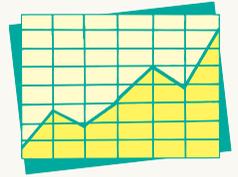


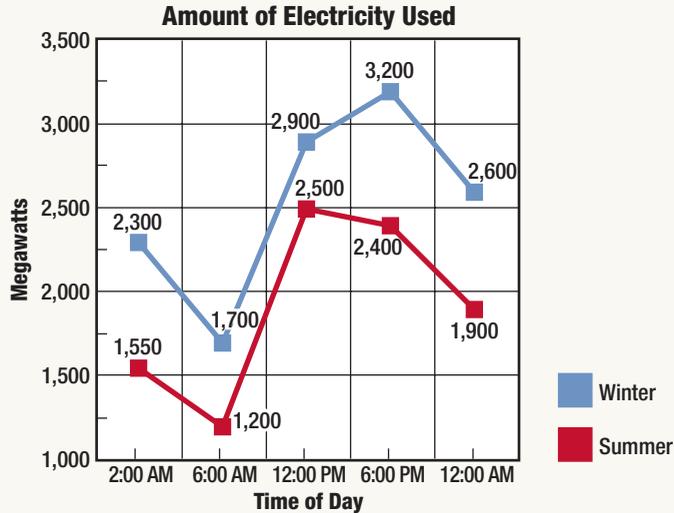
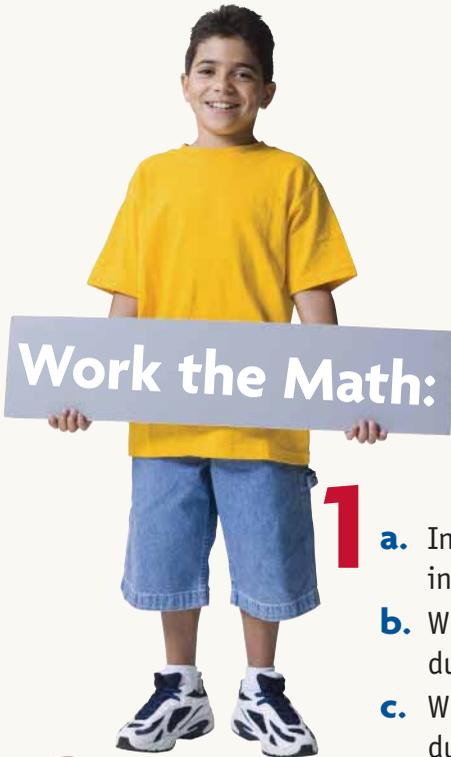
## FAMILY ACTIVITY 3: Line Graphs

# Energy Equations for the Future



Name: \_\_\_\_\_ Date: \_\_\_\_\_

You use energy every day, both at home and at school. From lights to stereos to televisions, your family has a lot of things that use electric energy. Study the line graph below and then answer the questions to see how energy-efficient your family can be.



- 1
  - a. In the example above, how many megawatts are used at 6:00 p.m. in winter? \_\_\_\_\_ In summer? \_\_\_\_\_
  - b. When would you expect this family to use the most electricity, during the summer or winter? \_\_\_\_\_
  - c. When would you expect your family to use the most electricity, during the summer or winter? Discuss why.

2 a. The average family uses approximately 1,210 kilowatt-hours/year on lighting. How much will this cost in a year? (*Hint: Electricity costs \$0.15 per kilowatt-hour.*) \_\_\_\_\_

b. Replacing incandescent bulbs with energy-efficient compact fluorescent bulbs can reduce the amount spent on lighting by roughly 62%. How much will this save a family? (*Hint:  $62\% = 0.62$* ) \_\_\_\_\_

- 3
  - a. All plugged-in items within a household use electricity, even when turned off or on "standby." Survey your house and on a separate sheet of paper make a list of all the plugged-in items you see. How many did you find? \_\_\_\_\_
  - b. Now discuss your findings with other members of your family and decide which of these could be left unplugged until needed without becoming an inconvenience. Circle those items on the list. What percentage of the items did you circle? \_\_\_\_\_
  - c. If leaving those items unplugged saved your family 450 kilowatt-hours per year each, how much money could be saved? \_\_\_\_\_



ANSWERS: 1. a. winter: 3,200; summer: 2,400; b. winter: c. Answers will vary, depending on individual usage and geographic location. 2. a.  $1,210 \text{ kilowatt-hours} \times \$0.15 = \$181.50$ ; b.  $\$181.50 \times 62\% \text{ savings} = \$112.53 \text{ saved}$ . 3. a. Answers will vary; b. Answers will vary; c.  $450 \text{ kilowatt-hours} \times \$0.15 = \$67.50 \text{ saved for each item}$ .