

# VIBE ACTIVITIES

## Old ways, New Ways page 29

**A NEW HANDS-ON PROJECT DEVELOPED BY EDITH COWAN UNIVERSITY (ECU) AIMS TO ENCOURAGE INDIGENOUS STUDENTS IN WESTERN AUSTRALIA TO PURSUE A CAREER IN SCIENCE. THE 'OLD WAYS, NEW WAYS' PROJECT HAS BEEN DEVELOPED BY ECU'S DR MAGDALENA WAJRAK FROM THE SCHOOL OF NATURAL SCIENCES AND CULTURAL AWARENESS OFFICER JASON BARROW.**

Dr Wajrak has run her own successful program for many years but struggled to get Indigenous youth engaged. Teaming up with Jason meant the duo could expand on culture within the workshops and they began making journeys to schools in the area, as far south as Bunbury.

"Old Ways, New Ways" is about showing students – in particular, Indigenous students – that they were probably the very first scientists. We don't think about it but they were the first scientists, they were doing science but they probably didn't know. The students think 'Oh, okay... science is actually something that is useful,'" Dr Wajrak says.

The workshops look at the history of Australia's First Peoples and how the things they created and used were the result of experimentation and included chemistry and physics.

"Jason talks about the cultural background and brings physics into it, then I run a forensic workshop with them and show them how chemistry is very useful in solving crime, for example," Dr Wajrak says.

During Jason's component of the workshop students have the opportunity to create their own Indigenous tools.

"Two things that he does is talk about Noongar language, so he gives a few examples of words and explains them. Then he talks about the boomerang – how the boomerang was thrown and some of the physics behind that," says Dr Wajrak.

"He also talks about spears, how to make a spear and the physics of it. They also get to make an Indigenous whacker that was used for killing animals. They make glue from resin, charcoal and – the most interesting ingredient – kangaroo pool!"

Following that, Dr Wajrak takes the students through activities that are relevant to a forensic scientist's day-to-day job: "I

do fingerprinting using iodine and the students get to fingerprint their own thumb. We also do an activity where we have two victims and have to figure out which victim has alcohol in their system."

**GET INVOLVED:** The project is part of a program called the National Indigenous Science Education Program (NISEP). Dr Wajrak and Mr Barrow welcome any schools in the Perth area that wish to get involved to contact them; email [m.wajrak@ecu.edu.au](mailto:m.wajrak@ecu.edu.au)

**'Old Ways, New Ways' is about showing students – in particular, Indigenous students – that they were probably the very first scientists.**



Students participate in an experiment.

**Helping Out**

# Old Ways, New Ways

Students get a jump-start into science

Indigenous high school students in Western Australia are being encouraged to become more involved in science at school and to study science at university. The project, “Old Ways, New Ways”, brings together Western and Indigenous knowledge perspectives in science. Workshops encourage Indigenous students to explore science through a range of hands-on activities.

Students are encouraged to pursue a career in science, including working as a forensic science technician in the police force, working in scientific research, becoming a meteorologist or becoming a science teacher.

Did you know? Indigenous Australians were probably the first scientists, experimenting with chemistry and physics to solve scientific problems.

Read *Old Ways, New Ways* on page 29

## BUILDING READING SKILLS



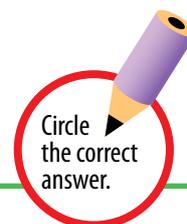
- skimming and scanning for information
- reading headings, text boxes and pictures
- reading for meaning
- making connections between the text and your world

**There are three levels of comprehension questions:**

- Literal** The answer is located in one sentence in the text.
- Inferred** You need to make links between sentences and graphics (such as illustrations, maps and tables) and what you already know.
- Applied** The answer is in your background knowledge, what you already know or feel.

## ACTIVITY 1

### TRUE OR FALSE?



1	Circle the correct answer. (inferred)	TRUE	FALSE
	Jason Barrow is the Cultural Awareness Officer at Edith Cowan University.	TRUE	FALSE
	Dr Wajrak and Jason Barrow wanted to focus on the cultural aspects of science.	TRUE	FALSE
	Dr Wajrak struggles to find a practical application for science.	TRUE	FALSE
	Chemistry can be very useful when studying how a boomerang works.	TRUE	FALSE
	Iodine is used when analysing people's fingerprints.	TRUE	FALSE

## ACTIVITY 2

### READING FOR MEANING



**1** The “Old Ways, New Ways” project encourages Indigenous students to pursue a career in. (literal)

- education.
- science.
- literature.
- the Police Force.

**2** According to the text, what was Dr Wairak struggling with before she teamed up with Jason Barrow? (inferred)

- getting funding for the project
- having more girls involved in science subjects at school
- engaging Indigenous students
- getting out into the field more

**3** What did Dr Wairak and Jason Barrow do to improve the program? (inferred)

- They conducted more interesting experiments.
- They asked students to visit them at the university.
- They engaged Indigenous students more.
- They expanded on the cultural aspects of learning about science.

**4** Australia’s First Peoples scientists experimented with? (inferred)

- chemistry and physics.
- fire and water.
- the stars.
- solving crimes with science.

**5** What does Jason Barrow explain about the boomerang? (inferred)

- where the name came from
- the way it was painted
- the physics behind how it was thrown
- how it was used as a musical instrument

**6** What ingredient was not used to make glue by Australia's First Peoples? (inferred)

- resin
- rabbit poo
- charcoal
- kangaroo poo

**6** Short answer. (applied)

Explain how this program could engage Indigenous students in the study of science and persuade them to pursue a career in science.

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# ACTIVITY 3

## LANGUAGE CONVENTIONS - SPELLING



**1** The spelling mistakes in these sentences have been underlined.  
Write the correct spelling for each word in the box.

Indigenous students are encuraged to study science.

She teemed up with a cultural specialist.

Students particlary liked the forensics study.

**2** Each sentence has one word that is incorrect.  
Write the correct spelling of the word in the box.

Amazeingly, science can be useful.

There was a lot of experimentashon with science.

They complete hands-on activitys.

# ACTIVITY 4

## LANGUAGE CONVENTIONS – GRAMMAR AND PUNCTUATION

**1** Which is a correct sentence?

- Her own successful program.
- Forensic science.
- Old Ways, New Ways.
- He talks about how to make a spear.





## 2 Which sentence is punctuated correctly?

- "They make glue from resin, charcoal and – the most interesting ingredient – kangaroo poo!" explained Dr Wajrak.
- "They make glue from resin, charcoal and – the most interesting ingredient – kangaroo poo! explained Dr Wajrak."
- "They make glue from resin, charcoal and – the most interesting ingredient" – "kangaroo poo!" explained "Dr Wajrak."
- they make glue from resin, charcoal and – the most interesting ingredient – kangaroo poo! explained dr wajrak

## ACTIVITY 5

### CAREERS IN SCIENCE

- 1 The following is a list of careers that involve science. Research other careers that involve the study of science. Choose one career from your list and explain why this might be an interesting career for you.**

- Chemist
- Climate Change Analyst
- Environmental Scientist
- Forensic Science
- Geologist
- Marine Biologist
- Meteorologist
- National Parks and Wildlife Officer
- Nutritionist
- Science Teacher
- Scientific Research Assistant