



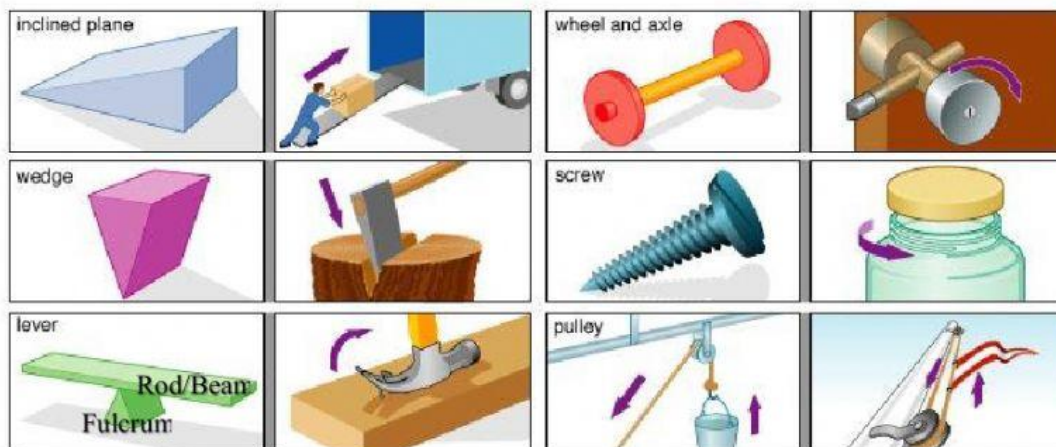
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Subject: Science

Topic: Simple Machine

A simple machine makes work easier. They have few or no moving parts and they work by changing the direction of a force or the amount of force needed to do something. There are 6 simple machines. They are: wedge, screw, lever, pulley, inclined plane and the wheel and axle.



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## 1. Pulley

A pulley has a wheel that allows you to change the direction of a force. Instead of pulling the load up you are now pulling the rope downwards. It is always easy to pull down than to pull up.

As you pull down on the rope, the wheel turns and whatever is attached to the other end goes up.

## 2. Lever

When you push down on one side of a lever, the other side goes up. Levers can also be used to lift heavy objects such as a rock or furniture with much less effort. A



lever consists of a rod, which balances on a fixed point. The heavy object that has to be moved or lifted is called the “Load” – the point at which the rod is fixed is called the “Fulcrum”. A seesaw is an example of a lever.

### 3. Wedge

A wedge is basically a moving inclined plane. It is a hunk of strong material thick at one end and thin at the other. Chisels, axes, knives and doorstops are all wedges

### 4. Incline Plane

It is easier to move heavy things up a ramp than it is to lift them straight up. A ramp is a common example of an inclined plane. It takes longer to go up one, but it is easier to come down. An incline plane is a tool used to move heavy objects from a high place to low place and low place to high place.

### 5. Screw

A screw is a pointed nail with grooves in it. This thread of grooves is actually an inclined plane. It's simply an incline plane wrapped around a cone or cylinder. Examples of screws are jar lid, a drill, a bolt, a light bulb, faucets, bottle caps.

### 6. Wheel and axle

Wheels and axles are used to carry loads around easily, for long distances with very less effort. A wheel and axle is a simple machine that consists of two connected rings or cylinders, one inside the other, which both turn in the same direction around a single center point (axle). The axle is the fix point. Some examples of the wheel and axle include a door knob, electric fan, car tires, analog clock and the steering wheel of an automobile. When the wheel in a wheel and axle machine is turned, so is the axle.

**Instructions: Based on the information above answer the following questions below.**

1. How many simple machines are there? (1 pt.)

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2. How does a simple machine work? (2 pts.)

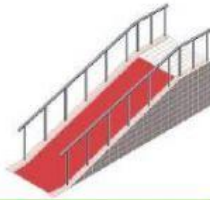
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3. Drag the name of the simple machine to its correct picture: (6 pts.)

pulley	wedge	Wheel and axle	Incline plane	screw	lever
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4. Match the name under Column A on the left with its correct meaning under Column B on the right. (6 pts.)

Column A

Column B

a. Wedge

•Changes the direction of force as you pull down.

b. Screw

•As force is applied to one end of the rod the load is lifted.

c. Wheel & axle

•Changes the direction of force and pushes it apart.

d. Incline Plane

•Easier to carry a load from a high place to a low place or a low place to a high place

e. Lever

•Carry loads around easier for long distances

f. Pulley

• An incline plane wrapped around a cone or cylinder.

5. Label the simple machine below. (3 pts.)

