

COOL FUEL

1. Brainstorm

Start with the Energy Smart quote, above. Load the Energy Smart site onto your computer screen as a discussion initiator. <http://www.energysmart.com.au/>

Is the world getting hotter? What is greenpower? Why use alternative fuel sources anyway? What's the big problem? What's renewable energy? Isn't global warming all just hype? What is the greenhouse effect? What causes it? What do I really think about all this stuff? What can I do about it? What's wrong with petrol? Does anyone really care?

2. Wordbank define the words below use the wonderful online dictionary/encyclopaedia at:- <http://www.xrefer.com/>

renewable energy sources
solar energy
biomass
geothermal energy
wind energy
fossil fuels
replenish
Greenhouse Effect
Global Warming
toxic

Ozone layer
turbine
fossil fuels
electricity
hydroelectricity
batteries
photovoltaic cells
solar cells
generate
thermal

3. Design the Future (years 4-6)

a) The future is in your hands, your team (2-3 students) have been given the job of designing future energy technologies.

First you will need to research your topic and prepare a **Retrieval chart**.

The Energy Story - is a great site for information for the retrieval chart

<http://www.energy.ca.gov/education/story/story-html/story.html>

Scroll down the page to the table of contents.

Select each of the following chapters in turn and fill out the retrieval chart.:-

Hydro Power, Ocean Power, Solar Energy, Biomass Energy and Fossil Fuels.

Then

b) Design your own future energy solutions, consider the various types of energy you have researched in your retrieval chart when designing your solutions. Describe your invention.

Check out some of the Energy solutions for the future, designed by children in California.

<http://www.energy.ca.gov/education/artcontest/2000contest/index.html>

Scan your picture and description into a computer(save as jpeg at 72dpi) and send it to me.

Don't forget to include your name, and school information.

cathy@virtualteacher.com.au

The best designs will be published on the Classroom Website.

Now relax and

c) Play the 'What's That Jnr?' Game and see how much money you Earn \$\$\$\$\$. Are you game to try the '**tough one...**' question.

<http://www.energy.ca.gov/education/wattsthatjunior/power/index.html>

4. What is the Greenhouse Effect? (Years 5-6)

a) Write an **Explanation** of 'The Greenhouse Effect'.

b) Draw a cause and effect diagram to support your explanation.

c) Illustrate your explanation.

d) Present your Explanation to the class.

The Greenhouse Effect Fact Sheet

http://www.greenhouse.gov.au/pubs/factsheets/fs_effect.html

Bureau of Meteorology - What is Greenhouse Gas?

<http://www.bom.gov.au/lam/climate/levelthree/climch/clichgr1.htm>

Demonstrate the Greenhouse Effect using this simple Experiment.

<http://www.energy.ca.gov/education/projects/projects-html/greenhouse.html>

5. Make a Graph of Air Quality

EPA Air Quality Update for NSW

a) Graph the Air Quality over a period of a week for each of the 3 major regions in Sydney, East, Southwest and Northwest. Use the daily update figures from the EPA site for Sydney. You will need to log onto the site each day for regular updates Pollution is reported as LOW, MEDIUM or HIGH

LOW: pollution index from 0 to 24

MEDIUM: pollution index from 25 to 49

HIGH: pollution index 50 or higher

NSW EPA Site

<http://www.epa.nsw.gov.au/air/aqupd.htm>

For really fantastic results make your graph using Microsoft Excel, To find out how goto:-

<http://www.virtualteacher.com.au/graphing.pdf>

The EPA Victoria site is wonderfully user friendly.

You may like to look at the Flash Movie at

<http://www.epa.vic.gov.au/aircare/tune/tune.htm>

Or investigate other articles on air quality throughout this site.

EPA Site for Victoria - (Years 5-6)

http://www.epa.vic.gov.au/aq/bulletin_t.asp

b) Choose 3 locations from the table on this site. Graph the daily change in air quality over the course of one week(Use the Air Quality Summary index), for each location. Double click on each of the 4 environmental pollutants listed at the top of each column. What is your opinion of the Air Quality in the Victorian locations you have graphed? What recommendations would you make based on your findings?

c) Email the Prime Minister regarding your concerns and findings.

http://www.pm.gov.au/your_feedback/feedback.htm

Global Response letters really work - make a difference Use this letter Writing tips site, to help you.

