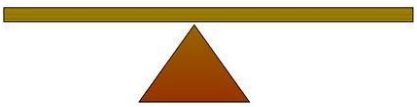
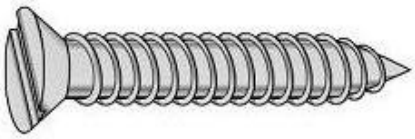
SIMPLE MACHINES

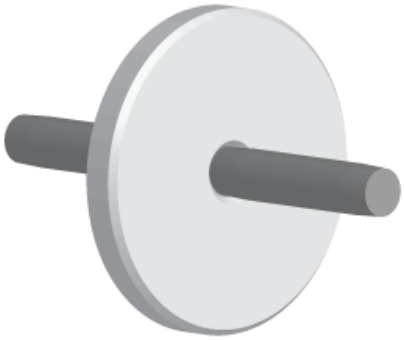


LEVER



SCREW

INCLINED PLANE



WHEEL & AXLE

WEDGE

PULLEY

TheTeachersDesk.info

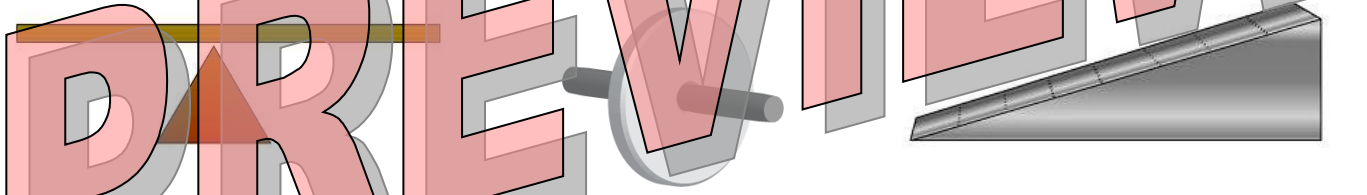
TABLE OF CONTENTS

SIMPLE MACHINES

Vocabulary to learn:

machine: something that helps people do work
simple machine: a machine with few or no moving parts
force: an action that changes the motion of something
work: when a force is used to move something

Simple machines are tools that help us do work. Simple machines have few or no moving parts.



lever

pulley

wedge

inclined plane

screw

People use many tools to help them with their work. You could not drive a nail into a piece of wood using only your hand, so you would use a hammer. A hammer is a tool. All the tools below are kinds of machines. There are many different kinds of machines.

hammer

saw

screwdriver

pliers

Some machines have many moving parts. Other machines have few or no moving parts; we call them simple machines. Which picture shows a simple machine?

There are three characteristics of a simple machine. A simple machine can do three things:

1. change the amount of work

   moving a load in a wheelbarrow is much easier than carrying the load. (lever, wheel & axle)

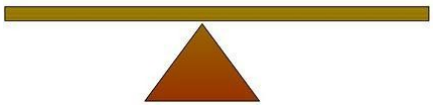
2. change the speed

   shoveling sand, dirt or snow is much faster than digging with your hands (wedge)

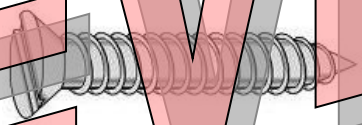
3. change the direction of the force

   when you pull the rope of a flagpole down, the flag goes up (pulley)

Using the example of raising a flag on a flagpole, the use of a pulley changes the amount of work because climbing the flagpole to bring it down would take more work. Using a pulley changes the speed by making it faster to bring the flag down. Pulling on the rope of the pulley also changes the direction of the force.



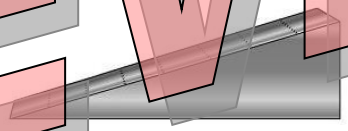
Lever Lever Lever Lever



Screw Screw Screw Screw

Wedge Wedge Wedge

Pulley Pulley Pulley



Inclined Plane Inclined Plane

Wheel & Axle Wheel & Axle

MATCHING

1. _____ Machines having few or no moving parts
2. _____ An action that changes the motion of something
3. _____ When a force is used to move something
4. _____ A ramp which is higher at one end than at the other
5. _____ A wheel with teeth
6. _____ Two inclined planes together
7. _____ A wheel with a rope around it
8. _____ An inclined plane wrapped around a center post
9. _____ A wheel that turns on a center post
10. _____ Always moves on a fulcrum
11. _____ A machine with two or more simple machines

A. gear
B. pulley
C. wheel & axle
D. compound machine
E. wedge
F. lever
G. simple machines
H. inclined plane
I. screw
J. work
K. force

Find a rock to use as a fulcrum for the lever.