

# Energy Consumption

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# Germany



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# Lower Saxony



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# Our School



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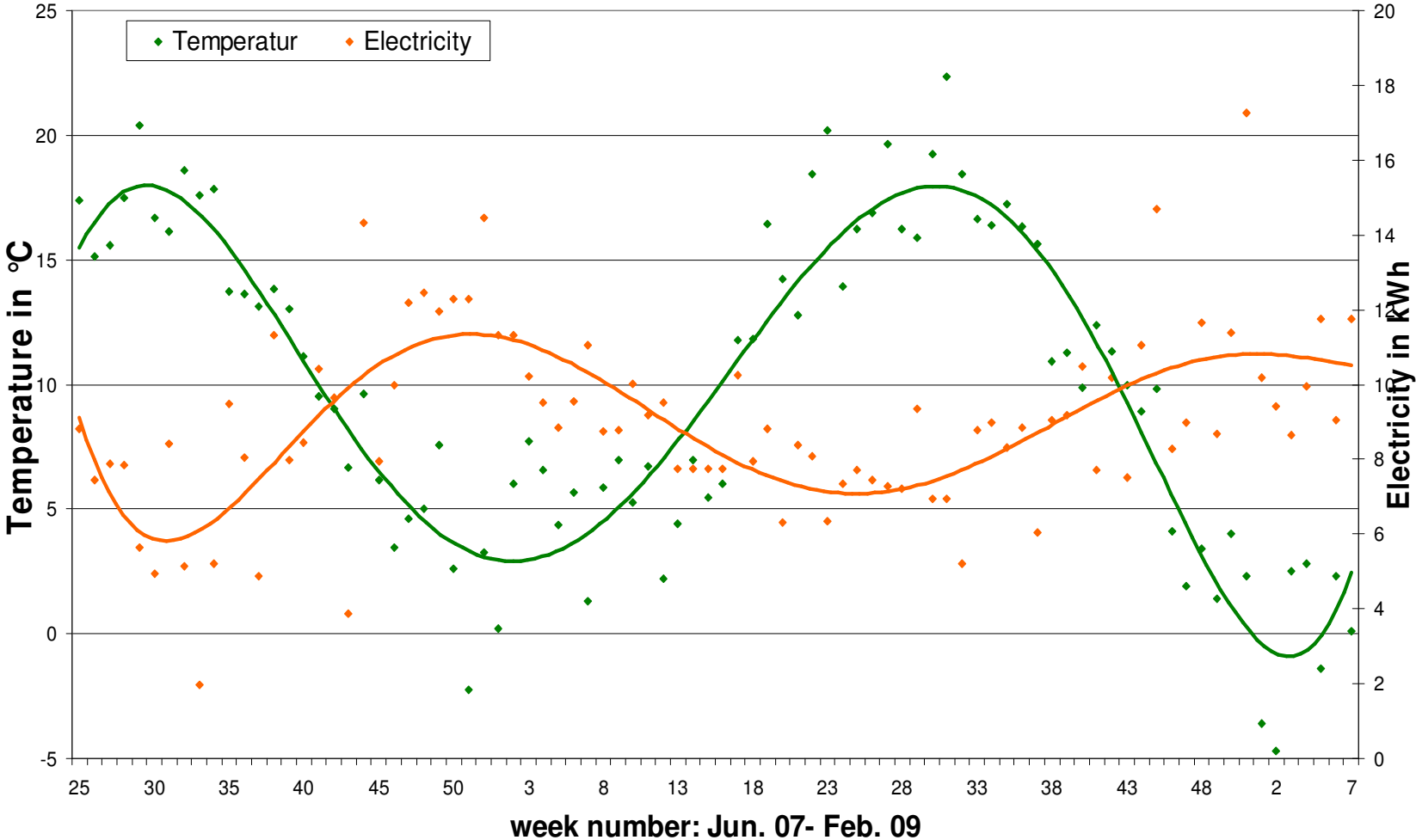
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# Longterm monitoring of electricity consumption

Weekly Electricity consumption (per day) and Temperature



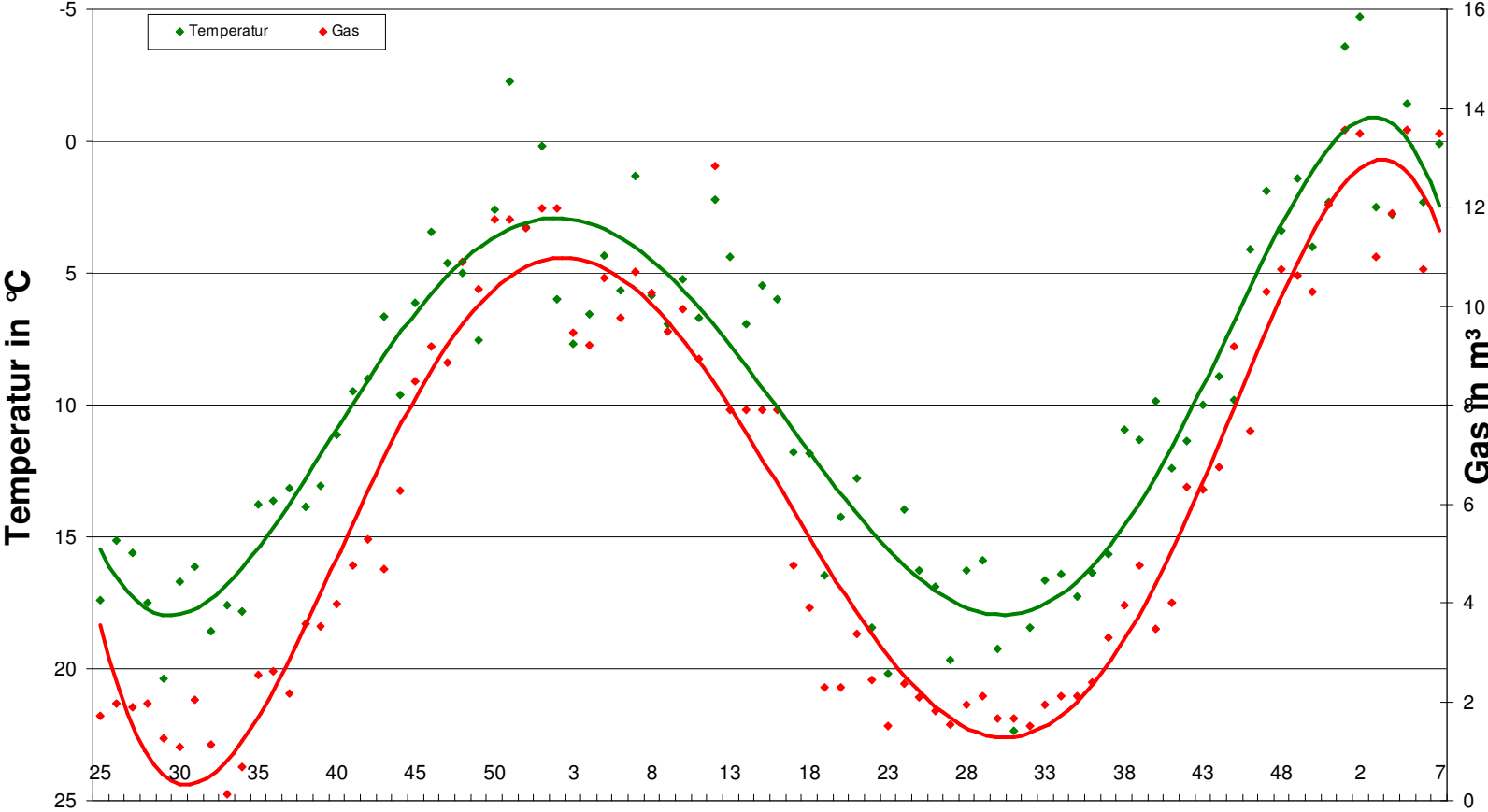
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# Longterm monitoring of gas consumption

