

SIMPLE MACHINE

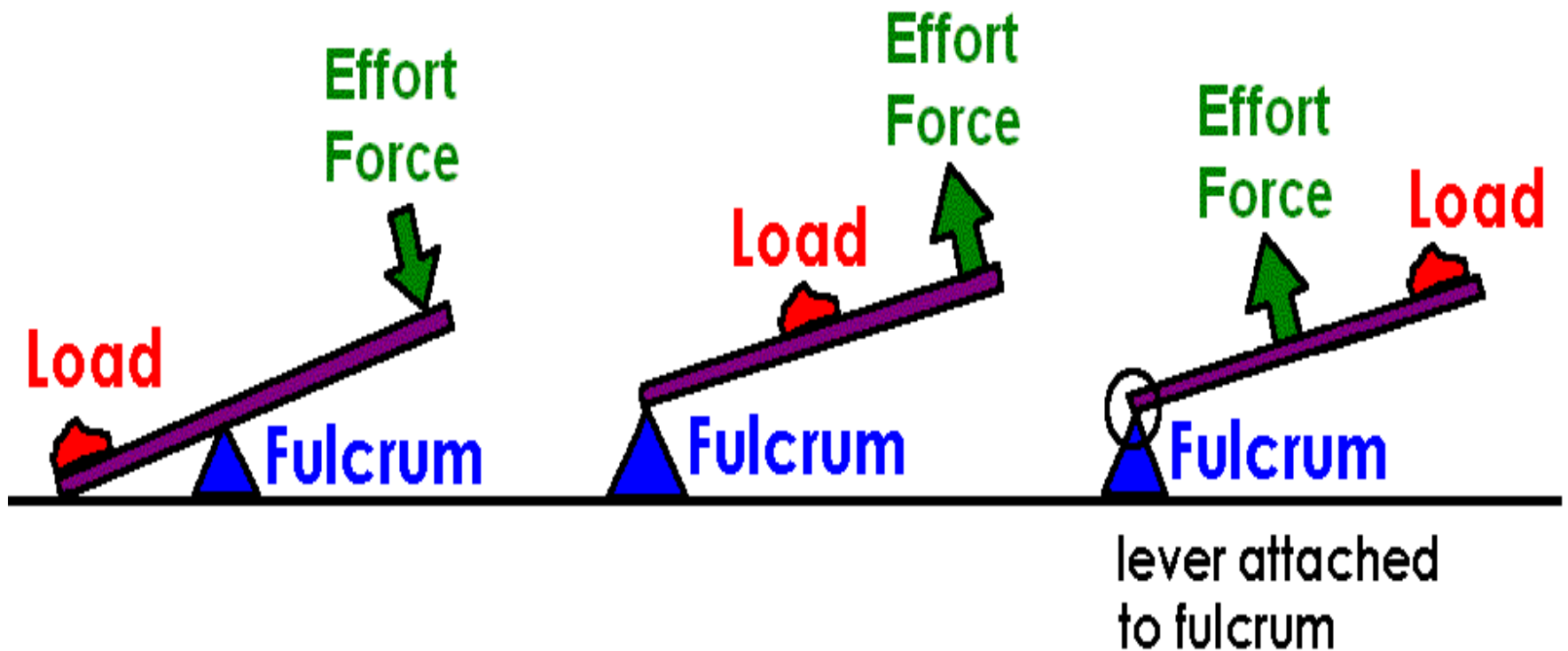
Describe the 3 types of levers:

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- A first class lever is like a teeter-totter or see-saw. One end will lift an object (child) up just as far as the other end is pushed down.
- A second class lever is like a wheel barrow. The long handles of a wheel barrow are really the long arms of a lever.
- A third class lever is like a fishing pole. When the pole is given a tug, one end stays still but the other end flips in the air catching the fish.

