

Worksheet 1.3.3 Looking at the cost of using energy in the home

1 Fuel bills



Look at the two pictures of typical meters found in a home.

Meter 1

Meter 2



a) Which meter is for gas and which is for electricity? Explain your choices.

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b) Energy companies often ask people to read meters. They only want the numbers not surrounded by red. Read the two meters pictured.

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c) Explain why energy bills have two parts: the cost of energy 'consumed' and a standing charge.

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2 Counting the cost



The prices of electricity and gas are different. Typically, the price of 1 kilowatt hour of electricity is about 13p and the price of 1 kilowatt hour of gas is about 4p.

a) What would be the cost of using electricity to heat 30 litres of water from 20 °C to 50 °C if it uses 0.5kWh?

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b) What would be the cost of using gas to do the same job if it uses 0.8kWh?

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3 Comparing electricity and gas



Whether in a home or a laboratory, there are choices about the ways you can heat things. Often it comes down to a choice between using electricity, e.g. an electric hotplate, or gas, e.g. a Bunsen burner.

Outline a suitable experiment you could carry out to compare the cost of heating a litre of water using:

- an electric kettle;
- a kettle on a gas hob.

You should provide a brief description of the methods you would use, together with lists of:

- any materials and equipment you might need;
- safety precautions that you would need to take;
- measurements you would make;
- your calculations.



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