



Name: _____

Date: _____

BUILDING A MODEL

Showing How a Power Plant Generates Electricity

Power plants change one form of energy into electrical energy that we can use in our homes, schools, and communities. In this experiment, you will build a model to show the main steps in how a power plant generates electricity.

QUESTION

How does a power plant generate electricity?

GOAL

Build a model that shows the steps a power plant uses to generate electricity.

MATERIALS

- Cardboard or foam board (base)
- Small paper or plastic cup (boiler)
- Drinking straw (steam pipe)
- Small craft stick or skewer (turbine axle)
- Paper circle or small cardboard wheel (turbine)
- Small motor or LED light with wires (generator)
- 2 AA batteries with battery holder
- Wires with alligator clips or tape
- Colored paper or labels
- Glue, tape, scissors, markers

BACKGROUND

Most power plants burn a fuel (like coal, natural gas, or use nuclear energy) to heat water. The hot water turns to steam. The steam spins a turbine. The turbine turns a generator. The generator makes electricity.

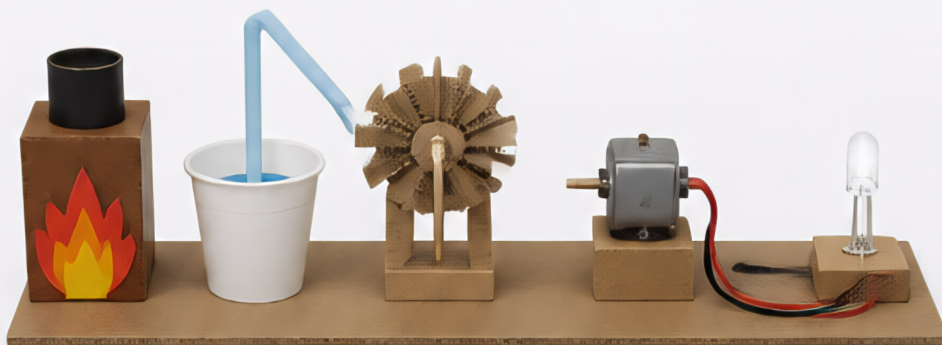
SAFETY FIRST

- Ask an adult for help when using scissors, glue, or any tools.
- Do not connect wires to wall outlets.
- Keep batteries away from water.

OBSERVATIONS

Describe your model. What happens at each step?

WE SHOULD SHOW THESE STEPS



PROCEDURE

1. Plan your model. Draw a sketch of your design on paper and label each part.
2. Build the heat source and boiler. Use a cup as the boiler and attach a straw to act as the steam pipe.
3. Build the turbine. Attach the paper wheel to a skewer or stick so it can spin freely. Connect it to the motor (generator).
4. Connect the generator. Attach the motor wires to the LED light using the batteries to complete the circuit.
5. Test your model. Pretend the heat source heats the water, the steam spins the turbine, and the generator makes electricity to light the LED.
6. Label each part to show what it does.
7. Check your model. Make sure each step is clear and in order.

CONCLUSION

What did you learn from this activity?

What could you improve on in your model?
