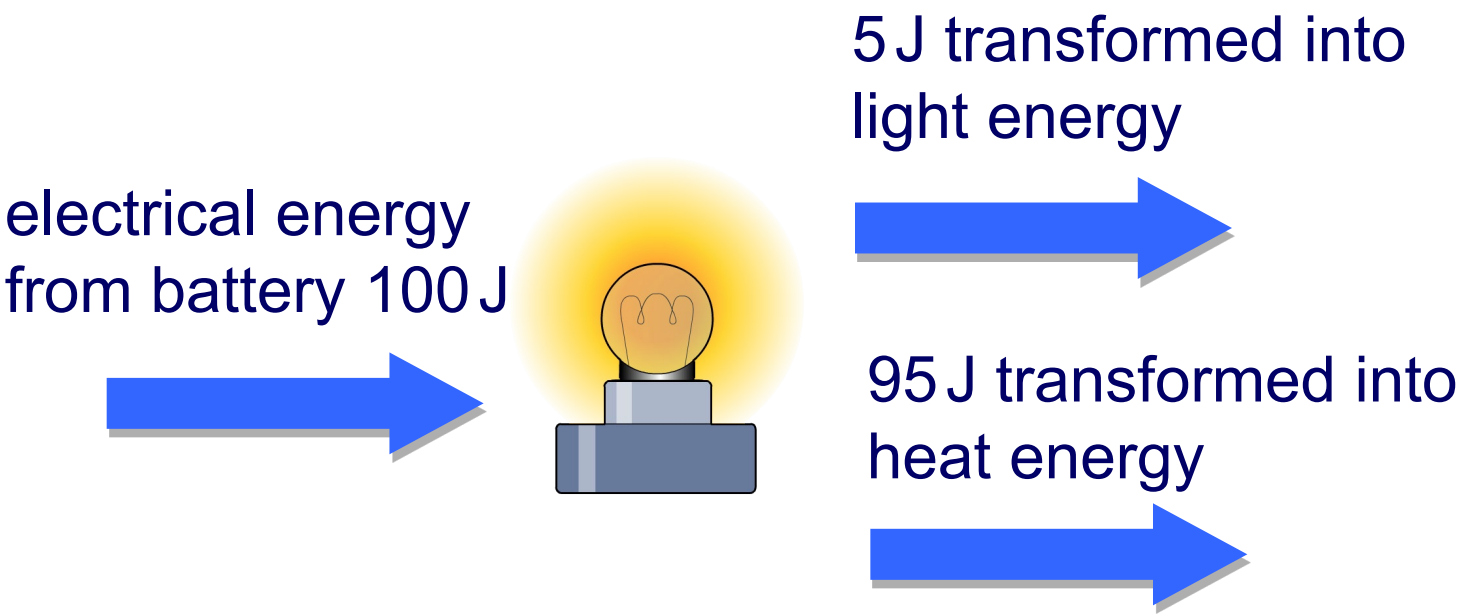
Energy Efficiency

Energy transformations in circuits

What happens to the electrical energy received by a lamp in a circuit?



Most of the energy from the battery does not produce light – most of it is wasted as heat!

Calculating energy efficiency

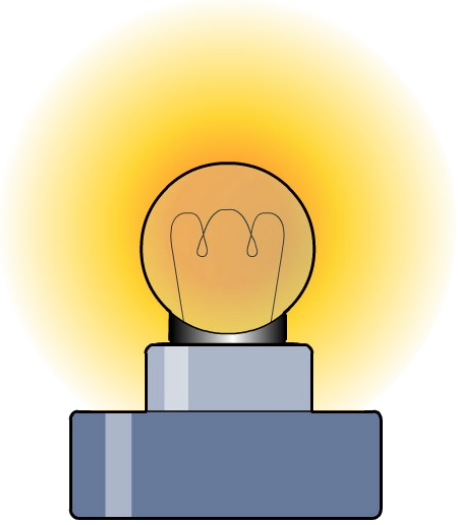
The **efficiency** of an energy transfer can be calculated using this formula:

$$\text{\% efficiency} = \frac{\text{useful energy output}}{\text{total energy input}} \times 100$$

