Max’s Mechanical Workshop: Levers and Pulleys

Learning objective: To understand how levers and pulleys function as simple machines to help lift and move objects, and to apply this knowledge through technical drawing.

Max the monkey is busy in his workshop! He wants to build a machine to help him lift his heavy supply of bananas to the top of his treehouse. Use your ruler and pencil to draw a simple lever and a pulley system. Follow the steps below to label your technical diagrams.

Draw: Draw two separate diagrams on your page. Diagram 1: A lever. Draw a long plank resting on a small triangular pivot (the fulcrum) with a basket of bananas (the load) on one end. Diagram 2: A pulley. Draw a small wheel attached to the ceiling of the treehouse with a rope draped over it, holding a bucket of supplies. Use a sharp pencil for clean, straight lines. Add labels pointing to the key parts from the word bank.

Label words: Fulcrum · Load · Effort · Wheel · Rope · Pivot

Steps:

1. Label the 'Fulcrum' on your lever drawing. Explain in your own words what the fulcrum does.
2. In your pulley drawing, draw an arrow to show where the 'Effort' is applied when pulling the rope.
3. Which part of the pulley system actually rotates to help the rope move smoothly?
4. If Max wants to make his lever easier to use, should he move the fulcrum closer to the load or further

away? Why?

5. List one real-life example of a lever you might find in your own classroom.