Ch. 8 In-Class Project #2

See Section 8.3 For Reference

This sheet contains pictures of machines. For your table, make a poster to fill in the chart for your types of machines. Draw and color your own pictures.

Table #1: **LEVERS**

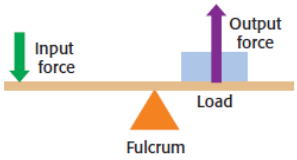
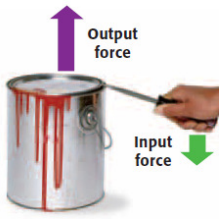
	MACHINE TYPE	**PICTURE** $F_{in}D_{in} = F_{out}D_{out}$ (DRAW the input and output force vectors)	**MECHANICAL ADVANTAGE** (MA $\geq =\leq$ 1) And Why?	Changes **DIRECTION**? ✓ Yes X No	Changes **SIZE**? ✓ Yes X No	**REAL-LIFE EXAMPLE**
LEVER	**First-Class**	 ? ?	MA > 1 Input swings over bigger distance ? ?	✓ ? ?	✓ ? ?	 ? ?
	Second-Class	?				
	Third-Class	?				

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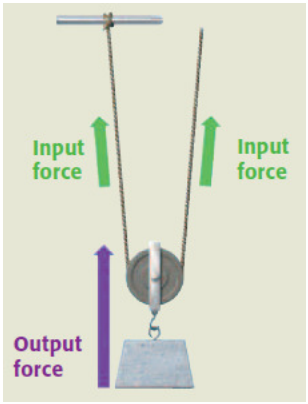
Table #2: **PULLEYS**

	MACHINE TYPE	**PICTURE** $F_{in}D_{in} = F_{out}D_{out}$ (DRAW the input and output force vectors)	**MECHANICAL ADVANTAGE**	Changes **DIRECTION**? ✓ Yes X No	Changes **SIZE**? ✓ Yes X No	**REAL-LIFE EXAMPLE**
PULLEY	**Fixed**	?	MA = ? Why?			
	Movable		MA = 2 Because the weight of the load is shared by 2 ropes, and you are only pulling 1 rope.	X	✓	How would you use it in a treehouse?
	Block and Tackle	?	MA = ? Why?			

Ch. 8 In-Class Project #2

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Table #3: **MORE MACHINES**

MACHINE TYPE	**PICTURE** $F_{in}D_{in} = F_{out}D_{out}$ (DRAW the input and output force vectors)	**MECHANICAL ADVANTAGE**	Changes **DIRECTION**? ✓ Yes X No	Changes **SIZE**? ✓ Yes X No	**REAL-LIFE EXAMPLE**
WHEEL AND AXLE	Draw picture. Label force arrows Label distances in MA formula	MA = ? MA <u><=></u>1? Why?			
INCLINED PLANE		MA = R/H MA <u>≥</u>1 The output force is over a small H distance, so the output force must be bigger.	✓	✓	Piano ramp
WEDGE	Draw picture. Label force arrows Label distances in MA formula	MA = ? MA <u><=></u>1? Why?			
SCREW	Draw picture. Label force arrows Label distances in MA formula	MA = ? MA <u><=></u>1? Why?			

7th Physical Science