

# Machines

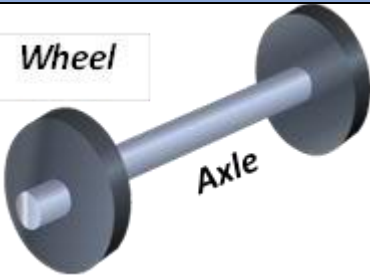

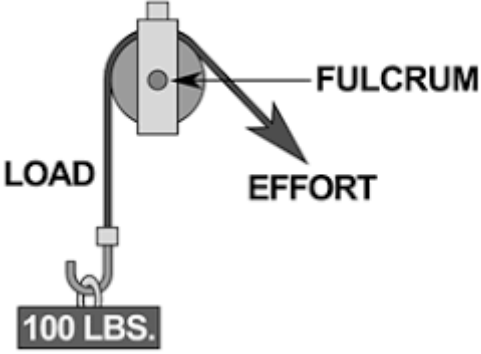
Machines help people do work.

A machine is a device for the advantageous application of a force.


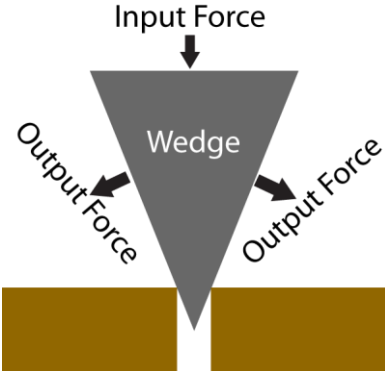
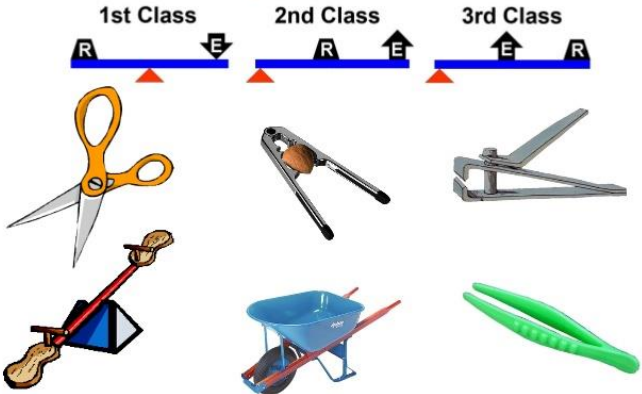
Simple machines are devices with no, or very few, moving parts that make work easier.

Simple machines work by **changing the size or direction of an applied force**.

There are six simple machines: the wheel and axle, the lever, the inclined plane, the pulley, the screw, and the wedge, although the latter three are actually just extensions or combinations of the first three.

Machine	Definition	Example	Image
<b>Wheel and axle</b>	A cylindrical drum to which a wheel concentric with the drum is firmly fastened.	Doorknob, water wheel, big wheel, windmill, steering wheel...	
<b>Inclined plane</b>	It is simply a flat surface raised at an angle, like a ramp.	Ladder, stair case, ramp, slide...	
<b>Pulley</b>	A wheel with a grooved rim around which a cord passes, which acts to change the direction of a force applied to the cord and is used to raise heavy weights.	Crane, flag pole, window blind...	

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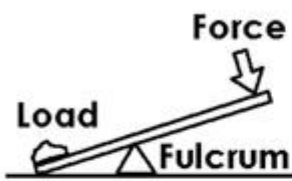
<p><b>Screw</b></p>	<p>It is essentially a long incline plane wrapped around a shaft, so its mechanical advantage can be approached in the same way as the incline.</p>	<p>Screw, bolt, jar lid, clamp, ...</p>	<p>Examples of Screws</p> 
<p><b>Wedge</b></p>	<p>Wedges are moving inclined planes that are driven under loads to lift, or into a load to split or separate.</p>	<p>Axe, knife(knives), saw, scissors...</p>	
<p><b>Lever</b></p>	<p>The lever consists of a long beam and a fulcrum, or pivot.</p>	<p>Scissors, hammer, broom, see-saw, plier, stapler, nut-cracker, bottle-opener...</p>	<p>Examples of Levers</p> 

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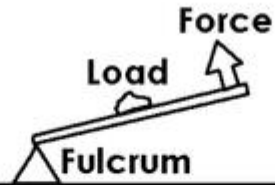
## Levers

There are three types of levers.

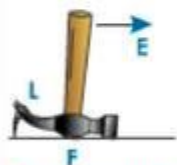
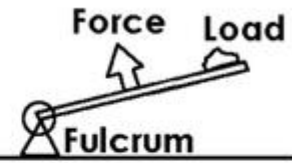
### Class 1:



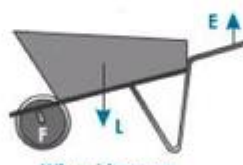
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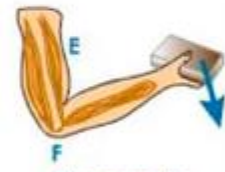
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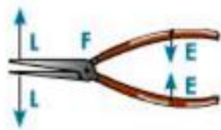
Claw hammer



Wheel barrow



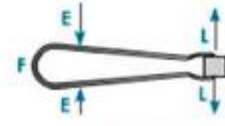
Human arm



Pliers



Nut-cracker



Sugar tongs