



The diagram illustrates the principle of the lever, where a small force applied at a long distance from the fulcrum can lift a large weight at a short distance from the fulcrum.

This is a classic example of a first-class lever, where the fulcrum is positioned between the effort and the load. The effort arm is longer than the load arm, resulting in a mechanical advantage.

The mechanical advantage of a lever is determined by the ratio of the lengths of the effort arm and the load arm. In this case, the effort arm is significantly longer, allowing a smaller force to lift a much heavier load.



This configuration provides a mechanical advantage, as the effort arm is longer than the load arm.