## Weekly Gas consumption (per day) and Temperature



week number: Jun. 07- Feb. 09



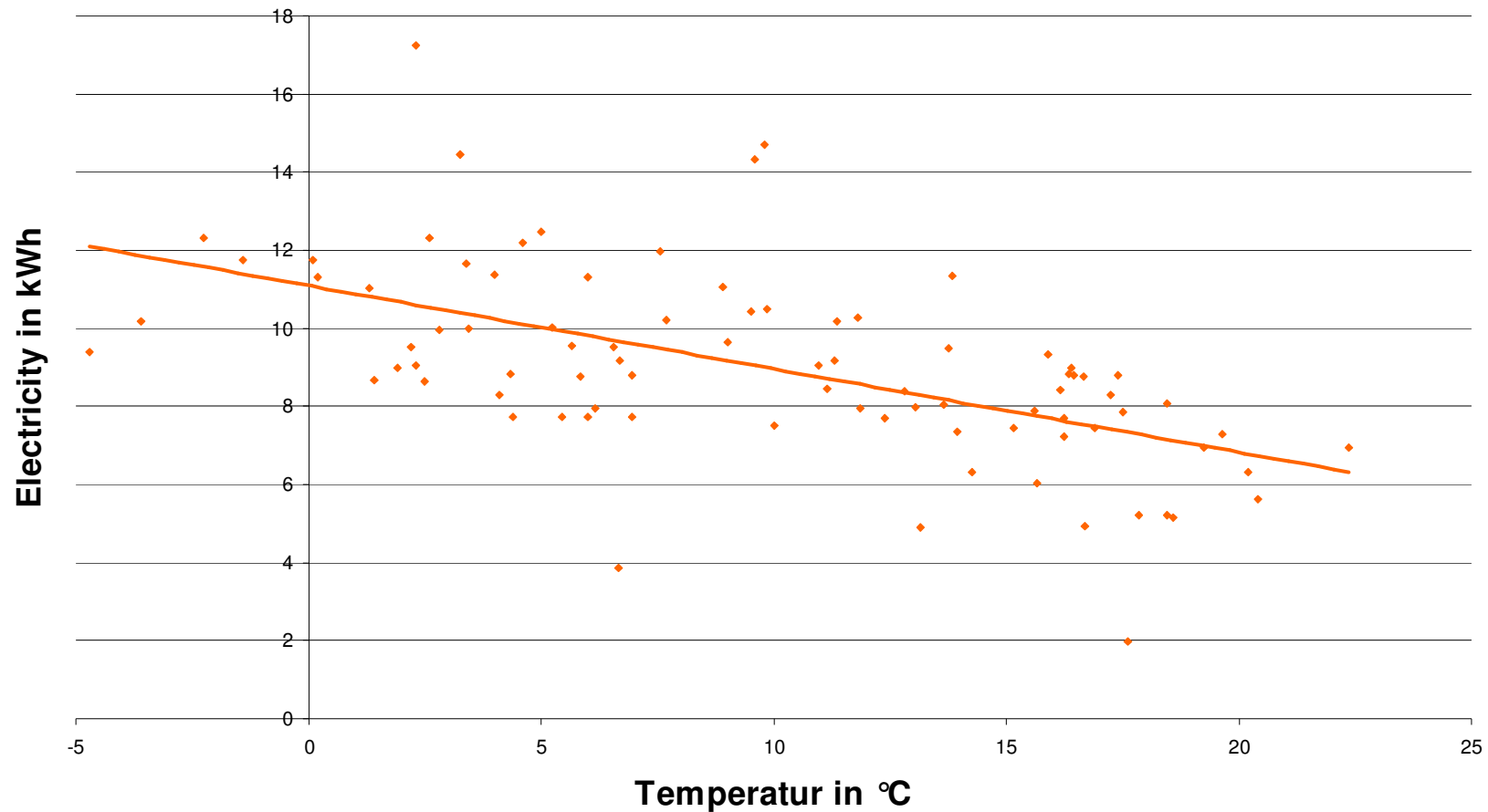
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# Consumption versus Air Temperature

