



Office of the **Queensland Chief Scientist**

# Queenslanders' perceptions and attitudes to science

**Summary report 2021**



# Overview

This document summarises the findings of the 2021 research into Queenslanders' perceptions and attitudes to science. The research was commissioned by the Office of the Queensland Chief Scientist.

Kantar Public conducted the study and data was collected in March and April 2021. The research involved a 10-minute online survey of 1200 residents aged 18 years and over, spread across Queensland.

The full report, by Kantar Public, is now available on the [Office of the Queensland Chief Scientist website](#).

# Background and objectives

Science is an essential element in the lives of Queenslanders, not only from an economic standpoint, but also a social one. The advent of COVID-19 and increasing concerns around climate change means it is more vital than ever to ensure that science-related policies are supported by awareness and positive perceptions of science among Queenslanders.

In 2016 research led to the development of the *Engaging Queenslanders in science strategy 2016–2020*. This research has now been repeated in 2018 and 2021, with results being used to inform the activities and programs under the *Engaging Queenslanders in science strategy 2021–2024*.

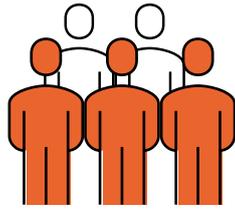


*Professor Hugh Possingham with Dr Christina Zdenek and her Woma python, Netflix, Dr Anita Milroy and Saba Sanai at Emerald State School during the Emerald Flying Scientists visit*

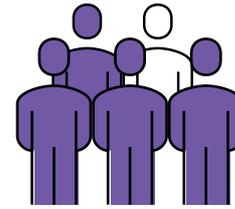


## Key findings

Overall, around half of Queenslanders provided a correct or partially correct definition of STEM (science, technology, engineering and maths), an increase of 19% from 2018.



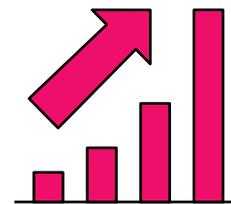
**Three in five** Queenslanders state that they are generally **interested in science**. Worryingly, the proportion who feel disinterested has been increasing since 2016 (2016: 8%; 2018: 13%; 2021: 18%).



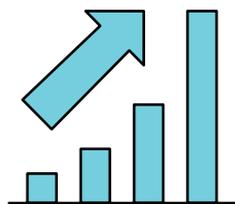
**Four in five** Queenslanders still believe science has a **positive impact** on society, remaining on par with 2018. With the majority of Queenslanders perceiving science as being critical to the Queensland economy (83% up from 72% in 2018).



As in previous results, Queenslanders believe there is **not enough information** or news about science in the media.



**Overall participation in science**-related events and activities has increased in 2021, despite the impacts of COVID-19 causing many in-person activities to be postponed or cancelled.



Participation and awareness of **citizen science** has increased significantly with almost one in four Queenslanders having heard this term and one in ten Queenslanders having participated in a citizen science activity.



Consistent across all surveys, **four in five (81%) of parents/carers** would encourage their children to study science subjects in high school.

## Key actions

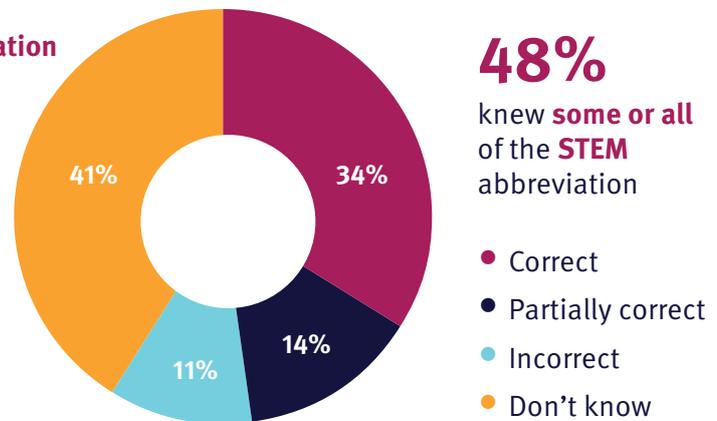
Continue to deliver and enhance initiatives that will increase growth in science visibility and engagement across Queensland through:

- supporting delivery of the goals within the *Engaging Queenslanders in science strategy 2021–2024*
- Engaging Science Grants
- National Science Week events
- Partner Up Queensland regional science and innovation network
- Flying Scientists
- Inspiring Australia
- Queensland Women in STEM Prize
- Young Tall Poppy Science Awards

## Awareness, knowledge and interest in science

Almost half of Queenslanders know some or all of the STEM acronym (science, technology, engineering and maths), and awareness has increased since 2018 (diagram 1).

