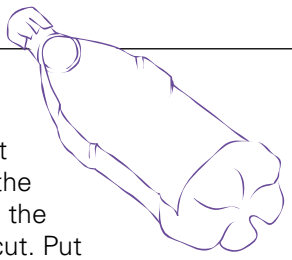
Make a Steam Boat

WHAT MAKES A STEAM BOAT GO?

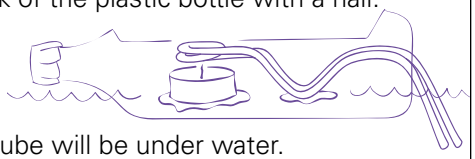
Steam is a powerful force used to generate electricity at many power plants.

Create some steam power of your own in this experiment.

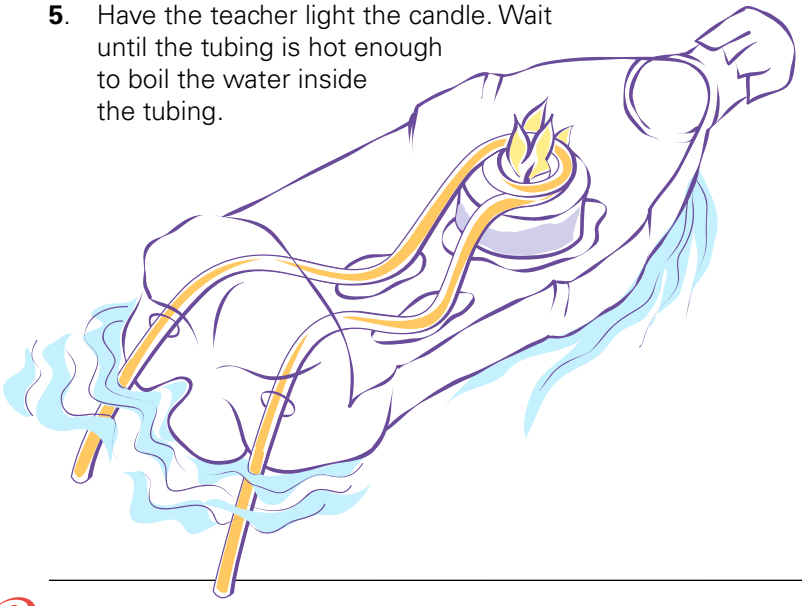


TRY THIS

1. With a teacher's help, use a knife to cut the plastic bottle lengthwise. Remove the top half of the bottle, but you can leave the bottom because it is usually harder to cut. Put electrical tape over the mouth of the bottle to keep water out. If you keep the bottle cap on, it may be too heavy.
2. With a teacher's help, use the tube cutter to cut the copper tubing to about 24 inches. If you have a "thermocouple," cut off the ends, and pull out the copper wire inside the tubing.
3. At the center part of the tubing, gently bend the tubing two times around a large pen or felt tip marker to form a coil.
4. Poke two holes in the back of the plastic bottle with a nail.
5. Put the two ends of copper tubing through the holes, and bend them down so the ends of the tube will be under water.

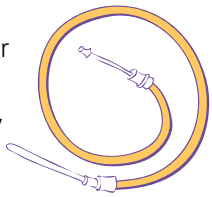


6. Bend the tubing so it rests on the bottom of the bottle, and the coil is just above the candle. Place the candle just below the coil. Use modeling clay to hold the tubing and candle in place.
7. Hold one end of the copper tubing under water, and suck on the other end until the tubing is filled with water. Quickly rest the boat on the water, so the tubing is filled with water, and both ends of tubing are under water.
5. Have the teacher light the candle. Wait until the tubing is hot enough to boil the water inside the tubing.

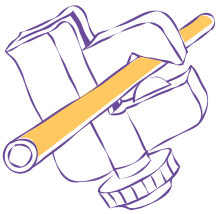


THINGS YOU NEED

- 1 votive candle
- 1 20-ounce plastic soda pop bottle
- 24 inches of 1/8 inch soft copper tubing, which you can find in a hardware store, as separate tubing, or as a "thermocouple," which is shown here,



- Tube cutter, which you can also find at the hardware store.



- Modeling clay
- Electrical tape
- Sharp knife
- Scissors
- Nail
- Water

POWER WORDS

Steam is created when water is heated to the boiling point. It expands and creates pressure in a closed space, which creates power.

WHAT DO YOU THINK?

How does the boat move forward?

What is happening inside the metal tube?

What kinds of power plants use steam power? How do they create steam?