

Period:

Simple Machines and Mechanical Advantage



Name:

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Identify these simple machines: A. B. C. D. E.	A. B. C. C. C. F. F.	 Mechanical Advantage None D_E D_R Machine F_{in} F_{out} 	 A.How much a machine amplifies or reduces your force. B.The units for mechanical advantage. C.How far the object would move without the simple machine. D.How far the object moves with the simple machine. A.The force you put into a machine. B.A device that has moving parts and can do work. C.A block and tackle is another name for this.
۲		4. Pulley	D.The force you get out of a machine.
Input Force (F _{in}) or <u>Output</u> Force (F _{out})?		Distance of <u>Effort</u> (D_E) or Distance of <u>Resistance</u> (D_R)?	
You lift a 200 N object.		You use an incline plane to lift a car up 4 meters.	
A wedge applies 400 N of force to a piece of wood.		You use a 10 meter ramp to raise up a car.	
You push 240 N on a lever.		You lift a 200 kg object up 2 meters.	
You turn a screw with 30 N of force.		The distance you push down on a lever.	
A pulley applies 48 N of force up.		The distance the object moves with a lever.	
A kid pulls on a rope with 20 newtons of force. The block and tackle system pulls up a 160 newton box. What is the mechanical advantage of the pulley system?		A pulley system has an MA of 4. How much force would be necessary to pull up a 200 newton box?	
If it takes 100 N to push a 300 N object up an incline plane, what was the mechanical advantage of the ramp?		A 10 N force pulls to the right and friction opposes 2 N. If the object is 20 kg, find the acceleration.	
A 10 meter ramp helps you to move a 500 kg object up 1 meter. What was the mechanical advantage of the ramp?		You have a 200 kg bag being lifted with a block and tackle. If you pull with 100 newtons what is the MA of the system?	