

SUPPLEMENTAL MATERIALS – DEPENDENT VARIABLES

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1. Measuring understanding

Understanding: Historical use information

- 1. True / False: The highest electricity use was 1800kWh.*
- 2. True / False: The lowest electricity use was 700kWh.*
- 3. True / False: Just looking at the winter months (Dec, Jan, Feb), the Smiths tend to use the most on electricity in February.
- 4. True / False: The Smith’s home used more electricity in February 2011 than February 2012.
- 5. True / False: The Smith’s home used the most electricity in August.
- 6. True / False: The Smith’s home used the most electricity in the summer months (Jun, Jul, Aug).
- 7. True / False: Every month, the Smith’s electricity use was above 600kWh.*

Understanding: Neighbor comparison information

- 1. True / False: The Smith’s neighbors vary in how much electricity they use.
- 2. True / False: 18 homes used less electricity than the Smith’s home.
- 3. True / False: The Smith’s home used more electricity than most of their neighbors.
- 4. True / False: The Smith’s home should use less electricity to be closer to the neighborhood average.
- 5. True / False: Most homes used more than 300kWh of electricity.*
- 6. True / False: There is a difference of about 696kWh between the home that used the most and the least electricity.*
- 7. True / False: The maximum amount of electricity used by the Smith’s neighbors was about 279kWh.*

Understanding: Appliance breakdown information

- 1. True / False: In January 2011, the Smiths used the most electricity for space heating.
- 2. True / False: In May 2011, the Smiths used the most electricity for running their “other” appliances.
- 3. True / False: The Smith’s home used less electricity in January 2011 than in January 2012.
- 4. True / False: The Smith’s use 300-400kWh of electricity a month for “other” appliances.*
- 5. True / False: The difference in usage for lighting and kitchen appliances is never more than 100kWh.*
- 6. True / False: The main reason why the Smith’s electricity use changes from month-to-month is because of lighting.
- 7. True / False: Without heat or air-conditioning, the Smiths would probably use between 400-500kWh per month.*

* Question asked about specific values or ‘verbatim’ understanding.

2. Measuring preferences

Response scales for questions 1-8 ranged from 1=not at all to 7=very much. For questions 9-10, the response scale ranged from 1=not at all to 7=a lot

- 1. How clear is this information?
- 2. How easy is this information to understand?
- 3. How much do you like the way this information was presented?
- 4. How easy is this information to use?
- 5. How much would you like it if this information were included in your electricity bill?
- 6. How useful would it be if this information came with your electricity bill?
- 7. How professional does this information seem?
- 8. How much would you trust this information if it came with your electricity bill?
- 9. How much more detail would you like to see if this information came with your electricity bill?
- 10. How much would this information help you decide how to change your electricity use?

3. Measuring intentions to reduce electricity use

Response scale ranged from 1=not at all to 7=a lot.

- 1. How much does this information make you want to lower your electricity usage?

SUPPLEMENTAL MATERIALS – INDIVIDUAL DIFFERENCES IN ENERGY LITERACY

Energy literacy questions adapted from DeWaters and Powers (2011)

- 1. The amount of ELECTRICAL ENERGY (ELECTRICITY) we use is measured in units called ...
 - Kilowatt (kW)
 - **Kilowatt-hours (kWh)**

- British Thermal Units (BTU)
 - Volts (V)
 - Horsepower (HP)
2. The amount of ENERGY consumed by an electrical appliance is equal to the power rating of the appliance (watts or kilowatts) ...
- Multiplied by the cost of electricity
 - Added to the cost of electricity
 - **Multiplied by the time it's used**
 - Divided by the time it's used
 - Added to the time it's used
3. When you turn on an incandescent light bulb, which of the following energy conversion takes place?
- Electrical energy to radiant energy (light)
 - Chemical energy to radiant energy (light)
 - **Electrical energy to radiant energy (light) and thermal energy (heat)**
 - Chemical energy to radiant energy (light) and thermal energy (heat)
 - Electrical energy to radiant energy (light) and mechanical energy
4. The best reason to buy an ENERGY STAR® appliance is ...
- ENERGY STAR appliances are usually bigger
 - ENERGY STAR appliances cost more
 - **ENERGY STAR appliances use less energy**
 - ENERGY STAR appliances are more modern looking
 - ENERGY STAR appliances cost less
5. Which uses the MOST ENERGY in the average American home in one year?
- Refrigerating food and beverages
 - Washing and drying clothing
 - **Heating and cooling rooms**
 - Heating and cooling water
 - Lighting the home
6. Which of the following items uses the MOST ELECTRICITY in the average home in one year?
- Lights
 - **Refrigerator**
 - Telephone
 - Television
 - Computer
7. Which of the following sources provides most of the ELECTRICITY in the United States?
- Nuclear power
 - Burning petroleum
 - **Burning coal**
 - Solar energy
 - Water (hydro) power
8. Some people think that if we run out of fossil fuels we can just switch over to electric cars. What is wrong with this idea?
- **Most electricity is currently produced from fossil fuels (coal, oil, natural gas)**
 - Switching to electric cars will make unemployment rates go up
 - It has been proven that it is impossible to build electric cars in great quantities
 - You can't use electricity to operate a car
 - There is nothing wrong with this idea