

Good Science

kids

Living Here



Monitor = to keep an eye on things on a regular basis.

Would you like to know how to practice good science and be a great scientist?

We need scientists to monitor and test what's happening in the environment so that we know how to manage natural resources – such as air, streams, rivers and lakes, land and soil, and coastlines.

Here's what some of Environment Canterbury's scientists do...

Mayurie Gunatilaka - Air Quality Analyst

Mayurie conducts investigations to find out the concentrations of contaminants in Christchurch air. She is particularly concerned with hazardous air pollution or air toxics like carcinogenic pollutants. The results help planners to prepare plans for managing our air quality.



Justin Cope - Coastal Scientist

Justin investigates and monitors our coast. Waves and storms are coastal processes that affect the coastline; for example storm flooding can cause erosion. Survey equipment, wave buoys and sea level recorders are used to measure how coastal processes change the coastline.



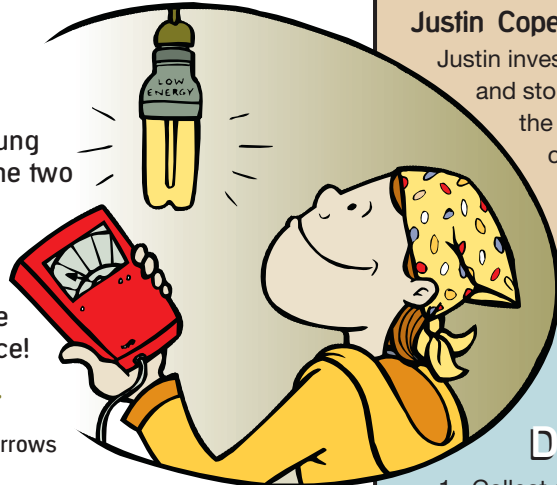
Did you do a science project this year?

Last month we saw many budding young scientists from all over Canterbury at the two Science and Technology Fairs held in Christchurch and Timaru.

If you're thinking of doing a project for next year's science fairs, here are some tips for making that project great science!

Tips for your science project

See if you can match the descriptions. Draw arrows to link them. We've done the first one for you.



Would you like to practice good science? Try these experiments out at home...

Dirty water?

1. Collect samples of water from different sources, e.g. rain, mud puddle, tap or stream.
2. Pour each sample through coffee filters into a jar. Use a microscope to examine what's left in the filter.
3. Record what you see.

Now practice your good science tips.

Dirty air?

1. Smear the outside of several clean clear plastic cups with vaseline.
2. Place the cups at various spots around your house (mostly outside) and leave for a period of time. You may have to poke holes in them and tie them down in some places or hang them.
3. Examine and record whether the cups appear dirty and what the dirt is likely to be.

Remember, to practice good science you'll need to think about the tips.



Choose a topic that has a problem and needs a solution

Give yourself lots of time

Research

Test, retest and then test again

Make good records of your work

Try, try again

When something fails, figure out what you could have done differently and don't be afraid to try again!

Get your information from lots of different sources. Books, media and the internet are not enough. Talk to lots of different people, including family, friends and experts, and get varying opinions.

You can never do enough testing. There are always variables that affect your results – try different days, times of the day and different places for a start.

To test your findings and ideas for solutions you may need months (even years in the real world!)... so get started early.

Good science is about finding out what the problems are and testing innovative ways to solve them. It's the solution that counts in the end!

Record everything you do in a log book, so that you can refer back to your methods. Take photos or sketches as you work.

Fill in the missing words...

On pages one and three there are some stories about students who won awards at the science fairs. See if you can fill in the missing words about their projects.

- 1 Disposing Disposables, by Natalie Crimp was a project about solving the problem of _____ in landfills.
- 2 The project by Harry Teeling, to turn waves and wind into _____ would certainly help in times of energy crises.
- 3 Being wise about irrigating would help to _____ water, according to Griegan Panckhurst.
- 4 Anna Gray and Jolene Oldman tested a product that is used to treat _____ water.
- 5 Six different types of wood were tested by Marian Makary to see which was more efficient, causing the least _____ pollution.

Answers:
waste, air
conserve,
energy,
happier,
Answers:

