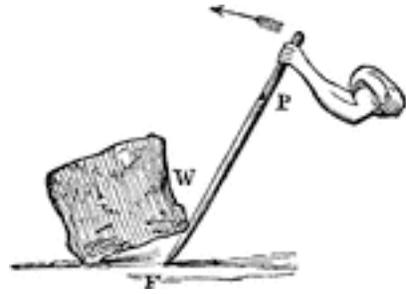
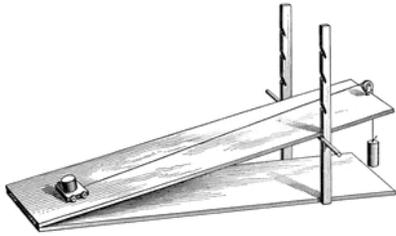


# Simple Machine Raps

## A Lever

A lever has THREE parts:  
Fulcrum,  
Load,  
Effort.

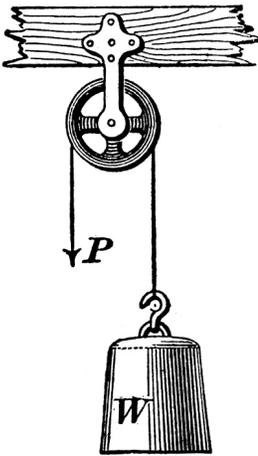
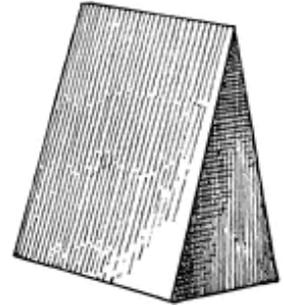


## Inclined Plane

When moving an object from LOW to HIGH,  
The inclined plane is your GUIDE!  
Although the distance does INCREASE,  
It takes less EFFORT to move the beast.

## The Wedge

Two incline planes placed side by side.  
Make a wedge and that's no lie!  
Narrow at one end, wider at the other,  
The wedge separates and slices like butter!



## Pulley, Pulley, Pulley, Pulley (Pulley)

'Gotta lift this load,  
Is there any hope?  
I've got this wheel,  
I've got this rope.  
If I make a pulley, I'm sure I'll see,  
The work gets easier when I use three!

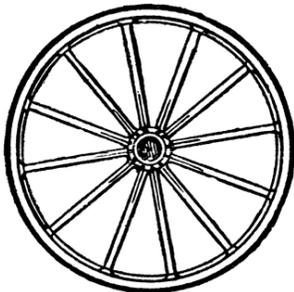
## The Screw

An inclined plane wrapped 'round a rod,  
Screw is known as the TOP DOG!  
Sure, we have to TWIST for a while,  
But his TIGHT HOLD makes everybody smile!



## Wheel (and Axle)

Take a rod, then add a wheel.  
Reducing FRICTION is a big deal!  
Turn it and pull it, it lasts for years!  
Or add some teeth to make a gear!



**Teachers:** These raps were designed as a fun way to memorize the different simple machines that are a part of the third grade science curriculum. I have created hand motions that go with each rap, which I've included below. The teacher says the line first (including the title of the rap), then the kids answer by repeating the line. I usually say the title twice through, just to make sure we are all engaged and ready.

**Motions:**

Lever: Make a fist with your left hand. Rest your right arm on top of your fist, then pivot up and down. When you say "fulcrum", push your fist out. "Load", pivot your elbow down, "effort", push your hand down. I usually try to sound like I'm making an effort to push the hand down. : )

Inclined Plane: Time for some Ninja moves! When we say "inclined plane", I usually snap my right arm forward at an angle across my body -- it looks karate-esque, so the boys especially like this one. LOW point to elbow, which is lower, HIGH, point to hand which is higher. GUIDE: hand over eyes. DISTANCE DOES INCREASE: have fingers walk up your inclined plane arm. EFFORT: make a muscle.

Wedge: Alright! Double Ninja arms! Elbows down, hands meeting up in front of your face. THAT'S NO LIE!: wave that finger, "no, no, no!" NARROW: emphasize point created by your touching hands. WIDER: expand those elbows a bit! SEPARATES and SLICES: swish that wedge through the air!

Pulley: I say the title like that song, "Money, money, money, money, (money) -- you know the one. The students say the last (pulley) cause they're too young to know what song I'm talking about. : ) LIFT: raise hands like you're lifting something. IS THERE ANY HOPE?: hands up, shoulder shrug. WHEEL: pretend to drive. ROPE: imaginary lasso. PULLEY: one fist down, one fist up, slowly bring high fist low and low fist high (like you're using a pulley...) THREE: 3 fingers.

Screw: Inclined plane arm (hi-yah!) WRAPPED ROUND A ROD: make circular motions with that arm (like you're wrapping it around a rod) TOP DOG: raise the roof! TWIST: you got it...twist and shout, baby! TIGHT HOLD: bring fists together in front of face. SMILE: trace smile on face with fingers.

Wheel and Axle: I have the kids whisper "and axle" after I say WHEEL. : ) Gotta change things up...keep them on their toes! ROD: straight arm. WHEEL: driving hands. REDUCING FRICTION: palms together, push apart in opposite directions. TURN IT and PULL IT: pantomime. TEETH: spread out fingers and rotate together like a gear.