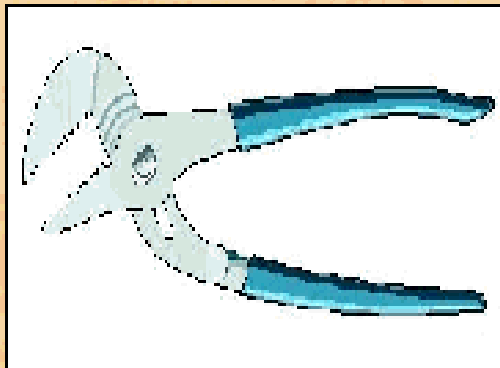
MORE 

Diagrams of Levers

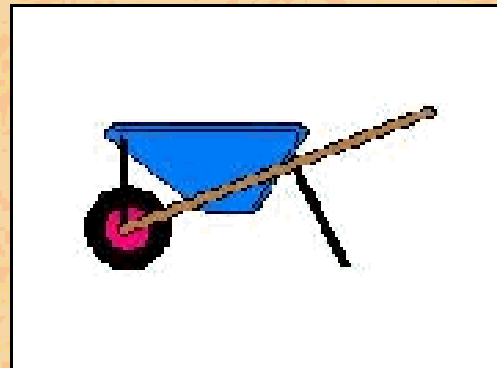


Diagrams of Levers

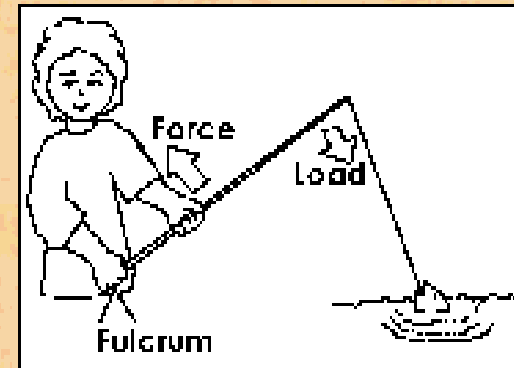
1st Class Lever



2nd Class Lever



3rd Class Lever



http://www.professorbeaker.com/lever_fact.html

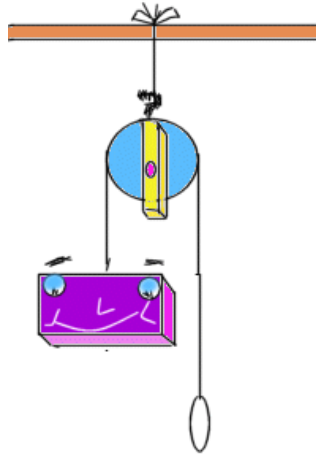
Describe PULLEYS

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A simple machine made with a rope, belt or chain wrapped around a grooved wheel. A pulley works two ways.

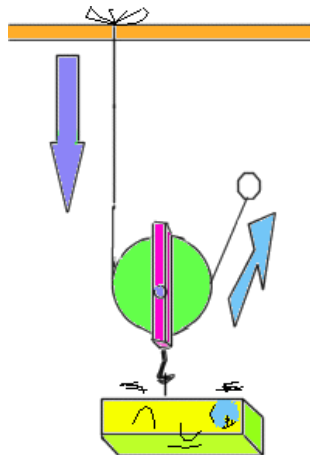
Diagrams of Pulleys

Fixed pulley:



<http://www.smartown.com/sp2000/machines2000/pulley2.htm>

Movable Pulley:



<http://www.smartown.com/sp2000/machines2000/pulley3.htm>

How does a pulley work?

How does a pulley work?

A pulley works two ways.

It can change the direction of a force or it can change the amount of force.

What are the types of pulleys?

What are the types of pulleys?

- **Fixed pulley**
 - Does not multiply force.
 - Changes the direction of the effort force.
 - Mechanical advantage is equal to one.
- **Movable pulley**
 - Multiplies effort force but cannot change direction of the effort force.
 - Mechanical advantage is the effort distance divided by the resistance distance.
- **Pulley system**
 - A combination of fixed and movable pulleys.
 - Mechanical advantage is equal to the number of supporting ropes.

