The Great Energy Exploration
Grades 3-5

Name: ____________________________
Room: ________________________________

Exploration 1
In this exploration, you will learn how to read the monitor to find the energy use of the appliances in the room.

1. Click
2. Turn ON all appliances with the switches
3. Look at the computer and find the appliances using the MOST and LEAST amount of energy.
4. Click
5. Write the data for those two appliances below:

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Part Number</th>
<th>Watts</th>
<th>Watt Hours Used</th>
<th>Usage Cost</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Discussion 1
1. Which appliance used more watts of energy? ____________________________
2. How do you know? ____________________________
3. Write the names and circle the correct symbol:

   Appliance 1  >  Appliance 2
   ___________  =  ___________
   <

4. Why do you think the one appliance uses more energy than the other?
   ____________________________

Turn OFF all appliances!
Exploration 2
In this exploration you will learn the difference between a regular meter and a Smart Meter.

1. RESET
2. Turn ON all appliances
3. START
4. What is the Current Time? __________AM
5. What is the Electricity Cost? $_________/kWh
6. PAUSE after 1 hour
7. What is the Current Time? __________AM
8. What is the Electricity Cost? $_________/kWh
9. What is the Total Usage Cost? $__________

Raise your hand for the electricity technician to come over and install a Smart Meter.

1. RESET
2. What is the Current Time? __________AM
3. START
4. What is the Electricity Cost? $_________/kWh
5. PAUSE after 1 hour
6. What is the Current Time? __________AM
7. What is the Electricity Cost? $_________/kWh
8. What is the Total Usage Cost? $__________

Discussion 2
As a group, discuss the questions below, and record your responses.

1. What do you notice about the price (\$\$) per kilowatt hour (kWh) of energy using the regular meter instead of the Smart Meter?

2. If a meter only measures energy why does the price change with a Smart Meter at different times?

3. What time of day do you think energy costs the least? Why?

4. How does this information help you save money with a Smart Meter?

Turn OFF all appliances!
Exploration 3
In this exploration your group will test three of the same appliance in your room to learn about its energy efficiency. (Example: three toasters or three vacuums). Everyone in your group will test the same appliance.

1. Pick the appliance you want to test and turn it ON
2. Click START
3. Copy its EnergyGuide Tag
4. What is its purchase price? $____________
5. Click PAUSE after 1 hour.
6. Record the data from the monitor and RESET

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8. Turn OFF and UNPLUG your appliance.
9. Swap it out in the appliance store for a different model of the same appliance.

1. Plug in your SECOND appliance and turn it ON
2. Click START
3. Copy the EnergyGuide Tag
4. What is its purchase price? $____________
5. Click PAUSE after 1 hour.
6. Record the data from the monitor and RESET

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8. Turn OFF and UNPLUG the second appliance.
7. Swap it out in the appliance store for the third model.

1. Plug in your THIRD appliance and turn it ON
2. Click START
3. Copy the EnergyGuide Tag
4. What is its purchase price? $____________
5. Click PAUSE after 1 hour.
6. Write the data from the monitor and RESET

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Discussion 3

Answer the questions and discuss with your group:

1. Look at Watts Used and the Energy Cost of all three appliances. What do you notice?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

2. Using the EnergyGuide Tag, which appliance has the most expensive original cost?

_________________________________________________________________________

3. Using the EnergyGuide Tag, which appliance has the least expensive original cost?

_________________________________________________________________________

4. When buying an appliance do you think it is more important to look at the price or its energy use? Why?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Return the appliances you used to the appliance store.
Turn off all switches
RESET the computer screen