


Queensland Museum Learning

Student's notes

Sustainable energy:
you can make a difference

Introduction


Your task is to ... (teacher decides)

 Start a **blog** (or **learning log**) to record all the development of your project. This will allow ongoing feedback from others to help you. You should also make helpful comments to others. Your teacher will help you set the rules and procedures for conducting a blog.

You first need to understand what **using energy sustainably** means.

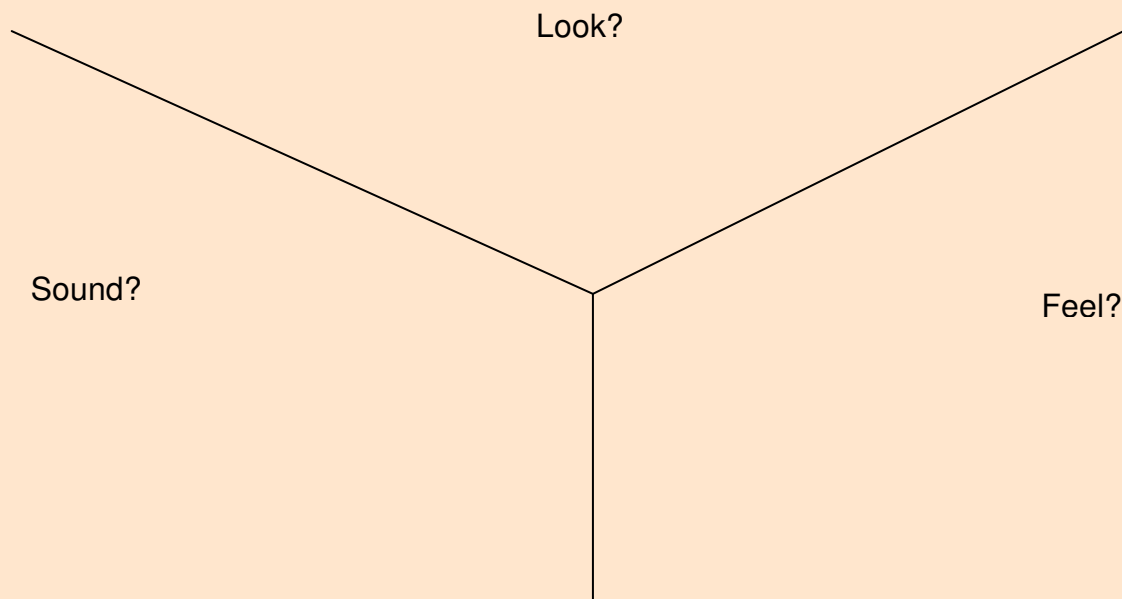
Activity: Think Pair Share (can be conducted through a blog)

- Write down what you think **using energy sustainably** means.
- Discuss your idea with a partner and reach an agreement on what it means.
- Share your understanding with the whole group then modify your understanding if necessary.

 Make an entry in your blog


What does **using energy sustainably** look, sound and feel like?
Write down some descriptive words or phrases in the Y Chart below.

Activity: Y chart for key term



Research Design (KWHL)

Topic question: How can I use energy more sustainably?			
What I know K	What I want to know W	How will I find out? H	What I have I learnt? L
• • • • • •	• • • • • •	<input type="checkbox"/> Library <input type="checkbox"/> Internet <input type="checkbox"/> Museum exhibition <input type="checkbox"/> Experts <input type="checkbox"/> Investigation activities	• • •

 Make an entry in your blog

Research

You need to find out how you currently use energy so that you can make decisions about the future.

To achieve this you will need to consider:

- How much energy different appliances use in the home
- How much energy different modes of transport use

Your **first research activity** involves looking at the **energy use of different appliances**.

This will help make decisions about what might be useful ideas for using energy more sustainably.


Activity 1: Energy Rating Labels

1. Find out about energy rating labels.
2. How can energy rating labels be used to compare appliances of the same type? E.g. two different air conditioners?
3. How can energy rating labels be used to compare appliances of different types? E.g. dishwasher compared with washing machine.

Activity 2: Appliances I use

1. Make a list of ten of the appliances used at home
2. Find out how much energy each one uses in one hour.
3. Rearrange the list from most to least energy used.
4. You could display this information in a bar graph.



 Make an entry in your blog

Your **second research activity** involves looking at **different modes of transport**. This will help make decisions about what might be useful ideas for using energy more sustainably.

Activity 3: Transport energy analysis

1. List the transport options available to you on the *transport energy analysis* sheet.
2. Refer to the PTUA website.
3. Perform a transport energy analysis on each listed transport type.

Activity 4: Sustainable transport energy

1. List the transport options on the *sustainable transport energy* sheet.
2. Refer to PTUA website.
3. Perform sustainable transport energy analysis on each type of transport.

Activity 5: Find out more

1. Research answers to questions that you that you would to more about from the previous activity.



What did you learn that is surprising? Make an entry in your blog

Your **third research activity** requires you to visit ENEREX Playasaurus Place to find out more about energy efficiency and appliances.

Activity 6: Museum visit to ENEREX Playasaurus Place

1. Energy on the move

- a. What transport type uses the most energy per person?
- b. What transport type uses the least energy per person?
- c. How could you reduce your transport energy?

2. Energy hungry appliances and Ride the energy bike

- a. What appliances use the most energy?
- b. What appliances use low energy?
- c. How many people would be needed to pedal power an air conditioner?
- d. How can I use less energy through appliance choice?

3. Balance your home energy

- a. What would be the best way to reduce energy usage at home?
- b. How can you help to reduce peak demand for electricity at home?



Make an entry in your blog that answers 1c, 2d and 3b in Activity 6.



Share one of these ideas on the Energy Action Wall in ENEREX Playasaurus Place.


Solution proposals

You should now have considered the issues that allow you to suggest some solutions to the problem of **using energy more sustainably**.

Activity:

In groups of four:

1. Create your own first draft drawing of your **solutions** on A4 paper.
2. Share your idea with the other three in your group and discuss different ideas.
3. Create a combined **set of solutions** and write these **with some explanations** on A3 paper.
4. Post the **solutions** on the wall and nominate a group explainer.
5. The remaining group of three circulates and asks questions about other **solutions**.
6. Return to home group and discuss findings. Make changes to your **solutions** as necessary.
7. The remaining group of three circulates and asks questions about other **solutions**.
8. Return to home group and discuss findings. Make changes to your **solutions** as necessary.


 Make an entry in your blog

Presentation

Activity: Presentation

- a. Using a suitable presentation medium, construct a suitable presentation that will convince others* to take up your ideas.
- b. The presentation should be no more than five minutes and should include appropriate ICT's but could also be a short role play.


*Consult with your teacher about who the audience will be.

 Make an entry in your blog

Evaluation and feedback

What have you learned about **using energy more sustainably**?
How well do you think you answered this problem?

Look back at your **solutions** and all your blog entries that you have made and the comments that you have received. Make some final entries summarising what you have learned and how you might improve your **solutions**.

 Make an entry in your blog