## Weekly Electricity (per day) vs. Air Temperature



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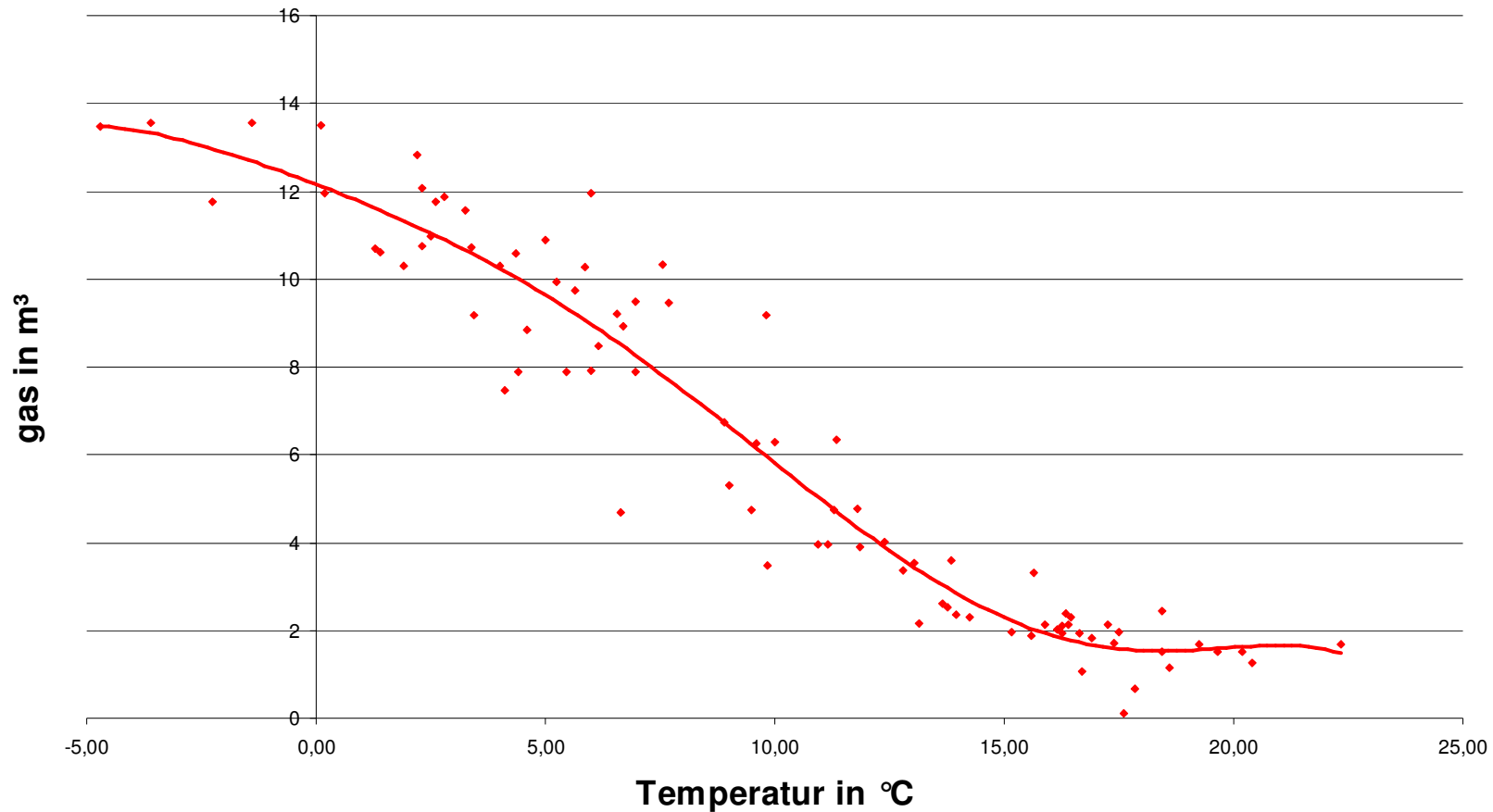


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# Consumption versus Air Temperature

## Weekly Gas (per day) vs. Air Temperature

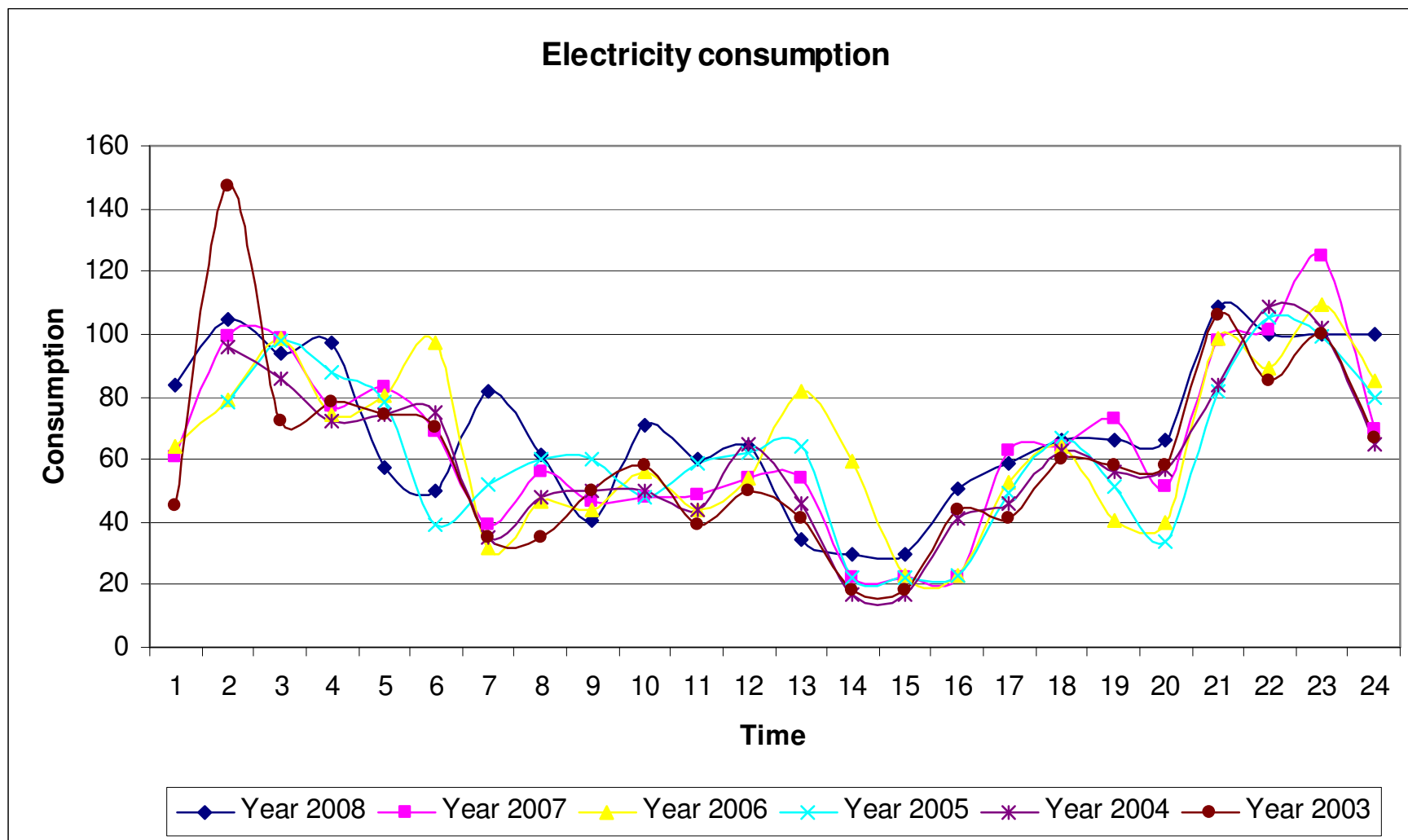


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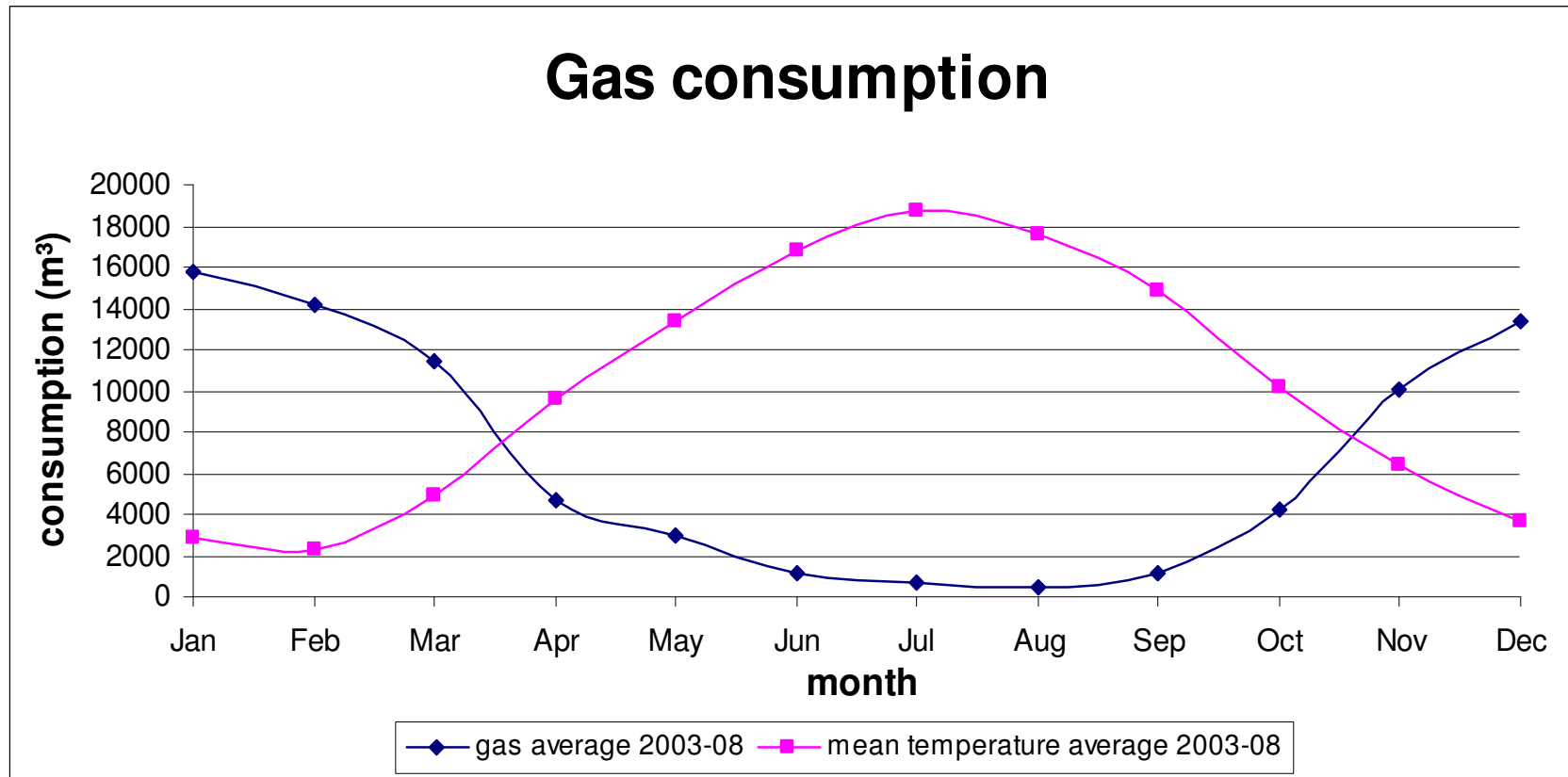


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# Energy Consumption Data School



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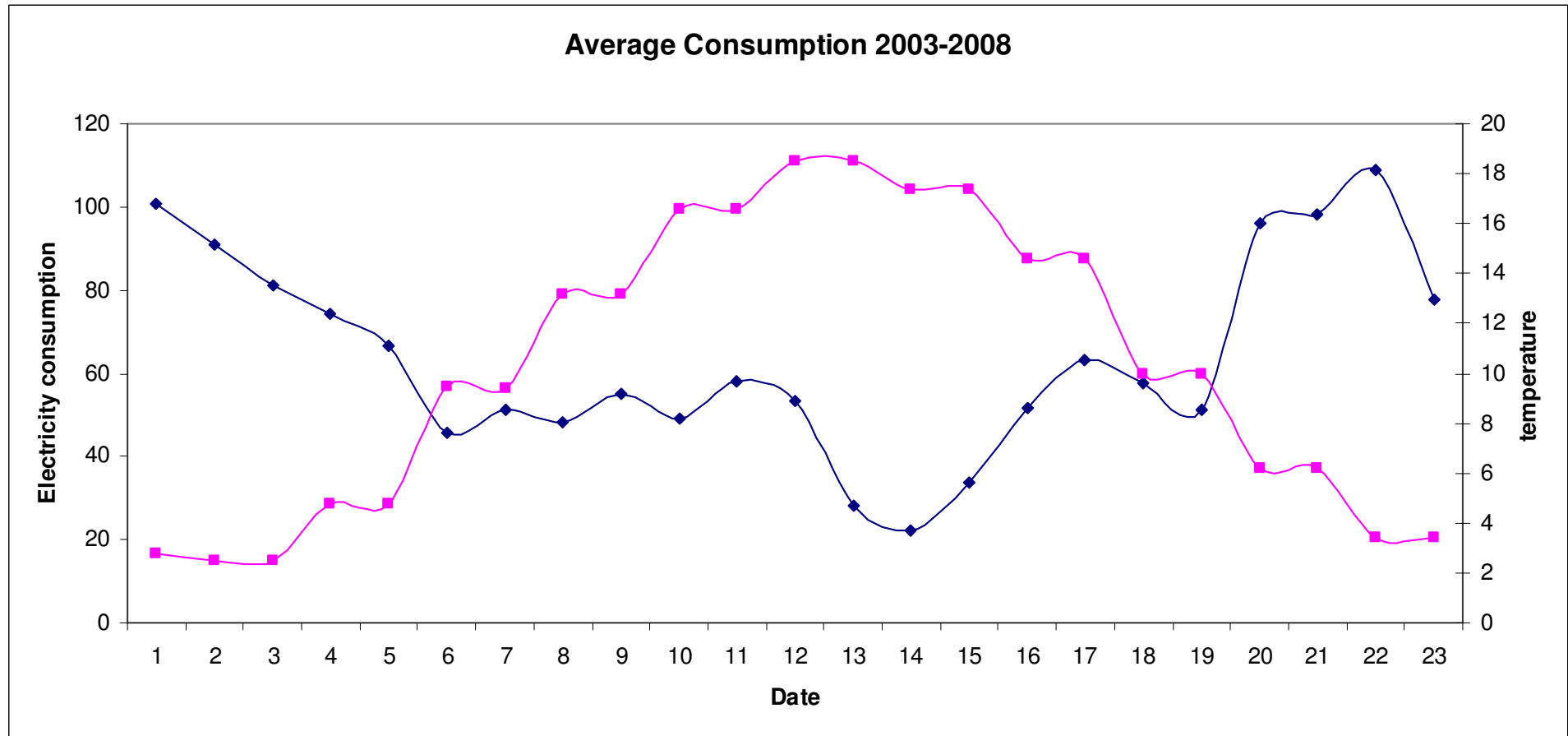
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# School

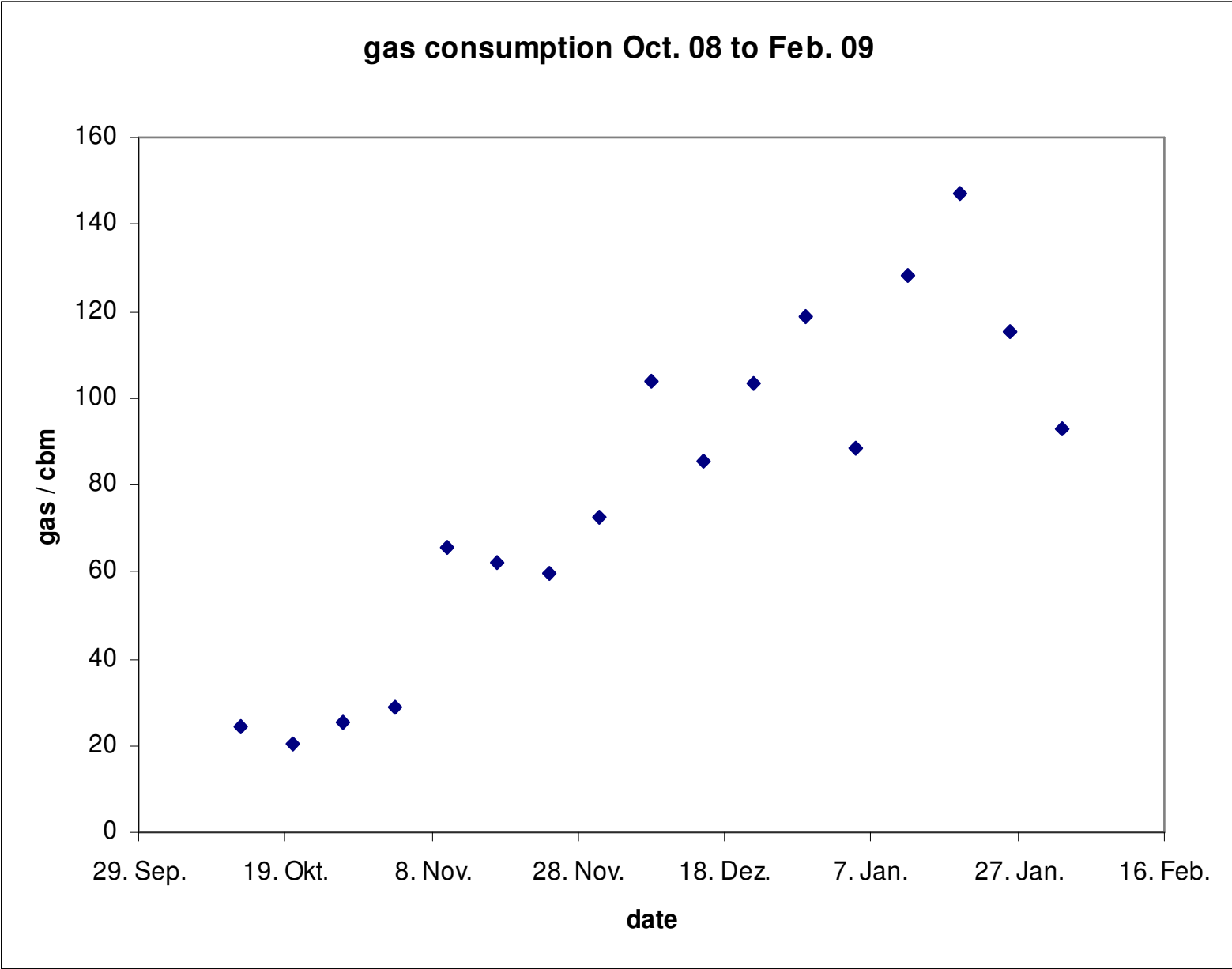


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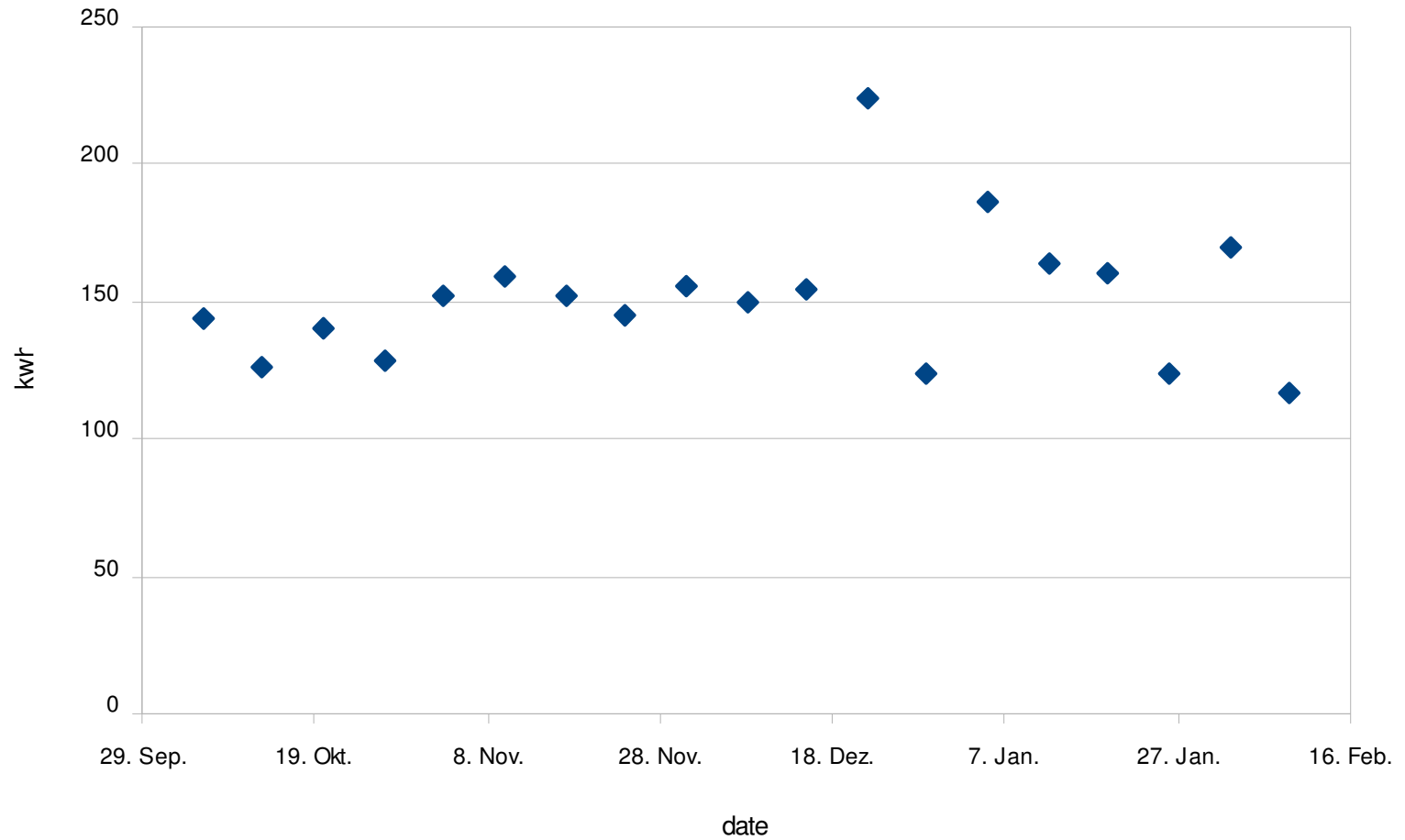
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# electricity consumption Oct. 08 to Feb 09



