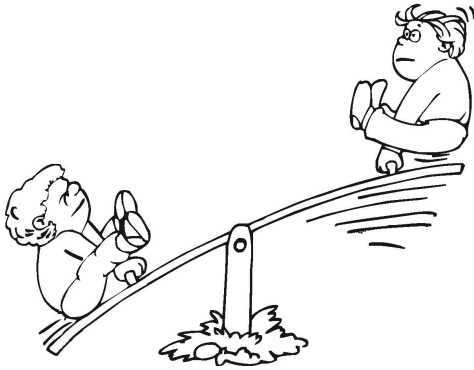


Name \_\_\_\_\_

# Simple Machines

Learn facts about simple machines.

Read the passage and answer the questions.



## Lever

A lever is basically a long stick that you push or pull against a fulcrum, which is the point on which a lever rests. Changing this point will change the amount of power a lever can provide. A lever can help you lift something heavy or make something go fast.

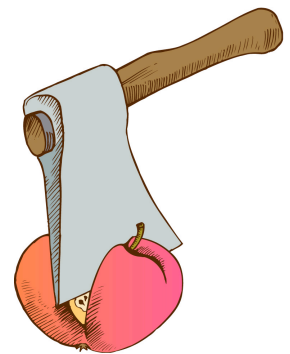
Using a hammer to pull out a nail is an example of using a lever.

Some other examples are a see-saw and a balance scale.

## Wedge

A wedge is two inclined planes back-to-back. Wedges are used to cut or push things apart. A thick, short wedge will split things apart faster, but it will take more force. A thin long wedge is easier to drive in, but will take longer.

Some examples of a wedge are a knife, scissors, a plow, and a nail.



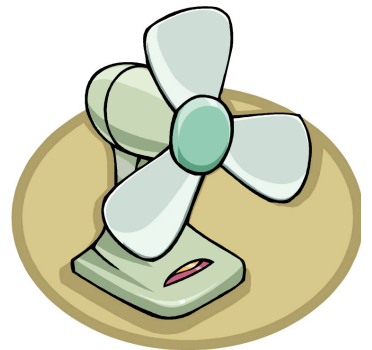
## Inclined Plane

- ▶ An inclined plane is any slope or ramp, like a wheelchair ramp or a slide. It makes it easier to push something heavy. A plane that is less steep will require a longer distance to travel, but will also require less force to push an object along the plane.

## Wheel and Axle

This is one of the most commonly used simple machines. You can find wheels everywhere. The axle is that rod that the wheel spins on. You might first think of bikes and cars when you think of wheels but they are used other ways too.

A fan is a wheel and axle. So is the knob on a faucet.





## Screw

A screw is a version of an inclined plane. It is an inclined plane wrapped around a rod into a spiral shape. Screws can do two things. They can change a force that goes around, into a force that goes down. The kind of screws we use often thread into wood or metal.

## Pulley

A pulley is a kind of wheel that has a groove for a rope. Pulleys make it easier to lift heavy things. You can attach one end of the rope to what you want to lift, like a bucket, and the rope goes over the pulley. As you pull the other end of the rope, the bucket will lift up with less force it would take than to just pick it up.



1. What type of simple machine is found in a stapler?

- a. pulley
- b. screw
- c. inclined plane
- d. wheel and axle

2. Describe how a wedge is like an inclined plane. \_\_\_\_\_

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3. Which type of simple machine has a fulcrum? Give an example of how it works.

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4. Which is an example of a screw?

- a. a slide
- b. a bottle cap
- c. a stapler
- d. a seesaw

5. Which type of machine is shown in the picture to the right?

- a. lever
- b. wheel and axle
- c. wedge
- d. inclined plane

