

## CREST

Consider using your partnership to help mentor students who are completing open-ended science and technology investigations as part of the CREST program

### About CREST

CREST (CREativity in Science and Technology) is a non-competitive awards program run by CSIRO Education. It provides support for students and teachers to undertake open-ended science and technology investigations.

Primary and secondary students can participate in CREST at different levels to suit their abilities and experience. Through CREST they learn about scientific process (fair tests, experimental design etc) and develop science and technology projects that match their interests. Teachers receive support material to help them guide the students, including profile cards and student worksheets.

More information is available at [www.csiro.au/crest](http://www.csiro.au/crest).

### Things to consider

- Schools need to register for CREST, which involves a small registration fee. If unsure, contact the National CREST Office to check if the school is already registered.
- It's not uncommon to find students who've never done open-ended science investigations before. If this is the case, one option is to start with the lowest level (Green) CREST Award which will help develop skills and confidence.
- CREST Awards require some planning and will take a few lessons to complete. Set aside some planning time with your partner to make sure CREST is properly set up before you start.
- Before you start, plan which parts of the process the scientist will help with (in person or via email) and develop a schedule accordingly.

### Ideas

- For standard CREST Awards, all the information and worksheets required are provided in the CREST teacher and student resource material.
- The scientist could present a short session on scientific process or email some tips before the students start work on their CREST Awards. By demonstrating a simple test or experiment you can explain aspects such as variables, fair tests and controls.
- As students progress to the self-directed Blue, Bronze, Silver and Gold levels, the scientist could run a session or email ideas about choosing research project topics. Talk about how scientists decide what to research and what factors need to be taken into account before they start.
- For the Silver and Gold Awards, students should have a mentor from outside the school. The scientist could provide this role, or recruit some colleagues to help out.
- As a special CREST feature for *Scientists in Schools*, you can write your own Green CREST Award based on the scientist's area of research. Use the following proformas and guidelines so that the National CREST Office can accredit your Award and make it available through the CREST website for other schools to use.
- The scientist could display the students' work at their organisation to showcase the involvement with the school, or you could hold a science fair to display the students' projects. Why not invite parents, other students and colleagues to attend?



## Worksheet - writing your own Green CREST Award topic

\*More information about CSIRO CREST program can be found at [www.csiro.au/crest](http://www.csiro.au/crest)

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### Background

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Seven Green and Orange CREST topics are currently available:

- **Good buy?** Investigations in consumer science
- **Pets and Other Animals** Investigations into the needs of pets and other animals and their effects on the environment
- **A Windy Day today?** Investigations into the effect of the wind
- **Colours and Dyes** Investigations into colour and how colouring can be achieved
- **Food, glorious food** Investigations into food, preservatives and packaging
- **Sunsense - No Nonsense** Investigations into the effect of the sun
- **Rocks and Minerals** Investigations into rocks and minerals

To achieve a Green CREST Award, students complete both a structured science and a technology activity. During these activities students will be developing skills and understanding of the processes involved in open-ended science and technology projects, ensuring that they have the necessary skills to progress to higher levels of the CREST program.

The science activity is based around collecting data and 'fair testing' whilst the technology activity involves 'designing, making and appraising' a product. Examples of science and technology activities for Green and Orange levels can be requested from the National CREST Office, and one example is included in the support material that was emailed to you with your partnership information.

You can write your own Green CREST Award topic based on your area of research. The National CREST Office will accredit your Award and make it available through the CREST website for other schools to use.

If you would like assistance in writing or discussing ideas for your Green CREST topic you can call the National CREST Office on 1800 626 646 or email [crest@csiro.au](mailto:crest@csiro.au).

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### Step 1 – Choose a Topic

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Discuss with your partner possible activities that could illustrate a 'fair test' for the science component and a 'design, make, appraise' type of task for the technology.

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### Step 2 – Write the Science and Technology activities

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Each activity should be kept to one page.

**Title** – the shorter and snappier the title, the better!

**Aim of Experiment/Design brief** – this is written as a simple statement outlining the purpose of the activity and also includes comments on the practical aspects of the topic or makes a link with what students might already relate to.

Example: 'Food, Glorious Food' science statement:

*"Have you ever forgotten to eat your lunch and then left it in your school bag? When you found it, there was probably lots of green fuzzy mould growing on it. Perhaps there were moulds of different colours. In this experiment you will investigate which sandwiches go mouldy more quickly."*

Example: 'Food, Glorious Food' technology statement:

*"Many fruits are soft and easily crushed. Others are shapes which are difficult to pack. Your task is to design and make better packaging for a fruit."*

### **What do I need?**

Make sure the activity does not require elaborate or expensive equipment. If possible keep it to simple and easily accessible everyday material such as those that can be found at the local supermarket or hardware shop.

If specialised material/equipment is required, give contact details of where teachers can obtain this.

### **What do I do?**

Keep to short simple steps – usually no more than ten. Often the last step asks students to think about an extension to the activity they have just performed.

The science activity should be based on a simple 'fair test' investigation involving one changeable variable and measuring its effect whilst the other variables are controlled.

The technology activity should be based on a designing a simple product for a specific need.

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## **Step 3 - Accreditation**

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Send your completed proformas to the National CREST Office for the activities to be accredited as a Green CREST topic

If you have this activity accredited by CREST then you will be able to download a Green CREST certificate and will be issued with Green CREST stickers to award the students when they complete their work.

Also, your Green CREST topic will be made available through the CREST website for other schools to use. Both partners will be acknowledged as authors of the topic.

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Scientists  
in Schools



**CREST**  
AWARDS

**Green CREST Science**

\_\_\_\_\_ (insert topic title)

\_\_\_\_\_ **Aim of experiment** \_\_\_\_\_

\_\_\_\_\_ **What do I need?** \_\_\_\_\_

\_\_\_\_\_ **What do I do?** \_\_\_\_\_



Scientists in Schools is an Australian Government initiative

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in Schools



**CREST**  
AWARDS

**Green CREST Technology** \_\_\_\_\_

(insert topic title)

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**Design Brief**

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**What do I need?**

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**What do I do?**

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