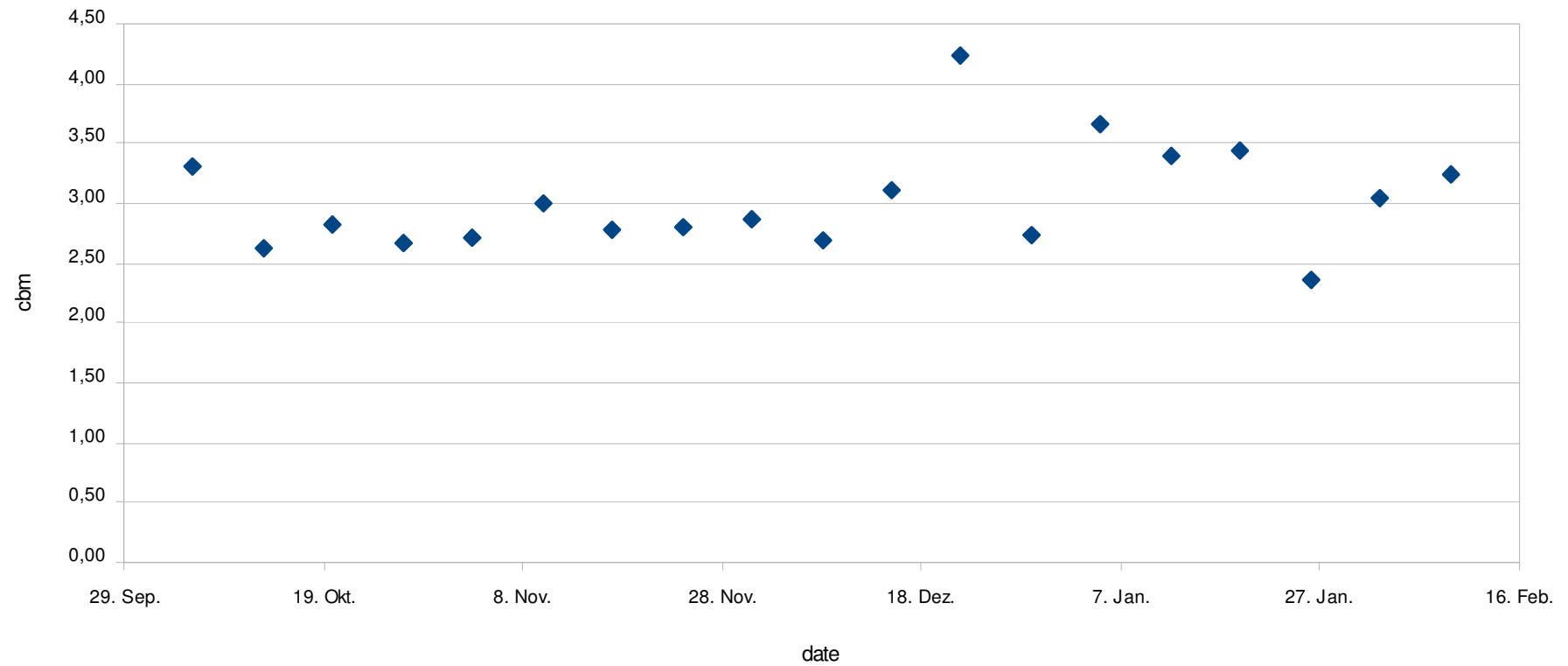
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### water consumption Oct. 08 to Feb. 09



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# Worksheet for consumption of the devices

Device	Pieces	Indicated power in W	Runtime in h per week	Estimated consumption per week in kWh		
					<b>Total consumption of all devices per week in kWh</b>	<b>Measured consumption per week in kWh</b>



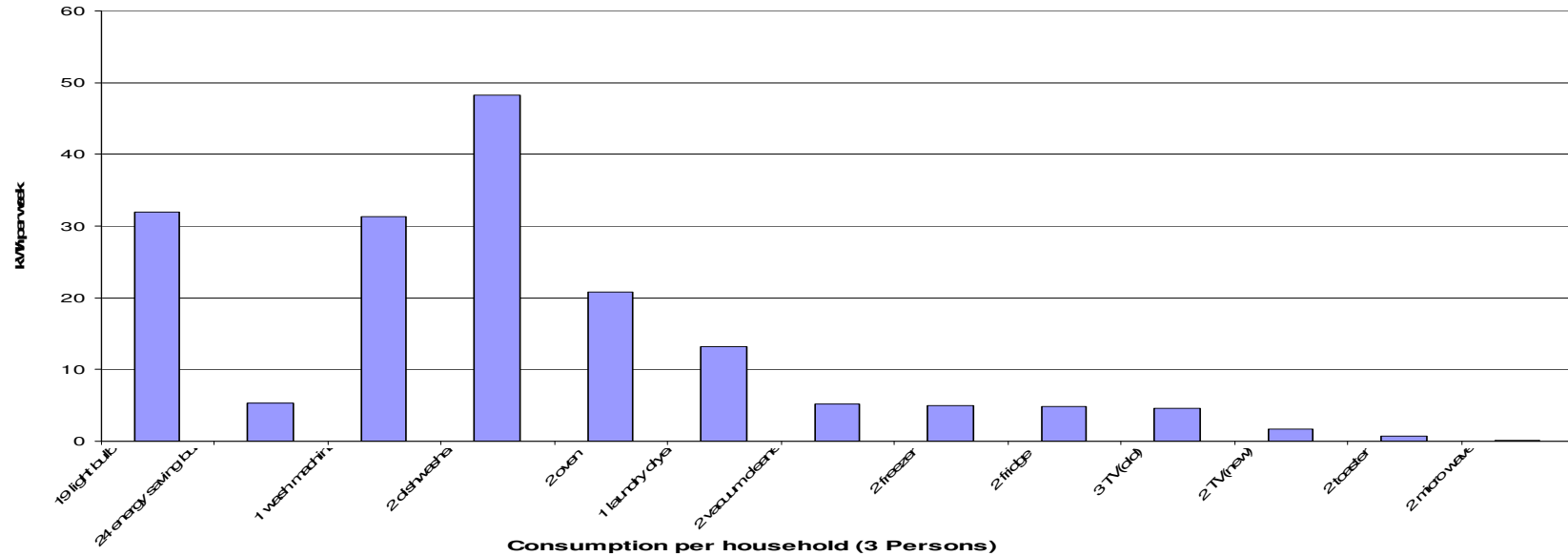
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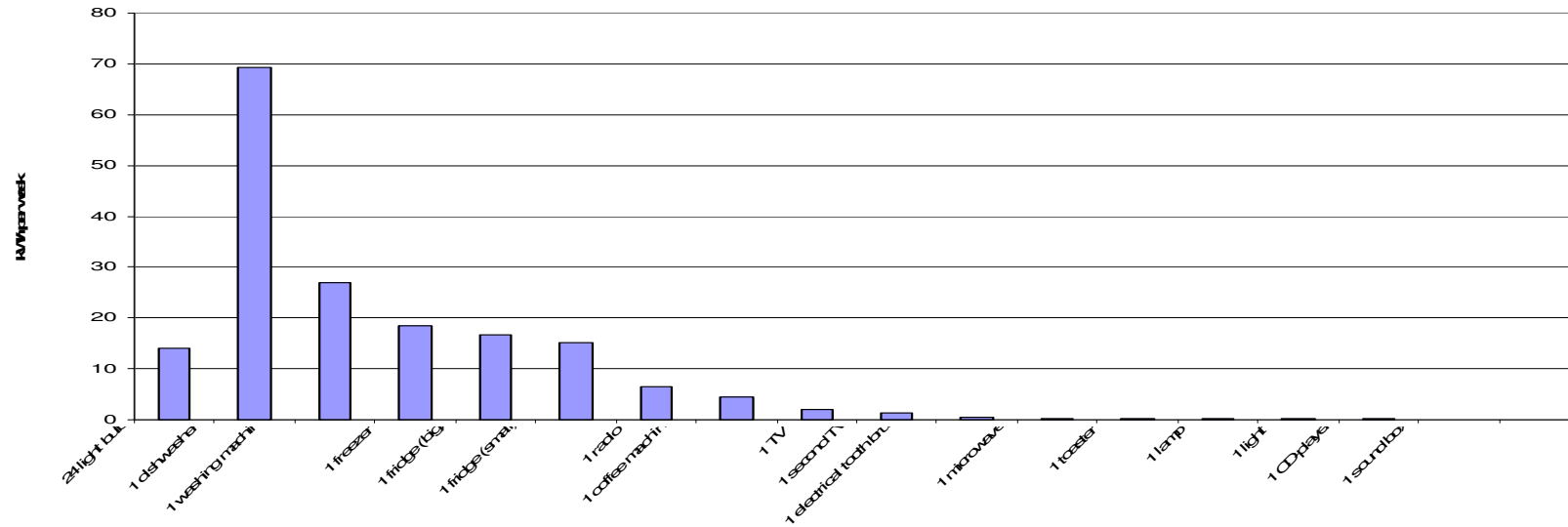
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Consumption per household (7 persons)



