

Name _____

The Power of Light!

The Science Museum of Minnesota designed their Science House to have all its electricity powered by sunlight. The solar panels on the roof of Science House capture the energy of the sun just like the solar car.



Is there enough power in sunlight?

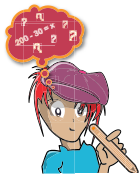
Scientists at the Science Museum have been taking measurements of the Science House. They measure how much energy is gained from the sun and how much energy the building uses. Below is a table of some of their measurements.

	Dec. 2004 Week 1 (mostly cloudy)	Dec. 2004 Week 2 (sunny)	Dec. 2004 Week 3 (sunny)	Dec. 2004 Week 4 (partly cloudy)
Energy from the sun (in kilowatt-hours)	26	96	81	53
Energy used by Science House (in kilowatt-hours)	163	183	262	166

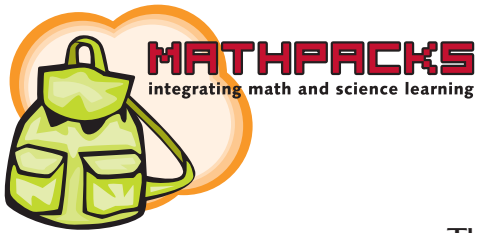
1 kilowatt-hour powers a 60 watt lightbulb for over 16 hours!!!

Calculate the average (mean) amount of energy from the sun per week for December 2004.

Calculate the average (mean) amount of energy used by Science House per week for December 2004.



Is Science House capturing enough energy from the sun during the month of December? Why or why not?



Name _____

The Power of Light, continued

	June 2004 Week 1 (mostly cloudy)	June 2004 Week 2 (sunny)	June 2004 Week 3 (sunny)	June 2004 Week 4 (partly cloudy)
Energy from the sun (in kilowatt-hours)	246	273	281	259
Energy used by Science House (in kilowatt-hours)	37	41	125	130

1 kilowatt-hour powers a 60 watt lightbulb for over 16 hours!!!



Calculate the average (mean) amount of energy from the sun per week for June 2004.	Calculate the average (mean) amount of energy used by Science House per week for June 2004.
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Is Science House capturing enough energy from the sun during the month of June? Why or why not?

Why do you think Science House uses more energy some weeks than other weeks?

Why do you think Science House uses more energy in the winter than in the summer?

Why do you think Science House is able to capture more energy in the summer than in the winter?

List a few ideas how Science House could keep some of the extra energy from the summer for winter?