



Electric Power

STEM Sims

Lesson 1: Making Electricity

In today’s modern world, electrical energy is required to make most people’s lives better. Electric power companies use several fuels to convert liquid water to steam to spin a turbine that generates electricity. Your challenge is to determine which fuel is best for generating electricity. Get ready to burn through this lesson.

Doing the Science

1. Start the Electric Power Simulation.
2. Select one of the fuel sources at the bottom of the screen (see Table 1 below).

Table 1. Fuel Types and Average Power

Fuel Type	Average Power Supplied (kilowatts)
Coal	
Petroleum	
Natrual Gas	
Nuclear	
Propane	
Biomass	

Q.A. Predict which fuel type will supply the *greatest* amount of power. Provide a reason to support your prediction.

3. Select the blue "Run" button located at the right-hand bottom of the screen.
4. The simulation counts down 24 hours. When the clock reaches 0:00, note and record in Table 1 the average amount of power supplied (in kW) for that fuel type.
5. Select the blue "Reset" button located at the right-hand bottom of the screen.
6. Repeat steps 2-5 above, until you test all fuel types. Make sure to record your data in Table 1.

What Do You Understand?

1. Which fuel type supplied the *largest* average power?

2. Which fuel type supplied the *smallest* average power?

3. List and discuss two factors, other than the average power supplied that might influence the decision about which type of fuel an electrical power company should use to provide energy.

4. Which of the fuel sources would you classify as a renewable energy resources? Support your response with a reason.

5. Which of the fuel sources would you classify as a non-renewable energy resources? Support your response with a reason.

6. List and describe two other alternative energy sources that could be used to supply power to homes and businesses.

7. Describe an advantage and disadvantage of using one of the alternative power sources you listed in the previous question as compared to traditional energy sources.
