SIMPLE MACHINES

NAME: ____________________________

DATE: ______________
Simple machines are tools that make work easier and faster.

Examples of tasks made easier include lifting a heavy weight, moving a heavy object over a distance, pushing things apart, pulling, changing the direction of a force, or holding an object together.

The six simple machines that we are going to learn about are the following:

- **Wedge**
- **Inclined plane (ramp)**
- **Lever**
- **Wheel and axle**
- **Screw**
- **Pulley**
The lever

People use levers to lift heavy objects that they cannot lift by themselves. A lever is a long, stiff bar. The bar rests on a point called the fulcrum. The fulcrum does not move. Force is put on one end of the lever. The other end lifts a load.

Examples:

- shovel
- seesaw
- wrench
The Inclined Plane (Ramps)

An inclined plane is a surface that slants. You can use inclined planes to move a load up or down.

Lifting a heavy load takes a lot of force. You need less force to move it up an inclined plane (ramp).

Examples:

- stairs
- ladder
- ramps
The Wedge

Wedges are simple machines that people use to cut, split, or push.

A wedge has a wide end and a narrow end. It has one or two sloping sides. Force on the wedge’s wide end makes the narrow end go into an object. The narrow end makes a path for the thicker end and the wedge splits the object.

Examples:

- knife
- ax
- doorstop
- apple being sliced
The Wheel and Axle

The wheel and axle consists of a rod (axle) attached to a wheel. The wheel turns around the axle. Axles can also connect two wheels.

Wheels and axles help move objects faster. Rolling something across the ground is easier than sliding it. Pulling your friend in a wagon is easier than carrying him.

Examples:

- door knob
- bicycle
- rolling pin
The Screw

A screw is an inclined plane wrapped around a cylinder. A common use of the screw is to hold objects together.

Screws can join two or more objects together. Large screws hold pieces of furniture together. Smaller screws hold parts of toys together.

Examples:

- jar lid
- light bulb
- screw
- jelly

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The Pulley

A pulley is a wheel with a groove that holds a rope or chain. The groove in the wheel keeps the rope or chain in place.

Pulleys help lift loads. A person pulls one end of the rope. This force lifts the load on the other end.

Examples:

- crane
- flag pole

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