

Max's Mechanical Marvels: Exploring Mechanisms

Learning objective: To understand how mechanisms such as levers and linkages work, and how they can be used to create movement in a product.

Read each question carefully and use your knowledge of mechanisms to explain how parts move together to create an action.

Word bank: pivot · lever · linkage · mechanism · force · movement · fixed point

1. Max is building a cardboard toy where a monkey's arm moves up and down. What is the name of the stiff piece of card that acts as the moving arm, and what do we call the point where it is attached to the base? (2 marks)

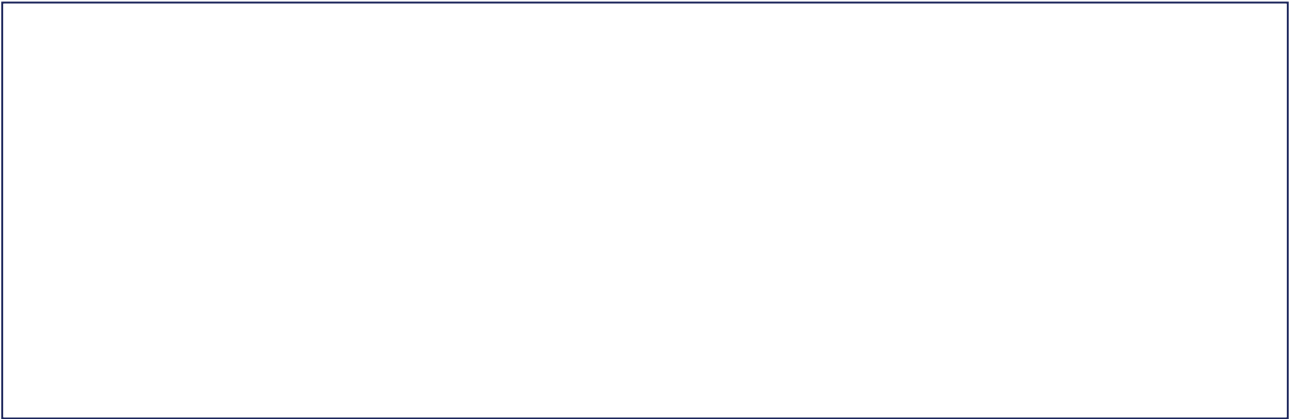
2. Explain why a 'pivot' is so important in a mechanism. What would happen to Max's toy if the pivot was glued down too tightly? (2 marks)

3. If you have two levers connected together by a piece of card to make them move at the same time, what is this system called? (1 mark)

4. Max wants to make a moving bridge for his model town. If the bridge costs £2.50 to build and he uses 4 brass fasteners at 10p each, how much does the bridge cost in total? (2 marks)

5. Describe one example of a mechanism you have seen in real life (outside of the classroom) and explain what kind of movement it creates. (2 marks)

Draw: Draw a diagram of a simple lever mechanism. Label the 'pivot', the 'lever', and use an arrow to show the direction of the movement.



Extension challenge: Design a 'pop-up' card for a friend. Write a short plan explaining which mechanism (a lever or a linkage) you would use to make a part of the card jump up when it is opened.