

Wheels and Levers Study Guide

Rollers	Were invented a long time ago and were used by the Egyptians in building pyramids. They are useful to move heavy objects, flatten material, and they inspired the wheel. Unlike the wheel there is less control.
Hypothesis	Is an educated guess, prediction, or estimation on the outcome of a situation. It is used to inspire experiments and research.
Force	Is the energy used to move an object. The amount of energy needed is determined by the weight of the object you are moving and the speed at what you want to move the object.
Friction	Is the resistance between two objects and the amount of friction is determined between the condition of the two surfaces. This includes soft, rough, or slippery.
Axle	Is used as a unit with a wheel to allow for movement of the wheel. This unit allows the wheel to become gears, pulleys and other simple machines. It is a rod that goes through the wheel which helps it turn. In cars the axle runs through a pipe

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	allowing the wheel to turn but keeps the car upright.
Wheels	They are based upon the design of the roller. They have more control in movement than a roller. With the axle, the wheel can become many different types of simple machines. It inspired the gears and the pulley.
RPM's	Revolutions (rotations) per minute
Pulleys	Based off the wheel and axle, the pulley is used to lift objects by allowing you to change the direction. Instead of lifting up you pull down. There are two types of pulleys; a fixed pulley or a moveable pulley.
Fixed Pulleys	Is a pulley that stays in one place because it is attached to an object that cannot move. It allows you to use your body weight by pulling the rope down and the pulley pulls up.
Moveable Pulley	Is a pulley that can move with the load. The load is divided equally among the two sides of the pulley. It requires the force to double the distance of the distance the object being moved needs to go.

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Mechanical Advantage	This can be used to explain how by adding a pulley will continue to increase the advantage of pulleys in our life, the more pulleys used in a system the more advantage you will have.
Block and Tackle	This is another term for a fixed and moveable pulley.