

# task\_xymf9jywhsdrrfw\_i\_with\_calculation

## Student Group

First Name	Surname	Matrikel Nr.

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## conversions, energy, consumption, chapter1 1

### Exercise E16 Conversion: Energy Consumption

Convert the following values step by step:

Result

How much energy does an average household consume per day when consuming an average power of  $500 \text{ W}$ ?

How many chocolate bars ( $2'000 \text{ kJ}$  each) does this correspond to?

$$22 \text{ chocolate bars}$$

Solution

$$\begin{aligned} W &= 500 \text{ W} \cdot 24 \text{ h} = 12'000 \text{ Wh} = \\ &= 43'200'000 \text{ Js} = 43'200 \text{ kWs} \quad \&= 43'200 \text{ kJ} \quad \text{\text{Or: }} W \\ &= 0.5 \text{ kW} \cdot 24 \text{ h} = 12 \text{ kWh} = 43'200 \text{ kWs} \quad \&= \\ &= 43'200 \text{ kJ} \quad \text{\text{ }} n_{\text{bars}} = \frac{43'200 \text{ kJ}}{2'000 \text{ kJ}} = \\ &= 21.6 \text{ chocolate bars} \end{aligned}$$

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