Consumption per household (3 Persons)



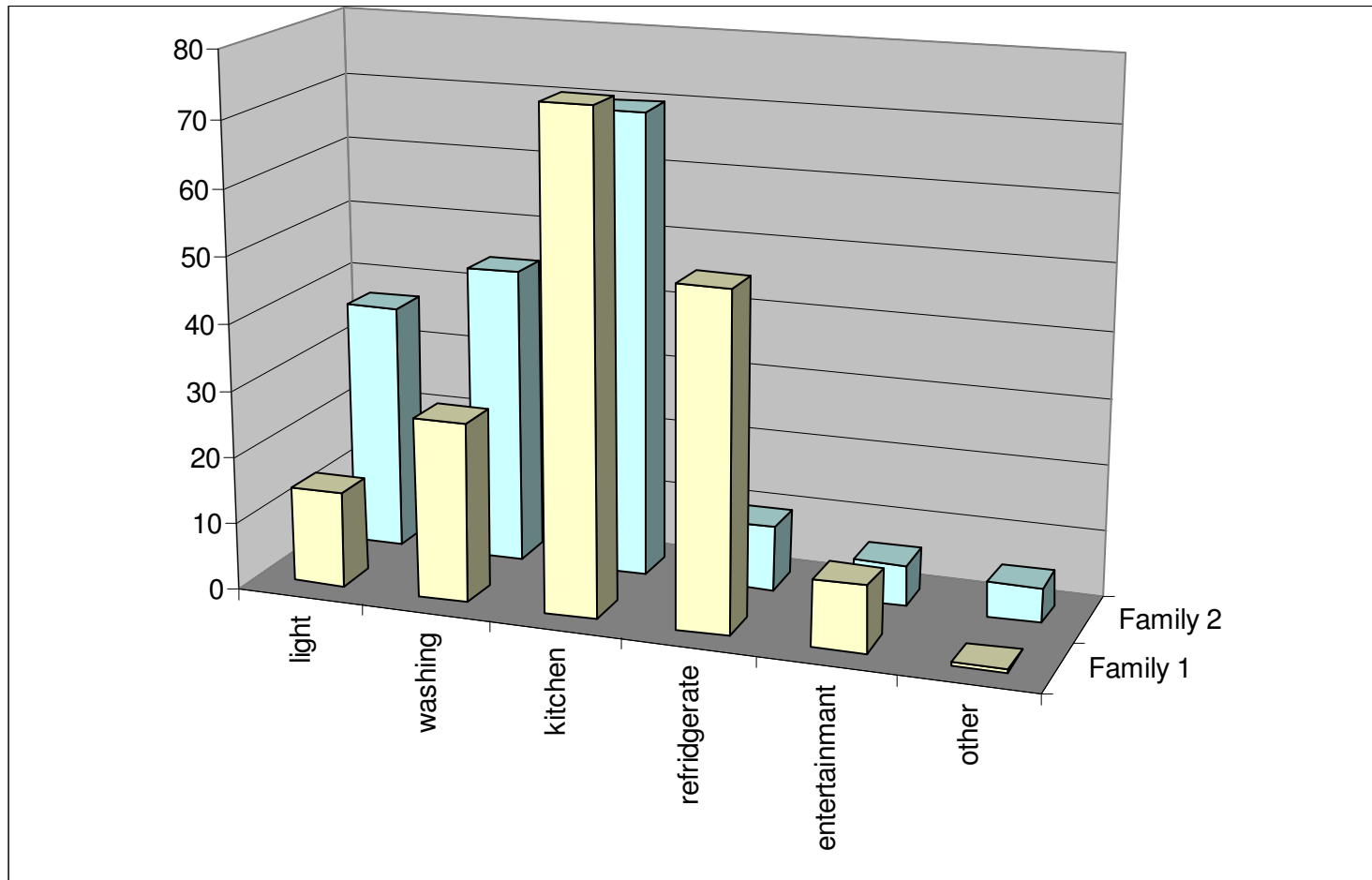
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# Two families and their technical devices



