

Name: _____ Date: _____ Period: _____

Simple Machines Notes, Part 2

I. Simple Machines

a. A _____ is a device that helps _____ the amount of _____ required to do work. Work is done when a force (_____) is applied over a distance.

b. Ways simple machines make work easier...

i. _____

ii. _____

iii. _____

c. The _____ of the simple machines can _____ the amount of _____ required to do _____.

d. Simple machines are found in common _____, and complex (_____) machines.

e. Types of Simple Machines:

i. _____

ii. _____

iii. _____

iv. _____

v. _____

II. Levers

a. A _____ is a _____ bar or board that is _____ to move around a fixed point called a _____.

b. By _____ the distance the effort force moves _____ to the distance the _____ moves, a lever can _____ the effort force needed.

c. A lever can be designed to _____ the _____ of force required to lift a weight in _____ ways:

i. _____

ii. _____

d. Levers that have the fulcrum _____ where the effort force is applied and where the _____ is located can be found in the following tools:

i. _____
ii. _____

e. Levers that have the _____ on the _____ and the effort is applied in the _____ to lift a weight on the other end can be found in the following tools:

i. _____
ii. _____

f. Levers that have the fulcrum on the _____ and the effort force is applied on the other end to _____ a weight in the _____ can be found in the following tools:

i. _____
ii. _____

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Simple Machines Notes, Part 3

I. Pulleys

a. A pulley has a _____ with a _____ running along the groove.

i. Pulleys can _____ the amount and/or the _____ of the _____ applied (effort force).

ii. By arranging the pulleys in such a way as to _____ the _____ that the effort force moves _____ to the distance the _____ moves, a pulley can _____ the effort force needed.

b. _____ pulleys are used to reduce the effort force.

i. Pulleys that are moveable, meaning that they are _____ to a structure can be found on construction cranes and as part of a block and tackle system.

c. A single _____ pulley changes _____ the _____ of the force (you pull _____ and the weight goes _____).

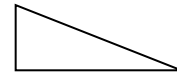
i. Pulleys that are fixed, meaning that they are _____ to a structure, can be found on the top of a _____ and on window _____.

Moveable Pulley

Fixed Pulley

II. Inclined Plane

a. An inclined plane is a _____ surface, like a ramp, that _____ the amount of force required to _____ an object.



b. By _____ the distance the effort moves (length of the ramp) _____ to the distance the weight is _____ (height of the ramp), an inclined plane can _____ the effort force needed.

c. An inclined plane can be designed to reduce the force needed to lift a weight in 2 ways:

Increase the length of the ramp.

Decrease the height of the ramp.

- d. Inclined planes with a sloping surface can be found as ramps on a _____ or wheelchair _____ and _____.

III. Wedges

- a. Inclined planes are used to make wedges. One inclined plane or 2 inclined planes back to back that can move are wedges.

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i. Example:

1. _____
2. _____

IV. Screw

- a. Inclined planes that are _____ around a _____ or _____ are called _____.

i. Example:

1. _____
2. _____

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V. Wheel & Axle

- a. Wheel and axles consist of two _____ objects:

i. A central _____, called an _____.

ii. The axle is _____ through the _____ of a _____.

- b. Wheel and axles can be found as...

- i. _____
- ii. _____
- iii. _____
- iv. _____

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VI. Complex Machines

- a. Complex machines, also known as _____ machines, consist of _____ or more _____ machines.

b. Examples:

i. Scissors: _____

ii. A fishing pole: _____

iii. A bicycle: _____

Scissors	A fishing pole	A bicycle
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