

Activity 2

Understanding energy bills

Calculate Section 2

Aim

- To learn how to read energy bills and extract useful information from them.

Students need

- A hand-held calculator
- The Origin Energy electricity and gas sample bills

For the teacher

- Make a copy of the Origin Energy electricity and gas sample bill for each student (Support materials, pages 69–72). Complete either one or both, depending on the availability of time.
- Ask students to look at the variety of ways of presenting information: figures, tables or graphs.

Action plan

Study the sample energy bills and complete the following questions.

• Understanding gas bills

Using the information supplied on the gas bill answer the following questions.

1. What is the name of the gas supplier?

2. How many days are in this billing cycle (refer to the Reading Date, which provides the number of days)?

3. What is the **present** meter reading? _____
4. What was the **previous** meter reading? _____
5. What was the **metered volume**?

6. How many megajoules (MJ) were used in this period?
_____ MJ
7. How much money was charged?

8. Are there any charges other than for gas on this bill? List them.

9. What was the average cost per day for the bill?

10. Approximately, what was the average daily MJ use for this bill?

11. Looking at the average daily use graph on the bill, describe the household's annual gas usage trends. Is there a pattern? What is a possible explanation for this?

Activity 2

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12. Compare the same billing period for last year. Is there a difference? Explain.

• Understanding electricity bills

Using the information supplied on the electricity bill answer the following questions.

1. What is the name of the electricity supplier?

2. How many days are in this billing cycle? _____

3. What is the **current** meter reading? _____

4. What was the **previous** meter reading? _____

5. What was the **kilowatt hour (kWh) usage**? ____ kWh

6. How much money was charged?

7. Are there any charges other than for electricity on this bill? List them.

8. What was the average cost per day for the bill?

9. Approximately, what was the average daily kWh use for this bill?

10. Looking at the average daily use graph on the bill, describe the household's annual electricity usage trends. Is there a pattern? What is a possible explanation for this?

11. Compare the same billing period for last year. Is there a difference? Explain.

12. Looking at the greenhouse gas emissions graph what were the greenhouse gas emissions for the billing period?

_____ tonnes

13. Using the same graph, describe the household's annual greenhouse gas emissions. Is there a pattern? What is a possible explanation for this?

Assignment 2

Looking at household energy bills

Calculate Section 2

Aims

- To look around your home and make a list of the different appliances used in each room.
- To read your household energy bill(s) and extract useful information from them.

Let your energy team in on the secret – saving on energy bills starts with understanding them.

Students need

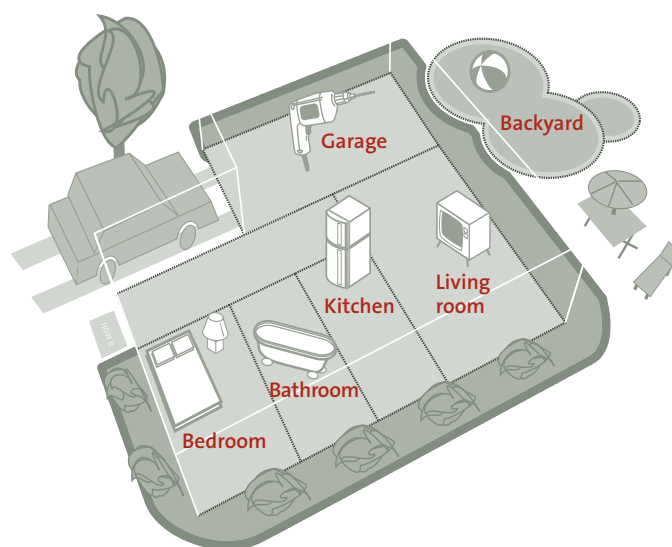
- The items used in Activity 2, *Understanding energy bills*
- A copy of your last household gas and/or electricity bill
- Information to give to your household to introduce Calculate
- Energy journal

For the teacher

- Ask students to introduce the Home Energy Project to their household. Provide them with a copy of a letter from the principal explaining the project (see page 73).
- Ask students to discuss the project with members of their household to see whether they would be interested in participating. Those who are interested will join the energy team. Be sure to explain the energy team options to students.
- Explain that different households might use a variety of energy suppliers. Consequently, not all of the questions asked in this assignment may be answerable from their individual bill(s) and terms may be slightly different. If this is the case suggest that they make an estimate.
- Introduce the idea of the energy journal (a small A4 notebook, dedicated to the Home Energy Project, provided by the school or the student). Explain that students are to write their additional findings and information into the journal (other than that already entered into activities and/or assignments).
- If students need additional space to answer questions they can use their energy journal.

Action plan

1. Make a list below of the different appliances located in the areas as outlined in the diagram. (This list will be discussed in class.)



Bedroom

Bathroom

Kitchen

Living room

Backyard

Garage

Assignment 2

Looking at household energy bills

Calculate Section 2

2. Depending on what energy source your home uses, complete the gas and/or electricity bill information (use Activity 2 as a guide).

• Understanding gas bills

Using the information supplied on the gas bill answer the following questions.

1. What is the name of the gas supplier?

2. How many days are in this billing cycle (refer to the Reading Date, which provides the number of days)?

3. What is the **present** meter reading? _____
4. What was the **previous** meter reading? _____
5. What was the **metered volume**?

6. How many megajoules (MJ) were used in this period?
_____ MJ
7. How much money was charged?

8. Are there any charges other than for gas on this bill? List them.

9. What was the average cost per day for the bill?

10. Approximately, what was the average daily MJ use for this bill?

11. Looking at the average daily use graph on the bill, describe the household's annual gas usage trends. Is there a pattern? What is a possible explanation for this?

12. Compare the same billing period for last year. Is there a difference? Explain.

• Understanding electricity bills

Using the information supplied on the electricity bill answer the following questions.

1. What is the name of the electricity supplier?

2. How many days are in this billing cycle? _____
3. What is the **current** meter reading? _____
4. What was the **previous** meter reading? _____
5. What was the **kilowatt hour (kWh) usage**? ____ kWh
6. How much money was charged? _____
7. Are there any charges other than for electricity on this bill? List them.

8. What was the average cost per day for the bill?

9. Approximately, what was the average daily kWh use for this bill?

10. Looking at the average daily use graph on the bill, describe the household's annual electricity usage trends. Is there a pattern? What is a possible explanation for this?

11. Compare the same billing period for last year. Is there a difference? Explain.

12. Looking at the greenhouse gas emissions graph what were the greenhouse gas emissions for the billing period? _____ tonnes
13. Looking at the greenhouse gas emissions graph on the bill, describe the household's annual greenhouse gas emissions. Is there a pattern? What is a possible explanation for this?

