Watchers and Seekers

Main Objectives

Learners will investigate the energy use in the area being monitored by the technology and compare it to the real time energy use.

Learning Outcomes

By the end of this activity, learners will:

- Identify energy use in the area being monitored vs real time energy use.
- Understand how to conserve energy in their surroundings.

Length of Activity

2 – 2.5 hours

Materials List

Circuit Level Installed Energy Metering Technology

Activity

Step 1:

a. Log into the energy metering technology software and discuss the areas being monitored by the energy metering technology.
b. As a class, break up into small groups and assign each group an area of the school. Have each group create a map of their assigned area.

Step 2:

a. Once each group has created their map, have a discussion about which areas are being monitored by the technology.
b. Once everyone has an understanding of what area is being monitored, explain to the class that they are going to be using the software to show them what energy is being used in that monitored area.

Step 3:

a. Have all the learners look at the real time energy use in kilowatt hours of the monitored area. Record the total amount of energy used for that moment.
b. Now, explain to the class that they are going to be investigating what the source of that energy use is in the monitored area by dividing the large monitored area into small areas.
    I. For example, one classroom could be a monitored area.

Step 4:

a. Take a look at the maps that were created and discuss how the class would like to divide up the monitored area.
b. Once the class has divided up the monitored area, divide the class into small groups.
c. Explain that half of the group will become Watchers and will stay in class to watch the software, while the other half of the group will become Seekers and go to the monitored area.

The educator can either divide the groups between Watchers and Seekers, or the groups can decide themselves. *Note* - If you are going into areas where classes are going on, please make sure it is okay with the other educators in advance! Alternatively, do this activity when other classes are empty.

Step 5:

a. *Note*- you may want to have a helper for the day to go with the Seekers around the school, especially for junior learners.

b. Give the Seekers paper, a pen, and a clipboard and tell them to go to the determined area (give them a time to be back!) that is being monitored and have them note what energy is being used (i.e., lights on, computers plugged in, etc.). Remind them to record how many of each device is on (i.e., how many computers – were they in use, in sleep mode, etc.).

Step 6:

a. Have learners record their findings and the time they noticed the energy. That way when they return to class, they can match the time the energy was noticed to the energy use at the time. Then have the Seekers turn off different devices such as the lights, the interactive whiteboard, etc. Make sure the seekers note what they have turned off as well as the time they turned them off and then back on.

b. At the same time, have the Watchers note the amount of energy used for each section.

c. Have the Watchers and Seekers go back to their groups and compare results. Have the groups write the total amount of energy and a tally of the devices being used on the map they created.

Step 7:

a. Discuss the findings as a class. Did the Seekers notice any ways to save energy (for example lights left on but no one in there, etc.)?