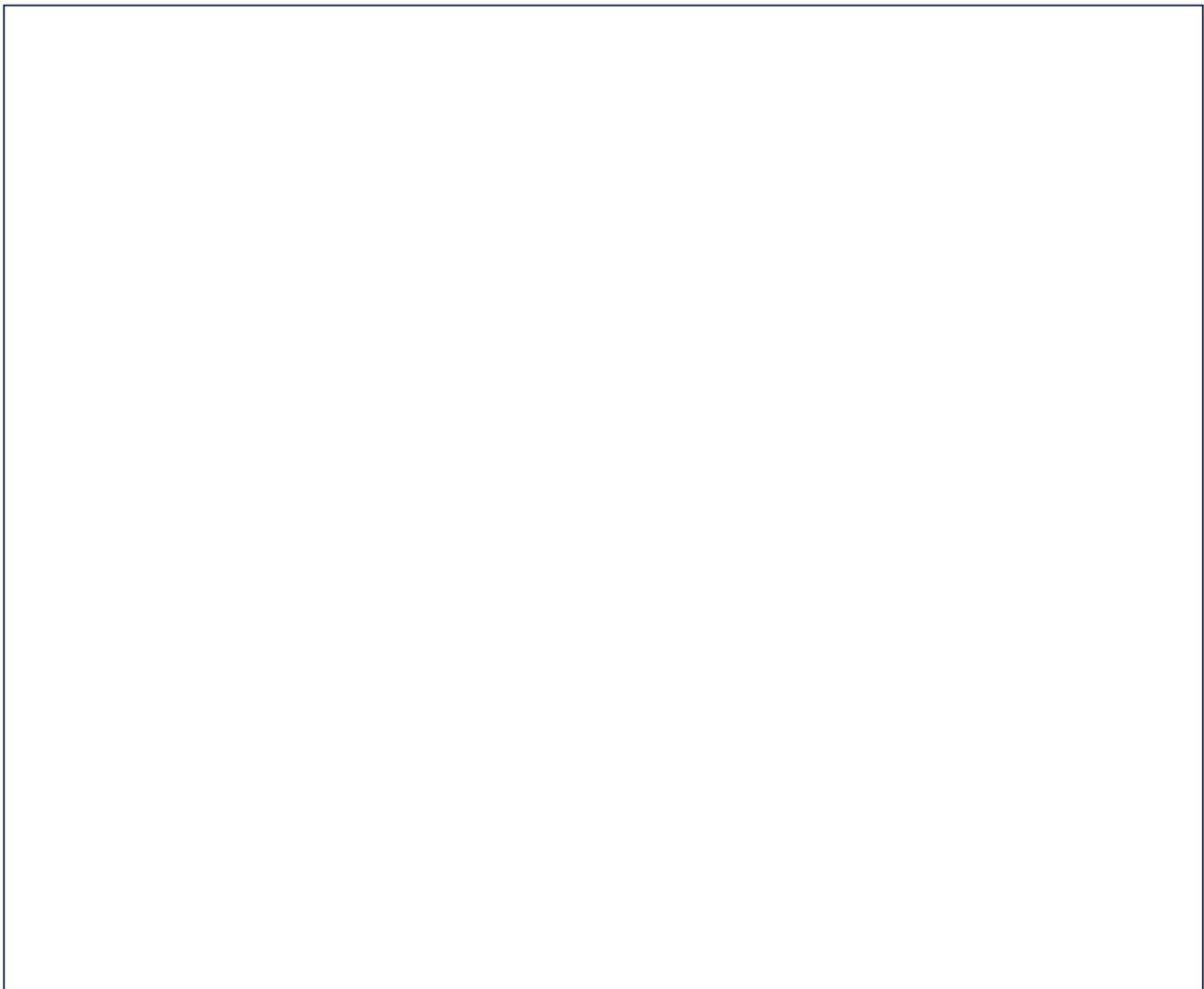


Design Technology: Mastering Mechanisms with Kit the Fox

Learning objective: To understand how cams, followers, and levers work together to create movement in a mechanical toy.

Follow the steps below to design your own mechanical toy. Use the word bank to label the key parts of your mechanism. Ensure your design shows how the handle creates movement.

Draw: Draw a clear, side-view diagram of a mechanical toy mechanism. The style should be a neat technical drawing using a ruler. Include a wooden base, a rotating axle with an egg-shaped cam, and a straight follower rod resting on top. Add a handle to the side of the axle. Use arrows to show the rotation of the handle and the vertical up-and-down motion of the follower.



Label words: Cam · Follower · Axle · Handle · Pivot · Base · Linear motion

Steps:

1. Step 1: Draw a circular base for your toy and add an axle going through the centre. Label the axle.
2. Step 2: Draw an irregular-shaped cam attached to your axle. Why does the shape of the cam change the movement of the follower?
3. Step 3: Draw a vertical rod resting on top of your cam. This is your follower. Label the 'follower'.

4. Step 4: Draw a handle attached to the end of the axle. Label the 'handle'.
5. Step 5: If you wanted the follower to move up and down more suddenly, how could you change the shape of your cam?