

# SOUTH EAST QUEENSLAND ENGAGEMENT

2021



## QMEA PARTNER SCHOOL OPPORTUNITIES FOR STUDENTS

In response to feedback from schools within South-East Queensland, QMEA engagement opportunities will change in 2021 compared to previous years.

QMEA will offer a number of one-lesson, half day and whole day opportunities for schools to book when it is convenient for their school.

Please review the offerings on the following pages and see the information on the final page to book in your preferred offering. QMEA will continue to work with their sponsors to provide opportunity for QMEA students to engage virtually and in person with industry representatives.



"Great opportunity for the students to explore potential careers in the resources sector."

- Teacher, The Gap SHS

# WHAT WE OFFER

## Rollin' the Energy Mix

Year 7 – Science (Earth and Space Sciences)



A QMEA designed dice rolling game that explores the different energy options in Queensland and assists students to understand that each play their part within the overall energy mix.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Nil

Curriculum Link: ACSSU116

## Scarcity or Sustainability

Year 7 – Science (Earth and Space Sciences)



A strategy game (disk removal, turn-based game) is used to demonstrate how to use Earth's resources wisely. The concept can be drawn to reflect on a range of Earth's resources, including minerals, metals, energy products and water.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Nil

Curriculum Link: ACSSU116

## Pulleys for Productivity

Year 7 – Science (Physical Sciences)



A practical, hands-on experiment to understand the mechanical advantage provided by pulleys. The concept is linked to various mining machines to understand how they have been designed to account for mechanical advantage.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Some laboratory equipment

Curriculum Link: ACSSU117



## Mining for Code

Year 7 & 8 – Digital Technologies



An introductory session to Arduino coding, making use of Grove Starter Kit sensor packs. Students identify the problem, learn some introductory and basic Arduino code before assembling their solution.

Time: 70-100 minutes per session

Capacity: Up to 24 students is ideal per session

Provided by school: Student laptops may be required

Curriculum Link: ACTDIP027

## Watch it Cool

Year 8 – Science (Earth and Space Sciences)



A look at how the cooling rate of an igneous rock can create crystals of different shapes and sizes, which allows geologists to make inferences about rock formation conditions. This includes an experiment that investigates how the speed of cooling affects crystal size and shape.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Some laboratory equipment and chemicals

Curriculum Link: ACSSU153

## Hunting Minerals, Metals and More!



Year 8 – Science (Chemical Sciences)

This session investigates the linkages between elements on the Periodic Table and their uses in every day life. The associated activity is conducted as a scavenger hunt using the “30 Things” publication, produced by the Minerals Council of Australia.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Nil

Curriculum Link: ACSSU152

## Lighting the Way



Year 9 – Science (Physical Sciences)

A session builds on knowledge of how light travels and investigates the method by which retroreflectors are a means of passive light reflection. Their use within the resources sector is explored and how they underpin safety on a mine site.

Time: 70-100 minutes per session

Capacity: 1 class per session

Provided by school: Some laboratory equipment

Curriculum Link: ACSSU182

## Resourceful Robots



Year 9 & 10 – Digital Technologies

This session sees students work collaboratively, using Lego EV3 robots to navigate a course in order to solve a problem related to the minerals and energy sector. The session is designed as an introductory session for students with little to no prior experience with Lego EV3 robotics.

Time: 2 lessons/half day per session

Capacity: Up to 24 students is ideal per session

Provided by school: Nil

Curriculum Link: ACTDIP038

## STEM Unearthed



Year 10 – Science/Mathematics

This program can be packaged from a selection of activities that link to different stages of the mining process, including exploration, processing and rehabilitation.

Time: Half day or full day per session

Capacity: 1 class per session

Provided by school: Some laboratory equipment and chemicals, depending on activities selected

Curriculum Link: Various

## Tradies for a Day



Year 10 – Design and Technologies/  
Pre-Apprenticeship

This program includes numerous hands-on activities relating to different trades in the resources sector. Students will have the opportunity to hear from tradespeople and other industry experts about their roles in the minerals and energy sectors.

Time: Half day or full day per session

Capacity: Max 20 students per session

Provided by school: ITD workshop, PPE and some facilities as required

Curriculum Link: Various



“A wonderful opportunity to engage the young minds of tomorrow’s industry.”

- Industry Representative, STEM Unearthed



“I learnt that the mining industry can be very interesting and is different from what I thought it was.”

- Student, Alexandra Hills SHS

## MORE INFORMATION

Due to the large number of schools in South-East Queensland and the limited availability of the QMEA team with other program commitments, your flexibility in finalising a suitable date is greatly appreciated.

Preference will be given to schools who can confirm dates early and who are able to commit to a half or full day of engagement at their school. This could be with one group for the whole day, or a mixture of programs, students and year levels across the sessions.

For more information about these programs, please email [info@qmea.org.au](mailto:info@qmea.org.au).

## » BOOK YOUR SESSION

Limited dates are available throughout 2021 and are filled on a first-come, first-served basis.

Please visit this webpage to submit your preferred dates, times and sessions:

[www.qmea.org.au/seq-bookings](http://www.qmea.org.au/seq-bookings)



gateway to industry schools  
**minerals and energy**