How does a fixed pulley work?

How does a fixed pulley work?

A fixed pulley changes the direction of the applied force. (Ex. Raising a flag)

How does a moveable pulley
work?

How does a moveable pulley work?

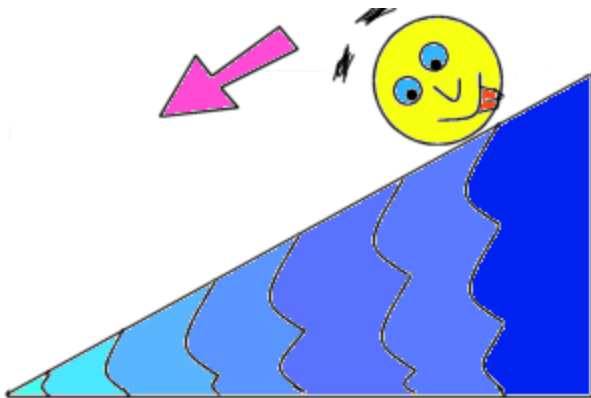
A movable pulley is attached to the object that is being moved.

What is an inclined plane?

What is an inclined plane?

A simple machine with no moving parts. It is simply a straight slanted surface. (Ex. a ramp.)

Diagram of Inclined Plane



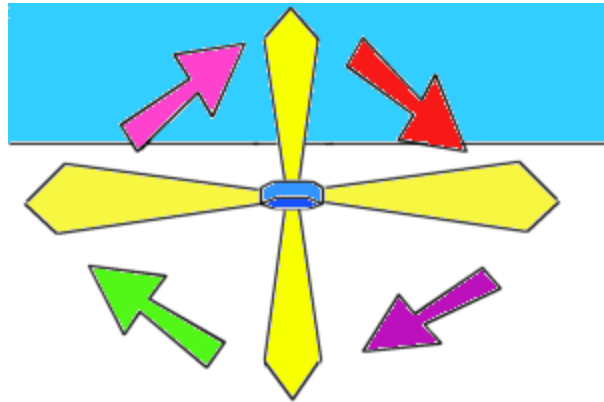
<http://www.smartown.com/sp2000/machines2000/inclinedplane.htm>

What is a wheel and axle?

What is a wheel and axle?

A wheel and axle is a modification of a pulley. A wheel is fixed to a axle. The wheel and axle must move together to be a simple machine. Sometimes the wheel has a crank or handle on it. Examples of wheel and axles include roller skates and doorknobs.

Diagram of Wheel & Axle



<http://www.smartown.com/sp2000/machines2000/wheelandaxle.htm>

What is a wedge?

What is a wedge?

A modification of an inclined plane that moves . It is made of two inclined planes put together. Instead of the load being moved up an inclined plane, the inclined plane moves the load.

Diagram of Wedge



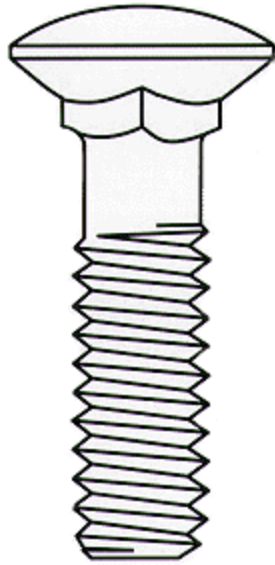
Wedge

What is a screw?

What is a screw?

**A simple machine that is like an inclined plane.
It is an inclined plane that wraps around a
shaft.**

Diagram of Screw



Go to this link for more information about machines. Remember to hit the “back” button on your browser to return to this slide show.

<http://www.usoe.k12.ut.us/curr/science/sciber00/8th/machines/sciber/intro.htm>