

Name: _____

Period: _____

Simple Machines Webquest

Observe: How do Simple Machines help us to do WORK?

Visit each of the following sites to review this content to answer the questions that follow.

GOTO: <http://teacher.scholastic.com/dirtrep/Simple/invest.htm>

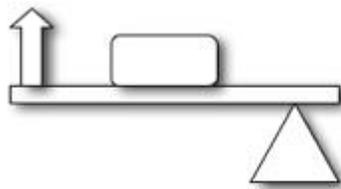
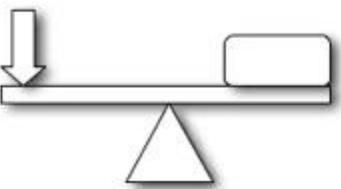
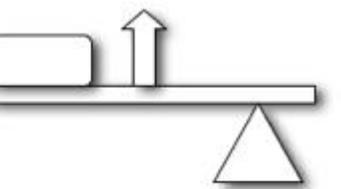
- 1) Simple machines are so "SIMPLE" because they what?
- 2) When you are using simple machines, the amount of WORK you do is the _____!
- 3) A simple machine helps us by _____ the amount of FORCE or _____ the distance we apply it!

CLICK the link on the **RIGHT** for a **TYPE OF SIMPLE MACHINE** & Complete the CHART:

Simple machine	HOW IT HELPS US:	2 Examples:
Inclined Plane	_____ the force. _____ the distance.	1. 2.
Wedge	Works like a _____. The narrower the wedge, the _____ the FORCE, but the greater the _____ you have to push it!	1. 2.
Screw	The thinner the thread on the screw, the _____ the force needed but the _____ the distance.	1. 2.
Lever	Changing the position of the _____ increases or decreases your effort _____.	1. 2.
Wheel & Axle	The bigger the wheel, the _____ the effort. The axle can be like a _____ in a lever.	1. 2.
Pulley	Increasing the # of pulleys increases the _____ but decreases the amount of _____ applied	1. 2.

GOTO: <http://www.enchantedlearning.com/physics/machines/Levers.shtml>

1. **Label** the type of LEVER as **First, Second or Third** class lever.
2. **Label** the **EFFORT, LOAD and FULCRUM** in each drawing.
3. Write **TWO examples** for each type of lever.

		
TYPE:	TYPE:	TYPE:
Examples:	Examples:	Examples:

Name: _____

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GOTO: <http://www.the-office.com/summerlift/pulleybasics.htm>

Read about the different kinds of pulleys and answer these questions:

1. A pulley is usually made of a rope, belt or chain that changes the _____ of the force to lift an object.
2. A disadvantage of a fixed pulley is that when used individually, uses more _____ than the load to lift it.
3. A movable pulley moves with the _____ and uses _____ effort to lift the load.
4. Although a combined pulley decreases the effort needed to lift the load to less than _____ the weight of the load, it also increases the _____.

GOTO: <http://www.cosi.org/downloads/activities/simplemachines/sm1.html>

Click "It's all About Mechanical Advantage"

1. The efficiency of any machine compares the work that comes out of it, called the _____, to the work that goes into it, called the _____.

The mechanical advantage of a machine tells us how much a machine CHANGES the amount of FORCE you put in compared to how much FORCE the machine puts out.

2. The **mechanical advantage of wedge** is determined by dividing the length of the _____ by the _____ of the widest end.
3. The **mechanical advantage of an inclined plane** is equal to the _____ of the slope divided by the _____ of the inclined plane.
4. The **mechanical advantage of a lever** is determined by the ratio of the distance from the force to the _____ divided by the distance from the fulcrum to the resistance.
5. The **mechanical advantage of a wheel and axle** is the ratio of the radius of the _____ to the _____ of the axle.
6. The **mechanical advantage of a screw** is equal to the _____ of the screwdriver handle divided by the _____ of the screw.
7. The **mechanical advantage of a pulley** system (called a _____ & _____) is equal to the number of ropes that support the pulleys.

A **compound machine** is a device made up of more than one of these simple machines.

GOTO: http://www.edheads.org/activities/simple-machines/frame_loader.htm Click on the **TOOL SHED** and try to locate all of the simple machines in each object!

GOTO: http://www.quia.com/pop/36483.html?AP_rand=472441267 & **CLICK PLAY THIS GAME**

& QUIZ Yourself!