



The Wishings: Watt's a Graph Good For?

Directions: Work with a partner to complete this activity. One person will construct Graph A, the other person will construct Graph B. Discuss the questions about each graph that follow together and then individually record your responses.

Friends of the Addison Fox family, Mr. and Mrs. Wishing (they could live in Maine full-time) own a vacation house in Maine. They're interested in learning more about their electricity costs using graphs. Their electricity use and the amount they pay the electric company each month for a year for delivering their electricity is shown in the table below:

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
kWh	600	750	20	220	120	400	500	300	100	80	60	660
Cost	\$38.27	\$47.24	\$8.36	\$15.54	\$9.56	\$26.31	\$32.29	\$20.32	\$8.36	\$8.36	\$8.36	\$41.86

Graph A

Using $\frac{1}{4}$ inch graph paper, construct a bar graph of **kWh versus Month**.

1. Graph the **Month** on the horizontal axis.

Circle the correct adjective to complete the following sentence: We graphed **Month** on the horizontal axis because it is the (independent or dependent) variable.

2. Graph the **kWh Used** on the vertical axis.
3. Remember to scale and label each axis.
4. Remember to title the graph.
5. Construct a bar graph of the data **kWh versus Month**.

Have your partner check your work and revise if necessary.

Graph B

Using $\frac{1}{4}$ inch graph paper, construct a line graph of **Cost versus kWh**.

1. Graph the **kWh Used** on the horizontal axis.

Circle the correct adjective to complete the following sentence: We graphed **kWh Used** on the horizontal axis because it is the (independent or dependent) variable.

2. Graph the **Cost** on the vertical axis.
3. Remember to scale and label each axis.
4. Remember to title the graph.
5. Construct a line graph of the data **Cost versus kWh**.

Have your partner check your work and revise if necessary.



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Questions:

Remember; discuss each of the following questions with your partner. Then, individually, write your own response.

- 1** Why were you asked to graph the kWh on the vertical axis for Graph A and on the horizontal axis for Graph B?
- 2** What kinds of questions can you answer using Graph A?
- 3** What kinds of questions can you not answer using Graph A?
- 4** Using Graph A, can you make a conjecture which months the Wishinges were able to come to Maine?

Why do you think this?

- 5** Why do you think that a bar graph is a good choice of graph to display the data kWh versus Month?



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- 6** What kinds of questions can you answer using Graph B?
- 7** What kinds of questions can you not answer using Graph B?
- 8** What can you say about the slope of the graph?
(Is it flat, increasing, decreasing, the same or changing, etc.)
- 9** What does this tell us about how this electric company charges its customers for delivering electricity?
- 10** Why do you think that a line graph is a good choice of graph to display the data Cost versus kWh?