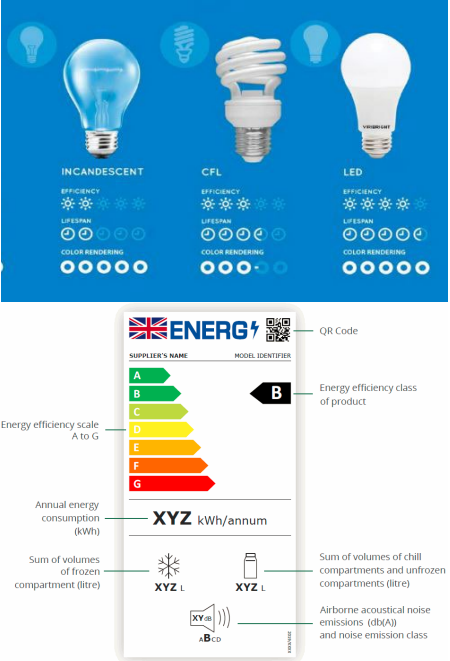
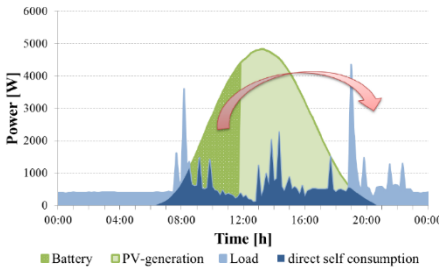


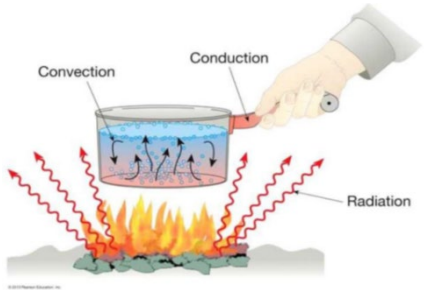




#	Experiment Type	Objective	Methodology	Outcome	Number of Experiment	Picture
1	Energy Efficiency (1/2 day)	Efficiency in using different type of home appliances	Explaining and comparing difference between efficient and non-efficient home appliances and energy star rating (e.g., three types of light bulbs (led, fluorescence and incandescent), washing machines, fridge/freezer, etc.)	Understanding energy star rating and difference in energy consumption between the core home appliances.	1 experiment on different types of light bulbs. 1 experiment on different types of HVAC. 1 experiment on reading the star rating for energy efficiency.	 <p>The 'Picture' column contains two main visual elements. The top one is a blue graphic comparing three light bulb types: Incandescent, CFL, and LED. Each bulb is shown with its corresponding energy efficiency metrics: Efficiency (represented by snowflake icons), Lifespan (represented by clock icons), and Color Rendering (represented by color wheel icons). The LED bulb is shown to have the highest efficiency and longest lifespan. The bottom element is a detailed Energy Star label for a refrigerator. It features the Energy Star logo, a QR code, and a performance scale from A to G. The scale shows 'B' as the energy efficiency class of the product. Other metrics include Annual energy consumption (XYZ kWh/annum), Sum of volumes of frozen compartment (XYZ L), Sum of volumes of chill compartments and unfrozen compartments (XYZ L), and Airborne acoustical noise emissions (dB(A)) and noise emission class (A/B/C/D).</p>

#	Experiment Type	Objective	Methodology	Outcome	Number of Experiment	Picture
2	Load Management (1/2 day)	Enhance adaptation and maximize performance.	The method used for load control may be direct (power interruptions, control devices) or indirect (rate schedules). In addition to behavioral elements.	Scheduling the loads to reduce electric energy consumption and or the maximum demand. In addition to understanding the generation profile of a solar system and how to optimize consumption.	1 Experiment grouping the different materials will be applied in an understandable way to be used during the session.	

#	Experiment Type	Objective	Methodology	Outcome	Number of Experiment	Picture
3	Solar Photovoltaic (1/3 day)	Monitoring the generation of Solar Photovoltaic Modules	Tracking PV Generation / Repeating Experiment with Different Setup.	Analyzing Results / Comparing Results / Discussing / Translating into daily usage and financials.	1 Experiment will be demonstrated in an understandable way to be used during the session.	

#	Experiment Type	Objective	Methodology	Outcome	Number of Experiment	Picture
4	Solar water Heater (1/3 day)	Monitoring the performance of a Solar Water Heating System.	Tracking Solar Water Heating Performance / Repeating Experiment with Different Setup.	Analyzing Results / Comparing Results / Discussing / Translating into daily usage and financials.	1 Experiment will be demonstrated in an understandable way to be used during the session.	

#	Experiment Type	Objective	Methodology	Outcome	Number of Experiment	Picture
5	Insulation and heat transfer (1/3 day)	Knowledge about: the three-heat transfer mechanism. Efficiency of insulation. Material Insulation to adopt.	Distinction between the 3 mechanisms of heat transfer: convection/conduction/ radiation, done through the experiment of boiling water. Distinction between 4 materials: Polyester stuffing, cotton bolls, aluminum foil, paper towel to check which material turned out to be the best insulator. Observation and Knowledge about the materials used for buildings insulation (Expanded Polystyrene, sheep's wool, multifoil are the different type of insulation materials).	<ul style="list-style-type: none"> <li>• Impact of the three mechanisms in our daily activities.</li> <li>• Paper towels are the best insulator.</li> <li>• Examples on the usage of different type of insulation materials.</li> <li>• Understanding practical tips to insulate windows and doors.</li> </ul>	3 Experiments will be demonstrated in an understandable way to be used during the session. In addition, practical tips on insulating windows and doors.	   <p>Common available insulation materials</p> <p>INSULATION MATERIAL      THERMAL CONDUCTIVITY W/MK - LESS INDICATES BETTER PERFORMANCE      THERMAL RESISTANCE M<sup>2</sup>K/W - MORE INDICATE BETTER PERFORMANCE      U - VALUE W/M<sup>2</sup>K</p>