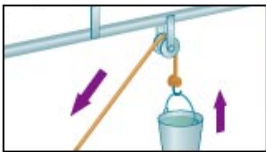

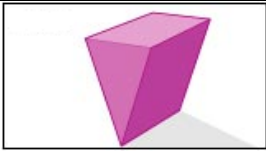



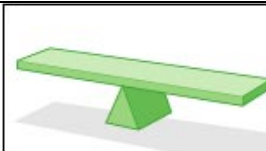
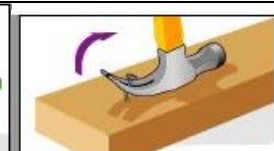
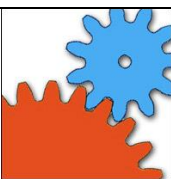

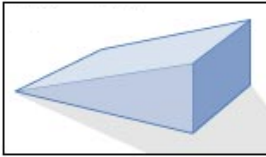
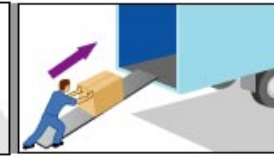
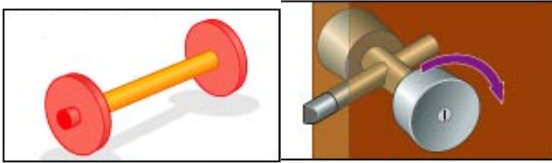


## Machines

Simple machines give us an advantage by changing the amount, speed, or direction of forces. Simple machines make work easier.

Match the name with the image and the function: *gears, pulley system, inclined plane, wedge, spring, wheel and axle, screw, lever,*

Image		Name	Function
			A single _____ simply reverses the direction of a force. When two or more _____ are connected together, they permit a heavy load to be lifted with less force. The trade-off is that the end of the rope must move a greater distance than the load.
			A _____ converts motion in one direction into a splitting motion that acts at right angles to the blade. Nearly all cutting machines use the _____. A _____ takes downward force and turns it into outward force.
			A _____ is a central core with a thread or groove wrapped around it to form a helix. While turning, a _____ converts a rotary motion into a forward or backward motion.
			A _____ is a stiff rod that rotates around a pivot point (called the fulcrum). Downward motion at one end results in upward motion at the other end. Depending on where the pivot point is located, a _____ can multiply either the force applied or the distance over which the force is applied.
			_____ are toothed wheels meshed together to transmit motion and force. In any pair of _____ the larger one will rotate more slowly than the smaller one, but will rotate with greater force. Each _____ in a series reverses the direction of rotation of the previous _____.
			_____ store energy when they are compressed (potential energy). When they are released, they expand and use or release energy (kinetic energy)
			A sloping surface, such as a ramp. An _____ can be used to alter the effort and distance involved in doing work, such as lifting loads. The trade-off is that an object must be moved a longer distance than if it was lifted straight up, but less force is needed.



The \_\_\_\_\_ is a simple machine that reduces the friction involved in moving an object, making the object easier to transport. The wheel rotates around an axle (essentially a rod that goes through the wheel, letting the wheel turn), rolling over the surface and minimizing friction.

Go on this website to fill the document on Simple Machines

<http://computerkiddoswiki.pbworks.com/w/page/16304823/Simple%20Machines>

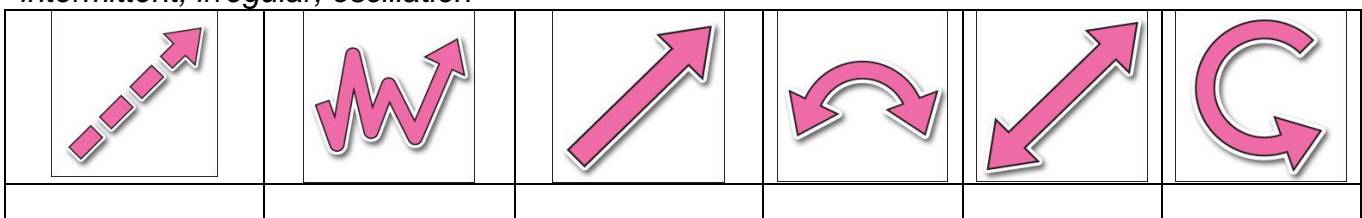


## Motions

Mechanisms are used to convert between one type of motion and another. Any machine can be looked on as a group of interconnected mechanisms which convert one type of motion to a variety of other motions.

These changes may be to convert rotary motion to straight line motion or to convert reciprocal (back and forth) motion to intermittent motion. They may also transform a fixed type of motion, for example by magnifying a linear motion or by slowing down a rotary motion.

Match the images with the following names: *linear motion*, *reciprocating*, *rotary motion*, *intermittent*, *irregular*, *oscillation*


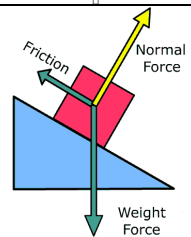


Visit this website to have a full description of these motions:

<http://www.robives.com/mechs>

## Forces

Match the names with the definitions: force, friction, torque, gravity

	A force that pull things down toward the ground.	
	Friction is a force that slows moving objects or prevent objects from moving	
	It is a push or a pull	
	It is a rotational force; It can be thought of as a twist	