

## Wheel and Axle



A machine is a device that does a physical task. It makes our work easier. Some machines make moving or lifting things easy. Other machines carry people from one place to another place. Yet other machines help in building or making things. These are a set of objects, combined together to apply force in such a way, so that we get the desired work done. Machines increase the applied force which makes them very useful tools.

Some simple machines are wheel and axle, screw, lever, inclined plane and pulley.

### SIMPLE MACHINES



## Wheel and Axle



The wheel and axle is a simple type of machine used to make task easier in terms of manipulating force by applying the concept of mechanical advantage. The wheel and axle consists of a round disk, known as a wheel, with a rod through the centre of it, known as the axle.

The mechanical advantage of a wheel and axle depends upon the ratio of the radius of the wheel to the radius of the axle. If the radius of the wheel is four times greater than the radius of the axle, every time you turn the wheel once, your force will be multiplied four times.

Carts, steering wheels, cycles, roller skates and sewing machines all use wheel and axles.

