

Name _____

Cracking the Code of Mechanical Advantage: How Force Gets a Boost!

Short Answer Key

1. A lever works by pivoting around a fulcrum, allowing you to lift heavy objects with less force. It provides mechanical advantage by changing the direction of force.
2. A pulley system would be useful for lifting heavy objects, such as furniture, up to higher floors in a building. It reduces the force required by distributing it among multiple ropes and pulleys.
3. An inclined plane reduces the force needed to move an object by increasing the distance over which you apply force. It allows you to lift or lower objects with less effort.
4. A wedge is often used as a knife to cut food. It makes tasks easier by reducing the force needed to split or separate materials.
5. Wheel and axle systems reduce the force needed to move objects by allowing you to apply force at a greater radius. For example, a doorknob is a wheel and axle system that makes it easier to open a door.

