

Energy Hogs

Energy Revealed
Grab & Go Activity
Grade Level 4-12



Main Objectives

Learners will investigate which electrical devices are using the most energy (being an energy hog).

Learning Outcomes

By the end of this activity, learners will:

- Apply observation and inference skills to recognize and interpret patterns and to distinguish a specific pattern from a group of similar patterns.
- Apply knowledge of the properties and interactions of materials to the investigation and identification of a material sample.

Length of Activity

45 minutes – 1 hour

Materials List

Circuit Level Energy Metering Technology

Activity

Step 1: Morning (15 minutes)

1. First thing in the morning, log into the energy metering technology software.
2. In the software, record the top 5 loads using the most energy, in order of energy use.
 - **Tip:** Visit the [glossary](#) for more information on loads.
3. Make predictions whether these loads will change at noon, and again in the afternoon.

Step 2: Noon (15 minutes)

4. Around noon, log back into the energy metering technology software and note the 5 loads that are using the most energy. For junior and senior grades- next time you are back in the same class use the software to take a look at the historical data.
5. Compare this to the morning results.
 - How have they changed?
 - Why might have they changed?

Step 3: End of the day (15 minutes)

6. Near the end of the day log back into the software and again note the 5 loads that are using the most energy. For junior and senior grades- the next time you are back in the same class use the software to take a look at the historical data.
7. Discuss ways in which it is different/the same between the morning and afternoon results.
 - Discuss why they may be the same or different.

Step 4: Looking at Trends

8. Check back at other times throughout the week and see how the energy has changed. For example, check the same time for a week and graph the results.

Extension Activities

- Record the energy hog information in the evening when no one is at school. Note the difference in output for the energy hog report. Discuss as a class the next day.
- If you record the data for a length of time and see consistency, come up with a plan as to how the school might be able to reduce that energy hog. If you are able to implement your plan, see if your efforts have worked by looking at the energy hog results. Discuss why it did or didn't. If it didn't celebrate your success! You've earned it!
- If you know another school that is participating in this project, connect with them and see if the load you identified is the same. Discuss why it might be the same. Discuss why it might be different? (For example, do they have a more energy efficient furnace, etc.)