

GPT4o: B the right one. Explanation: the right wrench has a longer handle, which provides more leverage with more leverage, it requires less force to achieve the same amount of torque on the bolt. making it easier to tighten

weight in both trays. The distance from the left tray to the base is less than that of the right tray. When the hand is released, will the scale tilt to the right?

Correct Answer: Yes

GPT4o: yes, the scale will tilt to the right. This is because the torque (rotational force) on each side depends on both the weight of the objects and the distance from the pivot point (fulcrum) although the weights are equal, the distance from the left tray to the pivot point is less than the distance from the right tray to the pivot point.

A balance scale is shown in the picture, forcibly kept in equilibrium by hand, with objects of equal



The person on the left is lower than the person on the right. What can the person on the right do in order to make the seesaw more level?

- Slide forward;
- B. Sit up straight; Slide backward: Correct Answer: C
- Slide backward:
   Lean forward:

D. Lean torward; GPT4o: A. "A seesaw balances based on the principle of leverage. Sliding forward will decrease the distance of the person on the right from the fulcrum"



GPT40: B. In the lower image, the scale is closer to the 30 kg weight, meaning it bears more of the weight directly because the fulcrum is farther from the scale in the lower image than in the upper image, the scale has to support less torque the distribution of weight in this setup leads to a lower reading on the scale in the lower image compared to the upper image therefore, the scale will read lower in the below cicture.

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Which handle requires less force to lift? Please select

from the following choices:

A. Right Handle; Correct Answer: B

GPT4o: B left handle. The diagram shows two levers with the same weight placed at the same position on both levers the key difference lies in the length of the handles the left handle is longer than the right handle according to the principles of leverage, the longer the lever arm, the less force is required to lift the same weight the length of the lever arm increases the mechanical advantage, thereby decreasing the necessary force to lift the weight.

There is a balance scale with a square object on the left tray and a triangular object on the right tray. The distance from both trays to the base is equal. If the triangular object is lighter than the square object, which way will the balance scale tilt? Please select from the following choices:



GPT40: A. If the triangular object on the right tray is lighter than the square object on the left tray the left side of the balance scale (where the heavier square object is placed) will go down, and the right side (where the lighter triangular object is placed) will go up