



**E-book Code:  
REAU4012**



***Science Solutions***

# **Book 2**

**\* Earth-Friendly  
Energies**

**\* Human Body  
Systems**

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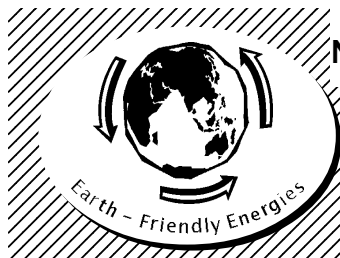
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# Activity

## A Graph for the Class

### Materials:

- graph paper
- pencils

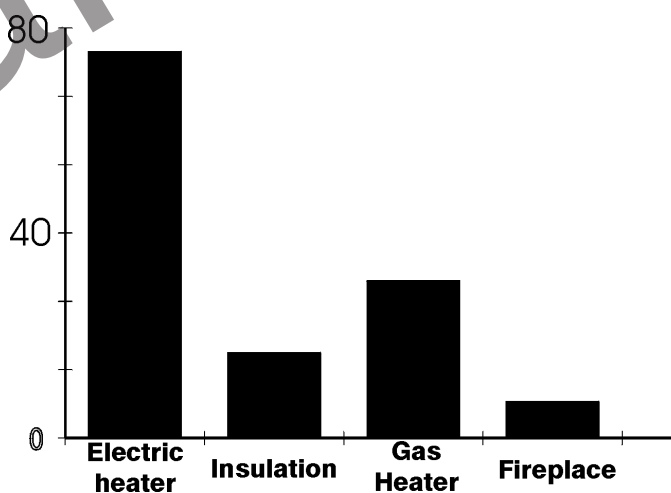
### Task:

**What energy sources does your class use? Investigate how students' homes are heated or cooled.**

- 1) Make up two tables — one for heating and one for cooling. Tally what each student has in their home. Some students may have more than one source, e.g. electric heaters and fire heaters in the same home.

Here is an example for setting up the table and graph:

HEATING	
Source	Tally
Electric heater	75
Fireplace	7
Gas Heater	30
Insulation	15



### Extra:

- On a particularly cold or hot week, take a sample of class members and make a tally and graph of the approximate number of hours that the home appliance is being used for. How much longer are the appliances being used for when the temperature drops or rises?

### Get Involved:

- Discuss ways that families can save energy during hot and cold times of the year.

- 2) Turn the tallies into bar graphs for the class.

- 3) Is your class environmentally friendly? Conduct some research to find out which types of heating and cooling are best for the environment.

A website such as ► [www.greenhouse.gov.au/gwci/heat.html](http://www.greenhouse.gov.au/gwci/heat.html) will give some ideas on what are energy-efficient ways to heat or cool a house.





Name: \_\_\_\_\_

# Activity 4

## Polluted Planet

### Materials:

- paper
- pen



### Task:

**If the world had a mind of its own, what would it think about how we were treating it?**

Give our planet a human personality. Imagine that every time we took away precious resources such as fossil fuels or beautiful forests, it was like taking away the planet's food and drink. Imagine that the pollution that we fill our air with was making it hard for the Earth to breathe and putting a blinding screen of smoke between the Earth and the rest of the solar system.

Write a story about how the world feels as it is slowly being damaged and what happens next. Write your story from the Earth's point of view. Does it seek revenge by creating devastating weather or does it try and teach the people how to save it before it is too late?

Here is a starting point to help you, or you can use your creativity and come up with your own beginning.

### Extra:

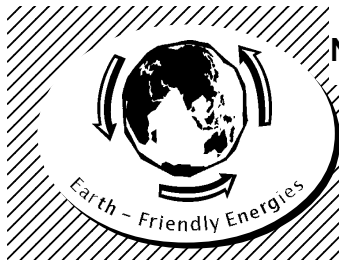
- ▶ Read your story out to the class or send it in to an environmental magazine or kids club.

### Get Involved:

- ▶ Promote the message that our planet has feelings too. Make posters with slogans such as "Treat our planet like a person" or "Earth gives us energy in the wind and the sun. It's a gift that can make life better for everyone!"

This morning I woke again to a new day, choking on the haze that surrounded my face. A huge oil spill dripped down my left cheek like a massive pimple as I felt the bulldozers shave off my beautiful forest beard that I was growing — not a gentle shave, mind you. They took off half my skin underneath and left my face exposed to the burning sun ...





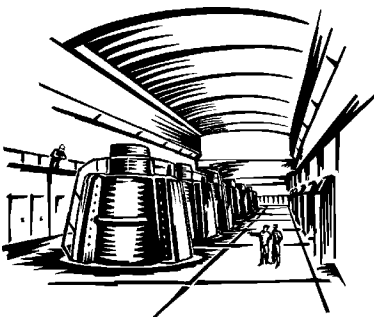
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# Activity 5

## Aussie Energy

### Materials:

- atlas
- Internet references
- photocopied map of Australia



### Task:

- 1) Where does our energy come from? Use an atlas or a website (► [www.agso.gov.au](http://www.agso.gov.au)) to find maps on “renewable energy power stations” and “fossil fuel power stations”.
- 2) For each type of power station, make up a special symbol that is clear and easy to draw, e.g. a sun for solar energy.
- 3) Using a photocopied map of Australia, (you can use the one below) plot the positions of all the existing power stations in Australia.
- 4) Decide what the most common and least common energy sources are at the moment.

### Extra:

- Create another map showing Australia fifty years from now, with an increase in renewable energy sources and a decrease in fossil fuel stations. Make sure that you position the stations in areas where you think there might be plenty of that resource, e.g. wind farms are usually on coastal areas.

### Get Involved:

- Go to  
► [www.energy.com.au](http://www.energy.com.au)  
(EnergyKidz) to find some useful information about energy and the environment.



Related Outcome: Students will locate power stations in Australia and identify common energy sources.  
Subject Area: Science – Energy and Change; S&E/SOSE/HSIE – Place and Space; Maths – Space.



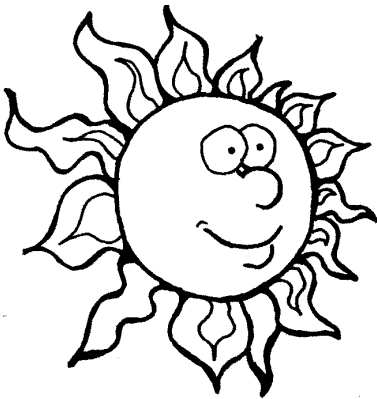
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# Activity 12

## Super Sun

### Materials:

- a sunny day
- some shade
- something to lean on
- paper
- pen



### Task:

#### Why is the sun so important to us?

After conducting some initial research on how the sun is used for energy, spend a lesson outdoors soaking up the sun's rays and gathering inspiration.

As you sit relaxing in the sunshine, write a list of all the ways that the sun can be used as a source of energy for the earth.

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- \_\_\_\_\_

### Extra:

- ▶ Collect natural objects (that have already fallen to the ground) and make a collage to show how the sun is a vital source of life for our planet.



Related Outcome: Students will compile a list of ways the sun can be used as a source of energy.  
Subject Area: Science – Energy and Change; Life and Living.