



ADVANCE
QUEENSLAND

QUEENSLANDERS' PERCEPTIONS AND ATTITUDES TO SCIENCE

Summary report






Tisanes



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Background photo taken at the World Science Festival in Brisbane, March 2016. Courtesy Queensland Museum

A photograph of a busy outdoor event, likely a science festival or fair. The scene is filled with people of various ages, including children and adults. In the foreground, a young boy in a blue shirt is looking down. To his right, a woman in a black top is walking. In the background, there are several tall, narrow banners, some blue and some white, with text like 'Great Reef 2020' and 'Help build resilience'. There are also trees and a white structure, possibly a tent or booth, on the right side. The overall atmosphere is bright and lively.

This document summarises the findings of the 2016 research into Queenslanders' perceptions and attitudes to science.

The research was commissioned by the Queensland Office of the Chief Scientist, a division of the Department of Science, Information Technology and Innovation.

TNS conducted the study and data was collected between 29 February and 14 March 2016.

The research involved a 10-minute online survey of 1200 residents aged 18 years and over, spread across Queensland.

The full report, by TNS, is now available at chiefscientist.qld.gov.au/publications/other-reports

Background and objectives

Queensland scientists are international leaders at the forefront of many breakthroughs and discoveries that have a significant impact on the Queensland community. Despite this, anecdotal evidence has suggested that Queenslanders are largely unaware of the significant, life-changing science and research taking place in their own backyard.

Research was commissioned to establish a benchmark and to fully understand the current awareness, perceptions and attitudes to science amongst Queensland adults. The research also aimed to understand current engagement and participation levels and importantly parental encouragement and support for the next generation studying science or choosing a science-based career.

The results of the research will help inform the *Advance Queensland Engaging Queenslanders in Science*-a strategy being implemented by the Office of the Queensland Chief Scientist.



Professor Ranjeny Thomas with a patient

Key findings

- Almost three-quarters (74%) of Queenslanders show an interest in science.
- The majority of Queenslanders (76%) perceive science as having a positive impact on our society.
- Almost three quarters (72%) see science as being critical for the Queensland economy.
- Only 20% of Queenslanders are able to accurately recall a Queensland scientist and/or scientific discovery, and even when prompted with a list of several options, two in five are still unaware.
- Almost half of Queenslanders (47%) believe that there is not enough information about science in the media or online and the same percentage believe that there are not enough science-based events and activities in their area.
- Almost four in five (79%) of parents/carers would encourage their children to study science subjects in high school.

Street Science, World Science Festival Brisbane 2016

Photo courtesy
Queensland Museum



I find science to be fascinating. It's a wonderful way to learn about the world in real, demonstrable ways.

Unprompted understanding of science

High school science has a considerable and enduring impact on people's unprompted recall and perceptions of science.

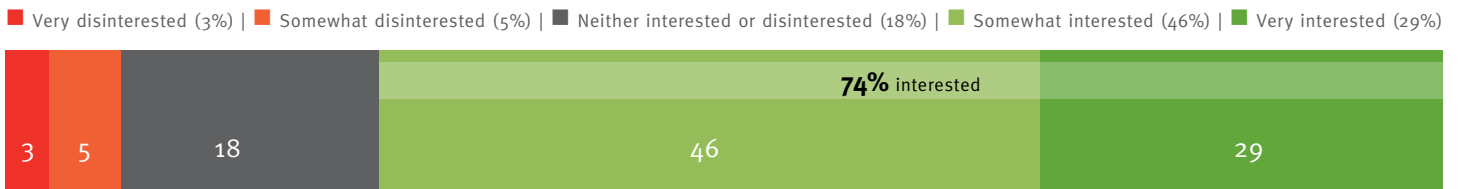
The majority of Queenslanders typically associate science in mainstream or school-related terms such as chemistry, biology, physics and experiments.

Interest in science

Overall, interest in science amongst Queenslanders is high with almost three quarters (74%) stating that they are either somewhat or very interested. Only 8% indicated that they are disinterested.

Interest levels vary significantly between males and females with males far more likely to be interested in science than females (79% versus 70%). Level of interest also varies by age group with those aged 18 to 24 years less interested than older age groups. Interest levels peaked between the ages of 35 and 54 years at 80%.

Overall interest in science



*Individual percentages are rounded

Areas of interest

Overall, science topics of greatest interest to Queenslanders are health and medicine (54%), technology (45%), astronomy (40%) and biology (39%). The areas of chemistry (20%) and mathematics (14%) are of least interest.

While the level of interest varies significantly between males and females, the science topics that interest them are also markedly different.

Females are most commonly interested in health and medicine (66%) followed by biology (46%), environmental studies (39%) and astronomy (37%).

Males are most commonly focused on the areas of technology (57%) followed then by astronomy (43%), health and medicine (42%) and computer science (42%).



