The Six Classic Simple Machines

A simple machine is a tool used to modify motion and force in order to simplify work. It turns out these six classic simple machines are common in the lives of young children and can be used to promote STEM play as well as other development and learning.

Lever

A lever is made up of a plank, bar, or ridged beam that rotates freely on a pivot. Levers simplify lifting or moving things--especially heavy things.

Examples of levers include wheelbarrows, staplers, shovels, rakes, paintbrushes, hammers, and baseball bats.

Pulley

A pulley is a wheel, often with a grooved rim that serves as a channel for a cable or belt, that is situated on an axle or shaft.

The pulley changes the direction of force applied to the cable/belt or transfers power between the axle and cable/belt.

Wheel & Axle

A wheel and axle involves two circular elements joined at their centers–a larger disk (the wheel) and a smaller cylinder (the axle).

On their own, a wheel is just a wheel, and an axle is just an axle, but combined they become a simple machine.

Wedge

A wedge is an object with a pointed edge at one end and a wide edge at the opposite end.

Wedges are commonly made of wood or metal but can be made of other materials as well.

Inclined Plane

An inclined plane is a surface forming an oblique (not ninety degree) angle with the plane of the horizon.

Inclined planes are more commonly known as ramps.

Screw

A screw is a mechanism that converts rotational motion into linear motion.

A screw is really a combination of two other simple machines. It's an inclined plane in the round (the thread that wraps around the screw) with a wedge at the tip.

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