### Awareness of STEM abbreviation



As in 2016, the majority of Queenslanders typically associate science in mainstream or school-related terms such as chemistry, biology, physics and experiments.

Those with higher education, as well as those currently working or studying are significantly more likely to have provided a correct definition of STEM.

Three in five Queenslanders show an interest in science—60% in 2021, however, the proportion of people who feel disinterested has been increasing since 2016. Overall, science topics of greatest interest to Queenslanders are health and medicine (49%), biology (44%) and technology (40%). The areas of engineering (22%) and mathematics (19%) are of least interest.

In line with previous years, females are most commonly interested in health and medicine (56%) followed by biology (50%), and technology (32%). Male interests have changed from previous years with the top three interests now the same as females, with technology (48%) being the highest area of interest, followed by health and medicine (42%), and biology (36%).



## Perceptions and attitudes towards science

Consistent with previous years, Queenslanders (79%) feel that scientific development has a positive impact on society and 83% believe that science is critical to the Queensland economy and will enable job growth. Those who live in South-East Queensland or have completed a TAFE or university qualification are more likely to perceive scientific development as having a positive impact.

## Parents' behaviours and attitudes towards their children studying science

Comparable with previous years' data, 81% of parents and carers have, or would encourage their children to study science subjects in high school and 72% of parents and carers have, or would encourage their children to consider a science-based career—an increase of 13% from 59% reported in 2018.

## Media and science news and information, activities and events

While there is a high level of interest in science among Queenslanders across the state, the majority still feel there is currently not enough science news and information available in the media or online. Interestingly, with the COVID-19 pandemic, the news media has showcased many scientists as well as mathematical graphs and concepts, yet those surveyed still identified an unmet need.

Queenslanders have noticed a wide range of activities and events in their local area in the past two years. Overall participation in activities, whether locally or elsewhere, has increased across most activities, despite lockdowns occurring in 2020 due to COVID-19. In some cases, the ability to engage in activities online drives this increase, as many people have largely increased their online activity when making the shift to staying at home more often. Encouragingly, engagement in some activities has increased regardless of the availability of an online option.

Overall interest in participating in science-based events in the future is at a similar level to 2018 (50%).

Only one in five are able to accurately recall a Queensland scientific discovery or a Queensland scientist, of these mentions of dinosaur discoveries was the strongest response at 22%.

## Citizen science

Participating in citizen science enables volunteers to learn scientific methods and develop critical thinking.

Almost one in four (23%) Queenslanders have heard of citizen science, an increase of 5% from 2018. Of those who have heard of citizen science 44% have participated in a project or activity either in their local area (35%) or elsewhere in Queensland (13%), equating to 10% of Queenslanders.

Those from regional areas have a stronger awareness and participation rate in citizen science.

One in two parents have heard of citizen science, with four out of five having participated. While a large proportion of students are aware of it, relatively few have participated in citizen science.

## ‘What citizen science activities have you participated in?’

When asked what citizen science projects respondents were involved in, a number of projects were provided. Unsurprisingly, projects had a focus on environmental monitoring and management. The examples Queenslanders gave were:

- Created a frog habitat at school to encourage breeding.
- Participated in bird counts and water analysis of natural water courses.
- Documented scrub turkey nest on a phone app for a group collecting data about scrub turkeys.
- Using plastic spoon and special app to examine waterbugs, river water quality
- Help catch invasive fish species in local waterways





## Where to from here

This research and the previous surveys highlight that Queenslanders are interested in science and agree that it positively impacts the economy. However, there were a few negative trends identified in this survey—there are pockets of the community, particularly fathers and young parents and those who did not study beyond school who would actively discourage their children to study or pursue science careers. Similarly, there has been a small increase in the number who feel that science has a negative impact (3% of the total population, up from 1% in 2018).

The Office of the Queensland Chief Scientist will continue to focus on encouraging students and the community to connect with scientists by participating in science events, citizen science projects and other STEM activities through the refreshed *Engaging Queenslanders in science strategy 2021–24*.

This strategy also emphasises profiling Queensland scientists and their discoveries to build value in science and to help increase science literacy in the community. It is important that Queenslanders can think critically about the flood of unchecked information we are bombarded with every day. Equally, the strategy seeks more students to learn about potential STEM careers so the state has a well-prepared workforce in the future.



For more information about the Office of the Queensland Chief Scientist:

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