Top 4 areas of interest

Technology (57%)

Astronomy (43%)

Health and medicine (42%)

Computer science (42%)



Health and medicine (66%)

Biology (46%)

Environmental studies (39%)

Astronomy (37%)

Awareness of Queensland science projects and scientists

Although overall interest in science is quite high, awareness of Queensland science projects and Queensland scientists is low.

Only one in five are able to accurately recall a Queensland scientific discovery or a Queensland scientist. Even after being prompted with a list of options, 41% were still unaware.



Associate Professor James Dale, QUT

The 'Super Banana' (designed to increase levels of beta carotene which the human body converts to Vitamin A) was named one of *Time Magazine's* 25 Best Inventions of 2014

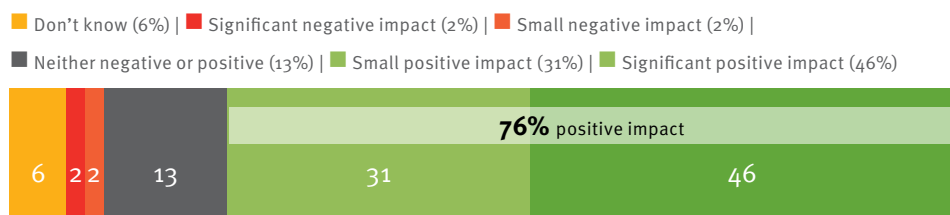
Photo courtesy QUT
CRICOS no. 00213J

Perceptions and attitudes towards science

Overall, the vast majority of Queenslanders (76%) are very positive towards scientific development and its impact on society and 72% believe that science is critical to the Queensland economy.

Health and medicine, communications and food and agriculture are the areas of science perceived to have the greatest positive impact on society.

At least one in five consider scientific development in the areas of climate change and mining to be negatively impacting society.

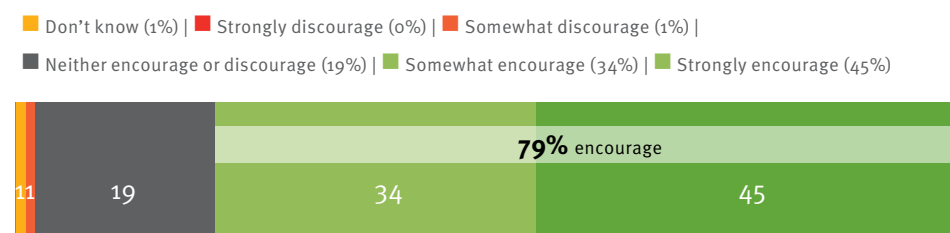


*Individual percentages are rounded

Science is the basis of so many career paths. I think that it is important that science be a part of the curriculum for those students wanting to go on and learn and study different career paths in the future.

Parents' behaviours and attitudes towards their children studying science

While most Queensland parents are encouraging of their children studying science at school (79%), this drops to 59% for those that would actively encourage their children to choose science as a career. It appears parents are more willing to allow their children make independent choices at this point.



*Individual percentages are rounded

I want my child to have a bright future and studying all areas of science will give her a better understanding of the world.

