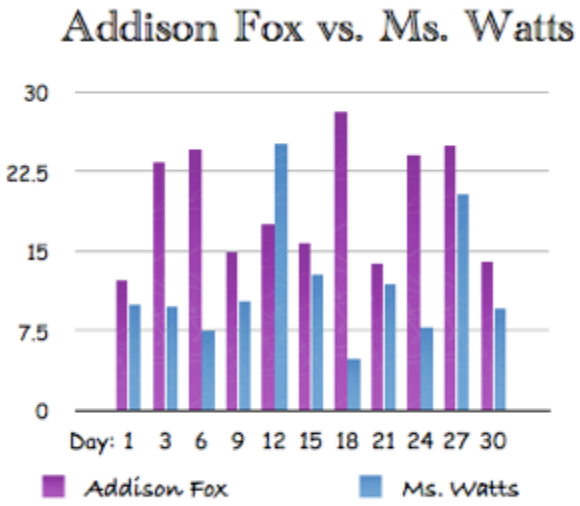
Student Sample 5

Does Addison Fox or Ms. Watts use more energy in March 2011?

Our prediction is that Ms. Watts used more energy, we think this because Ms. Watt's data that we studied looked as though she had more family members then Addison Fox.

We got data from Ms. Watts and Addison Fox for the month of March 2011.

Our conclusion is that Addison Fox uses more data than Ms. Watts. Ms. Watts uses 340 kWh and Addison Fox uses 520 kWh.



Our conclusion is that our prediction was not correct, and Addison Fox used more energy then Ms. Watts in the month of March. This may be because Addison Fox could have cleaned a lot, or maybe even had people over. Addison may even have appliances that use more energy then Ms. Watts does. Also, Addison Fox could live in an environment that is colder/hotter then where Ms. Watts lives. We also noticed that Addison Fox has a higher always on rate.

Highest Times and Amount of kWs used:

March 1st: 6am, 1.75 kw
March 2nd: 6pm with 2.9 kw
March 3rd: 6pm, 6 kw

March 4th: 6pm, 7kw
March 5th: 11am, 2kw
March 6th: 9pm, 4.6kW
March 7th: 6pm, 4.2
March 8th: 6pm, 2.3kW
March 9th: 6pm, 4kW
March 10th: 6am, 2kW
March 15th: 6pm, 4.5kW
March 16th: 6am, 5.2kW
March 17th: 9 pm, 6kW
March 18th: 1pm, 5kW
March 19th: 2pm, 1kW
March 20th: 6pm, 4kW
March 21st: 6pm, 2.5 kW
March 22nd: 6am, 2.5kW
March 23rd: 6pm, 6kW
March 24th: 6pm, 7kW
March 25th: 6am, 3.6kW
March 26th: 10 pm, 5kW
March 27th: 6pm, 5.5kW
March 28th: 6am, 2.5kW
March 29th: 8pm, 2kW
March 30th: 9pm, 4.5kW
March 31st: 6am, 4.5kW
April 1st: 6pm, 3.5kW

Most Energy Used as Specific Times:
6 a.m: 7 of the 28 days
6 p.m: 13 of the 28 days
Other Times: 8 of the 28 days
(11 a.m: 1 of the 28 days
9 p.m: 3 of the 28 days
1 p.m: 1 of the 28 days
2 p.m: 1 of the 28 days
10 p.m: 1 of the 28 days
8 p.m: 1 of the 28 days)

We decided to figure out what time of day Addison Fox used the most energy. We predicted that the most energy would be used at around 6 pm, because that's the time when most people are at home doing things like cooking dinner. We looked at her daily usage for a month and found the highest usage of energy each day. At first, we decided that we'd average the times, but because some were in the morning and some were at nighttime, the times averaged to around the middle of the day, which did not cover our data well, as there were minimal times energy was used during that period.

Instead, we kept a tally of each time slot and how many times that was the highest energy usage. The two main reoccurrences we found were six a.m and six p.m. Looking carefully at our tallies, we saw that 7/28, or ¼ of the 28 days we looked at had six a.m as the highest usage. Six p.m, however, had 13/28 of the days, almost half of the days (or twice as many as six a.m.). The times of the remaining eight days were scattered throughout the day. For example, on one day, the highest was 11 am, and on another it was at 9 pm.

However, overall, we can conclude that our hypothesis was correct - 6 pm had the highest amount of days where that was when the most energy was being used. We don't know what she was doing exactly, but we can predict that the most energy was used at this time because that's when many people are just getting home from work, so it's possible that she was cooking dinner, turning on lights, etc. This would have caused a big spike an energy when compared to before, when she wouldn't have been home