This bulb converts 200 J of **electrical** energy from the **circuit** into 10 J of useful light energy:

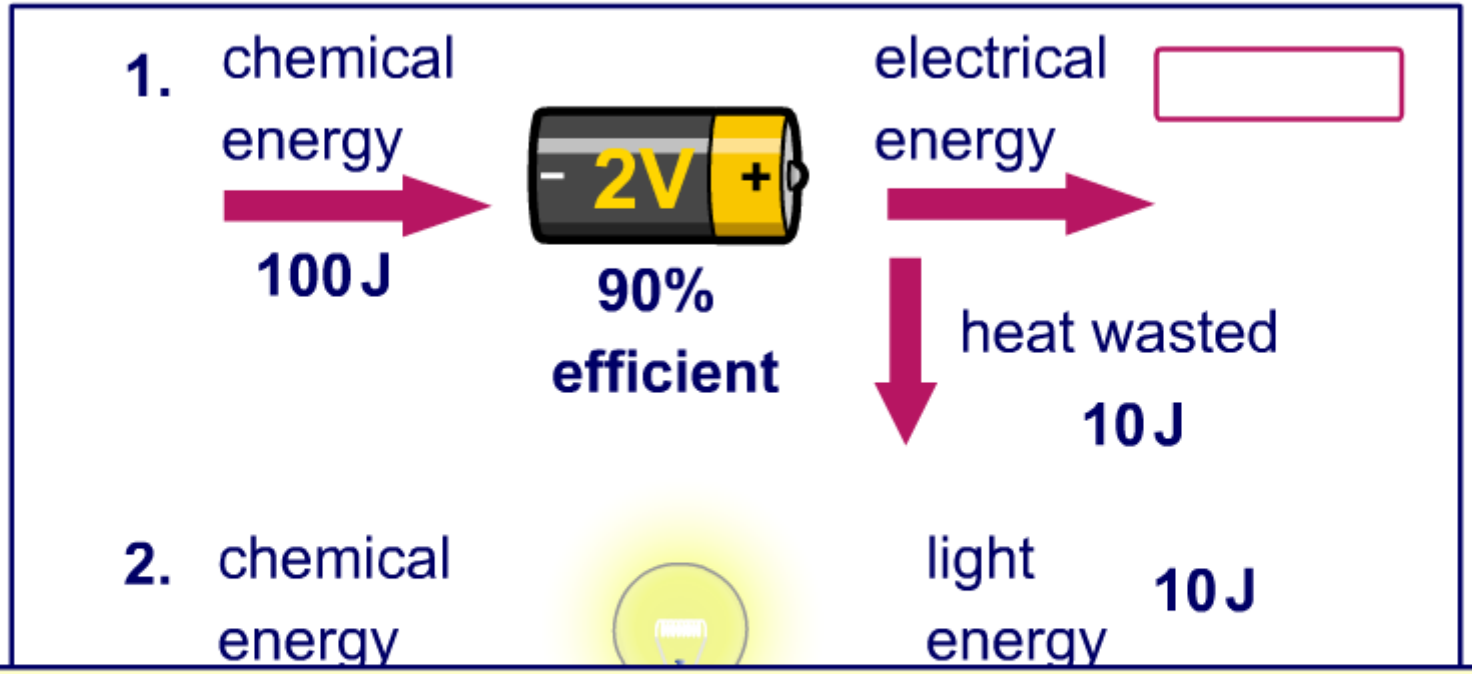
$$\text{\% efficiency} = \frac{10}{200} \times 100$$

$$= 5\%$$



Energy efficiency activity

Fill in the figures in the energy efficiency diagrams



30%	5%	28 J	100 J
90 J	64 J	25%	92 J

hide solve

Energy efficiency summary

What are the missing words about energy efficiency?

1. Energy efficiency is a measure of how well something converts [?] energy into [?] energy.

2. The efficiency for any object is given as a decimal, or it may be given as a percentage by multiplying the decimal by [?].

3. Energy is measured in [?].

4. In the efficiency equation, the top of the fraction is [ ]

? C solve