<http://www.globalresponse.org/letters.html>

6. What are the major sources of Air pollution?

Extension (years 5-6)

You have been appointed to a parliamentary select committee to investigate **Air Pollution**. Your task is to report your findings to **Senator Minchin** and the **Prime Minister of Australia**. Form a committee of 4-6 students.

a) Write a report outlining the major air pollutants, their sources and the health implications.

b) Make a list of recommendations based on your report regarding Air Pollution in Australia.

The sites below will help you research your topics.

<http://edugreen.teri.res.in/explore/air/major.htm>

Detailed Climate change scenarios from the CSIRO extension 5-6

<http://www.dar.csiro.au/res/cm/scenarios.htm>

Power of Choice - Choice of Power

<http://www.repp.org/greene/a&d.html>

c) Make recommendations from your findings to Senator Minchin, Minister for Industry Science and Resources Home Page

<http://www.aph.gov.au/senate/senators/homepages/web/s-JX4.htm>

Email Address

senator.minchin@aph.gov.au



d) And also the Prime Minister John Howard

Email Address

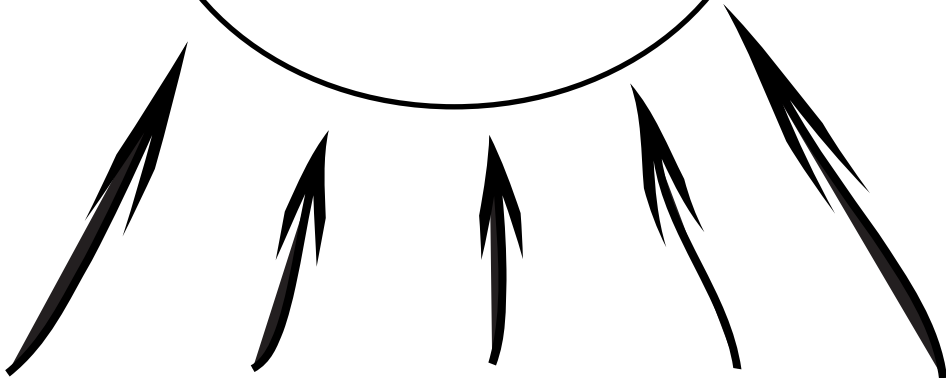
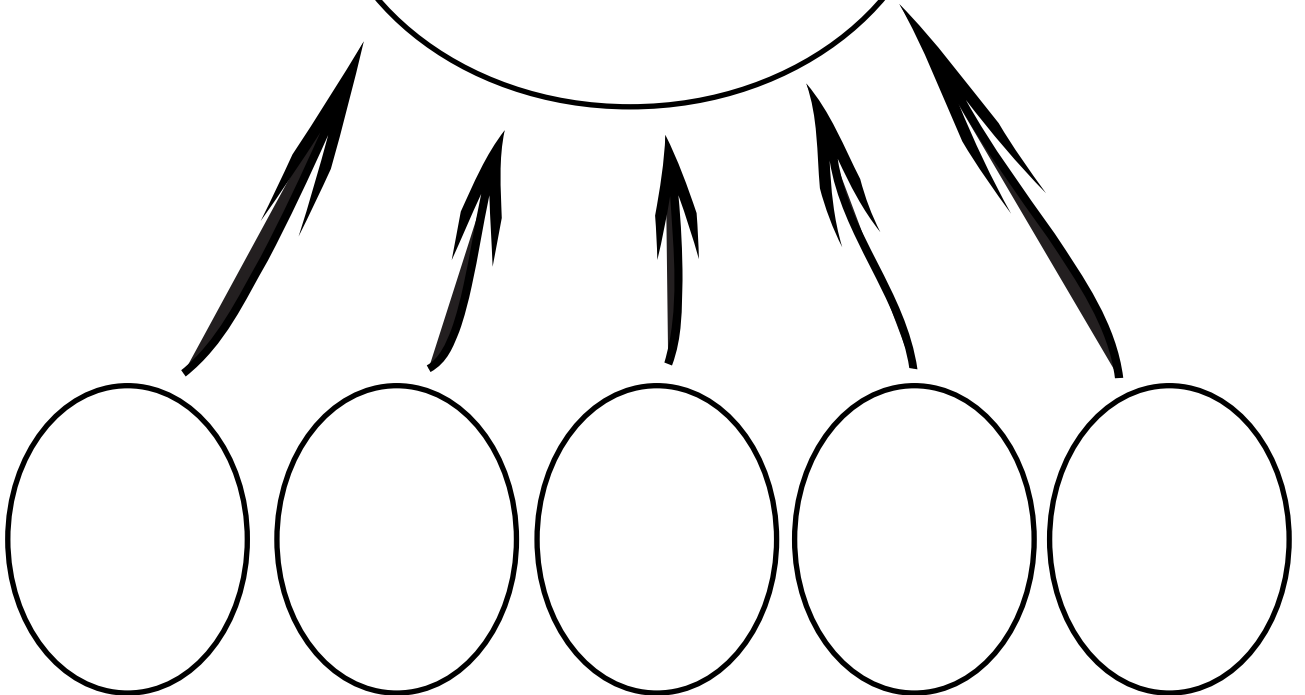
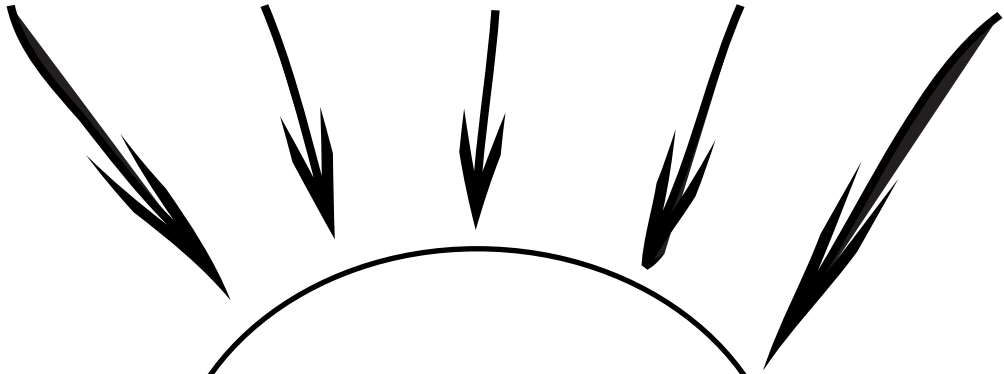
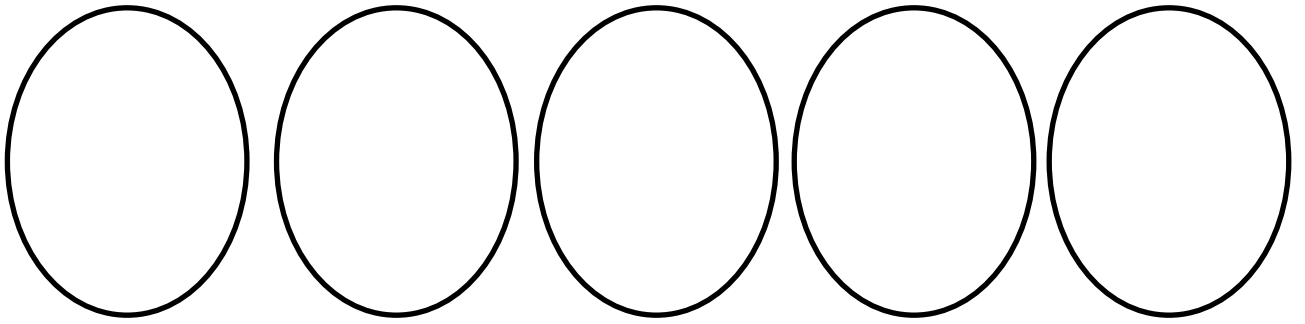
http://www.pm.gov.au/your_feedback/feedback.htm

Letter Writing tips

<http://www.globalresponse.org/letters.html>

Tip You may wish to compose your letter offline in Microsoft Word and then copy and paste it onto the Prime Minister's feedback form.

CAUSES



EFFECTS

Energy	Source	Examples of Use	Collection devices	Problems?	Global Warming?	Renewable?
Wind						
Biomass						
Solar						
Water (Hydro Power & Ocean Energy)						
Fossil Fuel						