

Quick Lab



Mechanical Advantage

Mechanical advantage describes how much a machine multiplies the force you exert on it. In this activity, you will determine which of two machines has the greater mechanical advantage.

INQUIRY FOCUS Draw Conclusions

Procedure

1. Place a textbook next to the edge of your lab table.
2. Insert a ruler under the book so that about 15 cm of the ruler is resting on the desk. The rest of the ruler should be sticking out over the edge of the desk.
3. Press on the end of the ruler to lift the book. Note how hard or easy it is to press the ruler to lift the book.
4. Replace the ruler with the meter stick and repeat the procedure.

- Materials**
- meter stick
 - metric ruler
 - textbook

Think It Over

- 1 What type of machine were you using in the activity?
A lever
- 2 Which machine had the greater mechanical advantage? How do you know?
The meter stick had the greater mechanical advantage because the work was spread over a longer distance.
- 3 Explain why the machine described in Question 2 had a greater mechanical advantage.
Spreading the work over a longer distance.