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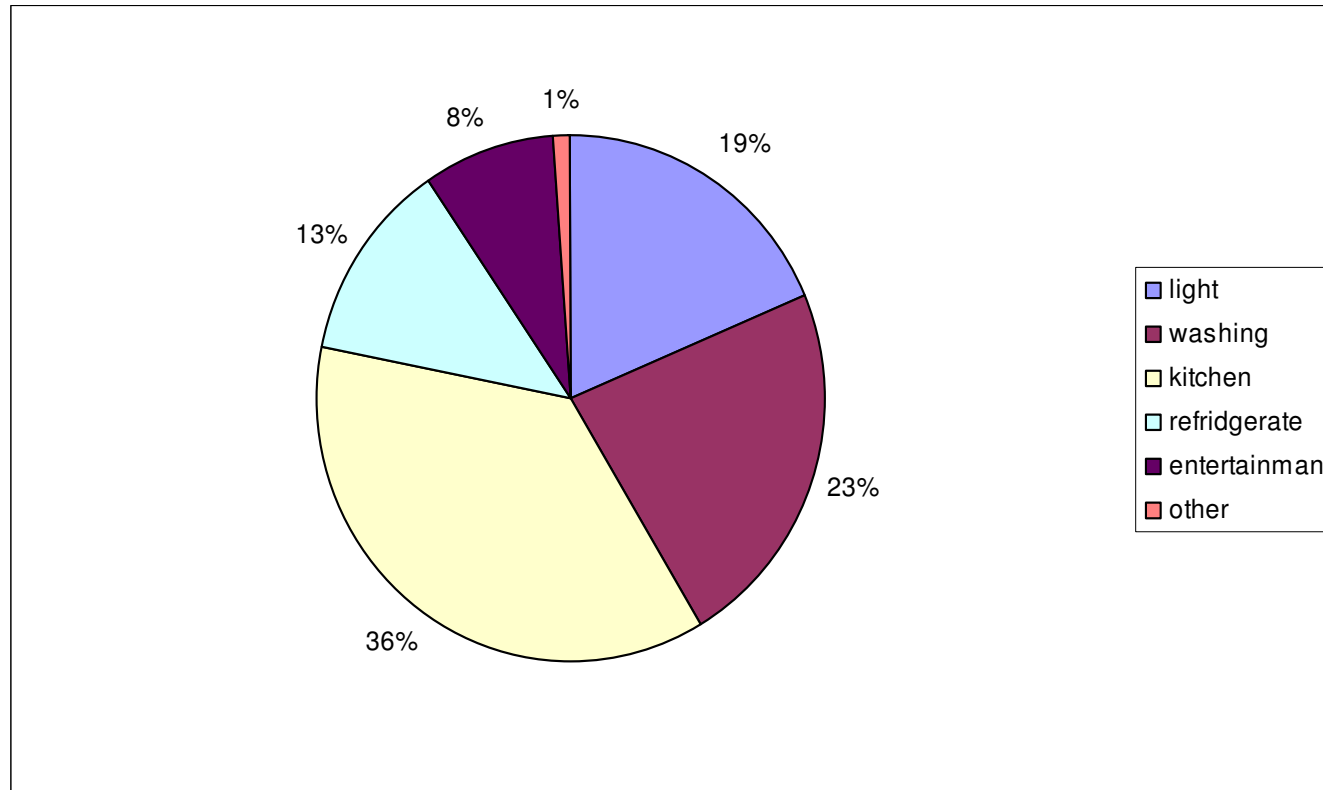
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# Typical Household in Sulingen /Germany

## Electricity Consumption



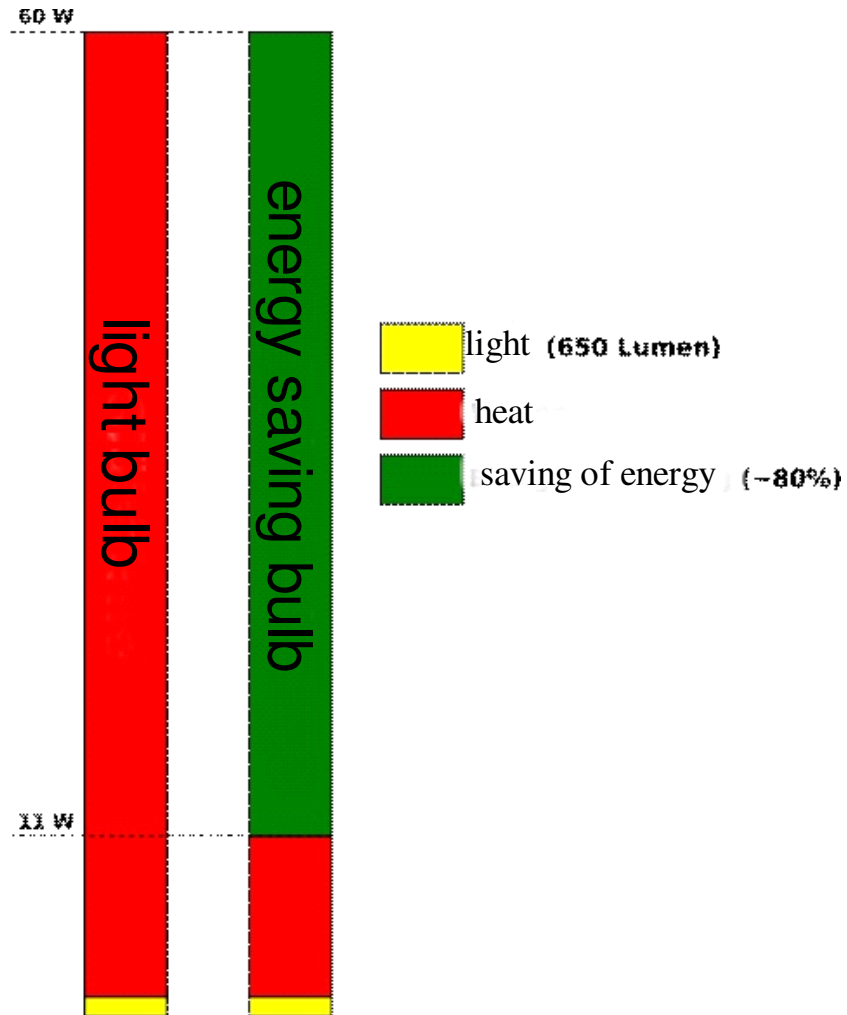
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# Energy: Light bulb – energy saving bulb



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# Energy: Light bulb – energy saving bulb

a)

## Light bulb (60 W)

15000 h - 15 bulbs

1 h - 15/15000

30 h - 15/15000 · 30 = 0,03

purchase costs per week +

(consumption of electricity · electricity tariff) = total costs

$$\text{a) } (0,03 \cdot 1,95 \text{ €}) + ((30 \text{ h} \cdot 0,06 \text{ kW}) \cdot 0,2 \text{ €}) = 0,42 \text{ €}$$

$$\text{b) } (0,002 \cdot 9,22 \text{ €}) + ((30 \text{ h} \cdot 0,011 \text{ kW}) \cdot 0,2 \text{ €}) = 0,084 \text{ €}$$

saving money per week: 42 ct – 8,4 ct = 33,6 ct

b)

## energy saving bulb (11 W)

15000h - 1 bulb

1 h - 1/15000

30 h - 1/15000 · 30 = 0,002



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