Media and science news and information, activities and events

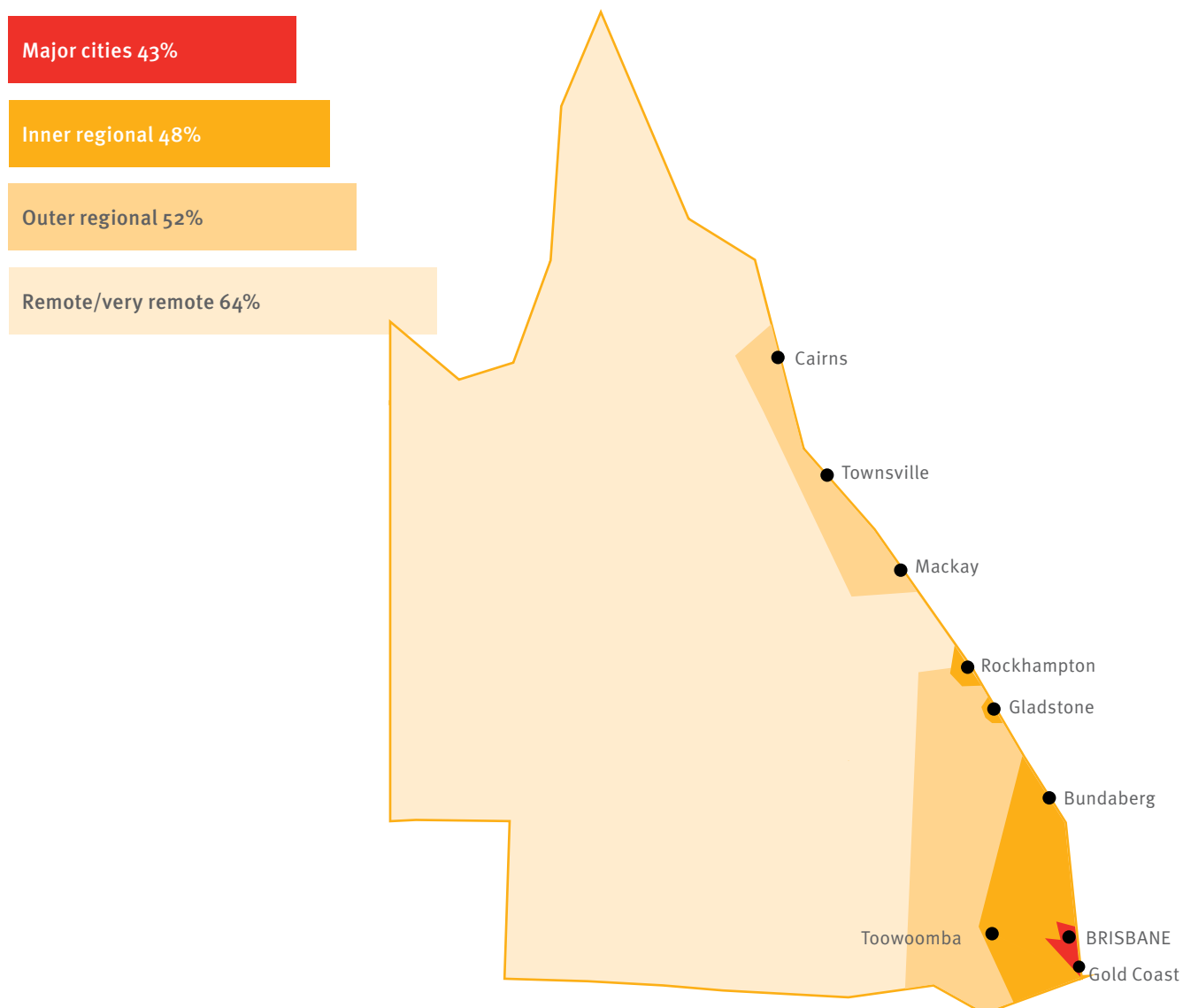
While there is a high level of interest among Queenslanders across the state, almost half (45%) believe there is currently not enough science news and information available in the media or online.

When asked where they recall receiving information when they are not actively looking, the vast majority (57%) indicated television as the mostly likely channel.

Almost half (47%) believe that there are not enough science-based activities and events in their local area. This is especially true of those who reside in remote and very remote areas of Queensland (64%).

Almost two in three (62%) Queensland parents and carers have or would encourage their child to be involved in science-based activities outside of school.

Choosing from a list of activities, open-house tours of science facilities and guided nature tours/nature play are the activities that generate the most interest (44% and 37% respectively).



Where to from here

It is clear from this research that the vast majority of Queenslanders are interested in science. However, there is scope for improvement in specific areas such as increasing interest levels of females and the younger generation (18 to 24 year olds) who are significantly less interested.

Additionally, the research suggests we do not need to persuade Queenslanders about the benefits of science to society. Instead, the focus should be on increasing and enhancing dissemination of science information and events and activities, particularly in regional Queensland.

While Queensland scientists are international leaders at the forefront of many breakthroughs and discoveries, this research indicates that Queenslanders are largely unaware of the significant, life-changing science and research taking place in their own backyard.

Communication that promotes Queensland scientists and discoveries should be able to leverage the high levels of interest in science

across the state and help to expand Queenslanders' understanding of science.

Queenslanders largely expect to be notified about local science events or activities via the television and local newspapers/magazines, with these being the top two preferred channels for information across all Queensland regions, however this changes according to age with the younger generation preferring social media. An integrated multi-channel strategy for disseminating information would be optimal to ensure age and region specific preferences are met.

As a result of this research, the Office of the Queensland Chief Scientist has developed the *Engaging Queenslanders in Science*—a strategy that will drive the science engagement agenda forward in Queensland over the next four years.



About us

Office of the Queensland Chief Scientist

The Queensland Chief Scientist is responsible for leading the development of science and innovation strategy across government as well as promoting Queensland science and research, and engaging with science and innovation stakeholders.

The Chief Scientist works to improve community engagement around science to build better understanding of and support for the role of science, research and innovation in the state's future economic, social and environmental wellbeing.

The Queensland Chief Scientist leads the *Advance Queensland Engaging Queenslanders in Science*—a strategy which aims to create a Queensland population that engages in and recognises, supports and advocates for science.

The Chief Scientist also works to profile Queensland as a knowledge-based economy characterised by world-class research and investment opportunities therefore attracting world class talent, investment, collaboration and cooperation.

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