

let a and b are distances from the fulcrum to points A and B and let the force F_A applied to A is the input and the force F_B applied at B is the output.

The law of the lever is:

$$MA = \frac{Fb}{Fa} = \frac{a}{b}$$

Were:

a and b are distances from the fulcrum to points of input force ***FA*** and output force ***FB***.

If $MA = \frac{a}{b} = 6$ we can say that: "a" – part of lever in 6 time more then "b"-part of lever. But we cannot say what class it is the lever.

- Class 1: Fulcrum in the middle: the effort is applied on one side of the fulcrum and the resistance on the other side, for example, a crowbar or a pair of scissors or a seesaw.
- Class 2: Resistance in the middle: the effort is applied on one side of the resistance and the fulcrum is located on the other side, for example, a wheelbarrow or a nutcracker or a bottle opener.
- Class 3: Effort in the middle: the resistance is on one side of the effort and the fulcrum is located on the other side, for example, a pair of tweezers or the human mandible.

