

**Bright Future**  
**STEM Program**

**INFORMATION FOR  
PARENTS & GUARDIANS**

# HELLO!

**Thank** you for encouraging your child to learn more about Science, Technology, Engineering and Mathematics (STEM), and the range of diverse and rewarding career opportunities within these fields now and into the future.

**Participation** in the Bright Future STEM program will give your child a better understanding of STEM, why it is so important and how it is applied in the real world and various careers.

**They** will also receive some great tips and guidance which assists and encourages children to pursue STEM studies in their areas of interest.

**The** program is a collaboration between the Australian Resources and Energy Group (AMMA), various industry organisations and the CSIRO.

**It** involves a number of fun, hands-on and interactive activities, showcases the inspiring personal career journeys of STEM industry professional role models, while also highlighting the many opportunities opened up through studying STEM.

**We** hope this guide is useful in helping you understand STEM and provides more detail on the many career opportunities and the pathways available if your child shows an interest in these fields.

**You** will also find some links to some great resources to help your child discover whether a career in STEM is right for them. We hope you hear positive feedback and notice your child's interest in STEM is piqued following their experience in the Bright Future STEM workshop.

**We** also hope they are inspired to keep learning more about how STEM shapes many aspects of our everyday lives.



# WHY IS STEM SO IMPORTANT?

**You** may already know that STEM stands for Science, Technology, Engineering and Mathematics.

**These** areas touch many aspects of our everyday lives - from smartphones and tablets, driverless car, surgical robots and expeditions going beyond our own solar system.

**These** innovations are driven by people skilled in STEM, changing how we live, work, and understand the world.

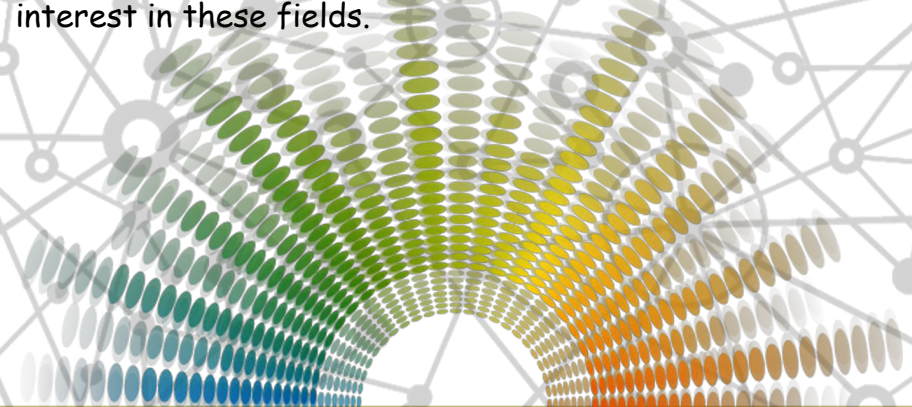
**Through** hands-on learning that draw meaningful connections with real-world applications, STEM education in schools provides students with a better understanding of these fields.

STEM jobs will continue to grow into the future as they become increasingly important with fast developing technology playing an ever-increasing role in our lives and the economy. For example, Australia's Mining Equipment, Technology and Services (METS) sector is already worth \$90billion and growing fast.

**However**, the biggest barrier to realising these opportunities is a lack of awareness about STEM careers and pathways.

**According** to the Australian Government, people with an education in STEM fields are deemed to be critically important for current and future productivity. However, the number of students studying STEM is in decline.

**There** is an urgent need to encourage and engage students in these subjects and industries. Therefore, it is important that parents, guardians and teachers are aware of the STEM opportunities available, and encouragement is provided if your child shows interest in these fields.



# THE INFLUENCE OF PARENTS/GUARDIANS

**While** learning from teachers at school is important, the biggest influence on a child's study and career choice comes from parents and guardians.

**Research** shows a strong connection between a child's educational ambitions and parental influence. In fact, parental influence was found to be a crucial element in whether a student completes year 12, moves on to higher education, and then what job or career path they follow.

**Your** positive influence is irreplaceable and cannot be underestimated.

**We** have included some further tips that can help encourage your child's interests and introduce new ways of thinking and learning.

- ▶ **Be** alert to opportunities to talk with your child about different industries and broader STEM related topics, such as how power is generated, where the gas you cook with comes from, and what things are made of.
- ▶ **Encourage** curiosity. When your child asks you a question, instead of giving them an answer or solution, encourage them to do their own research to find out for themselves.
- ▶ **Watch** Science and Technology TV shows and movies together and encourage conversations about what you have seen.
- ▶ **Encourage** your child to experiment - set up a place for experimenting and make materials available for experimentation. A number of inexpensive ideas can be found on the internet. Many of them can be done with basic equipment and household items, such as paper cups, craft sticks, glue, etc. We have made a few suggestions on our website [www.brightfuturestem.com.au](http://www.brightfuturestem.com.au)
- ▶ **Look** at STEM-related recreational activities, like a trip to the local Science Museum.
- ▶ **Show** your own interest for learning new things. Seeing your enthusiasm and curiosity, is a great motivator for your child.

# TALK TO YOUR CHILD ABOUT CAREERS

**As** children get older, it's important to have conversations about their potential career interests.

**Parents** and guardians play an important role in helping children select career opportunities available to them.

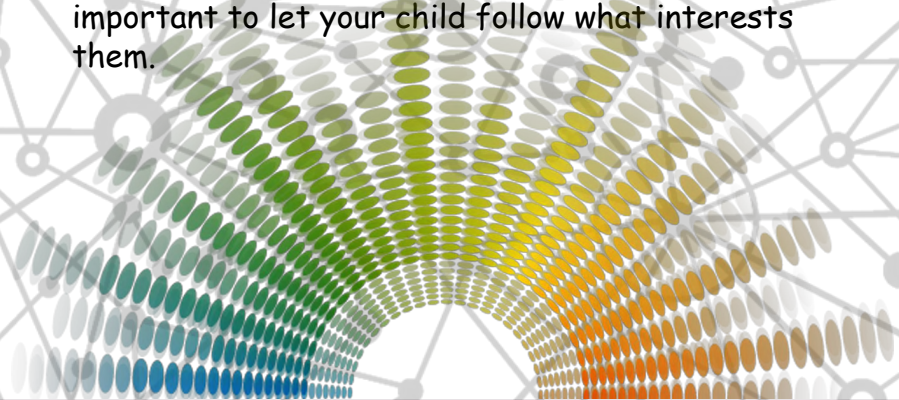
**It's** beneficial to start the conversation early about what they are interested in, so they can start thinking about subject selections and potential tertiary study or vocational training opportunities.

**Some** primary schools expose children to career education from quite a young age, so it is good to be prepared for when questions start.

**Discussing** the things your child is interested in, and potential career opportunities that could eventuate, will help shape their views and ambitions as they progress through school, and eventually transition into other study and opportunities, such as university, TAFE, apprenticeships etc.

**The Good Schools Guide** provides some tips on talking about careers with your child:

- ▶ **Firstly**, do some research. If you know your child is interested in a particular area, research what courses are available and what options there are for study, ie university, TAFE. Look into the entry requirements for each course. If they are not keen on pursuing tertiary studies, investigate other options such as apprenticeships and traineeships.
- ▶ **Be** ready to answer questions. Your child may ask how you chose your career, what you studied, what your first job was like etc.
- ▶ **Try** not to let your own opinions get in the way, it's important to let your child follow what interests them.



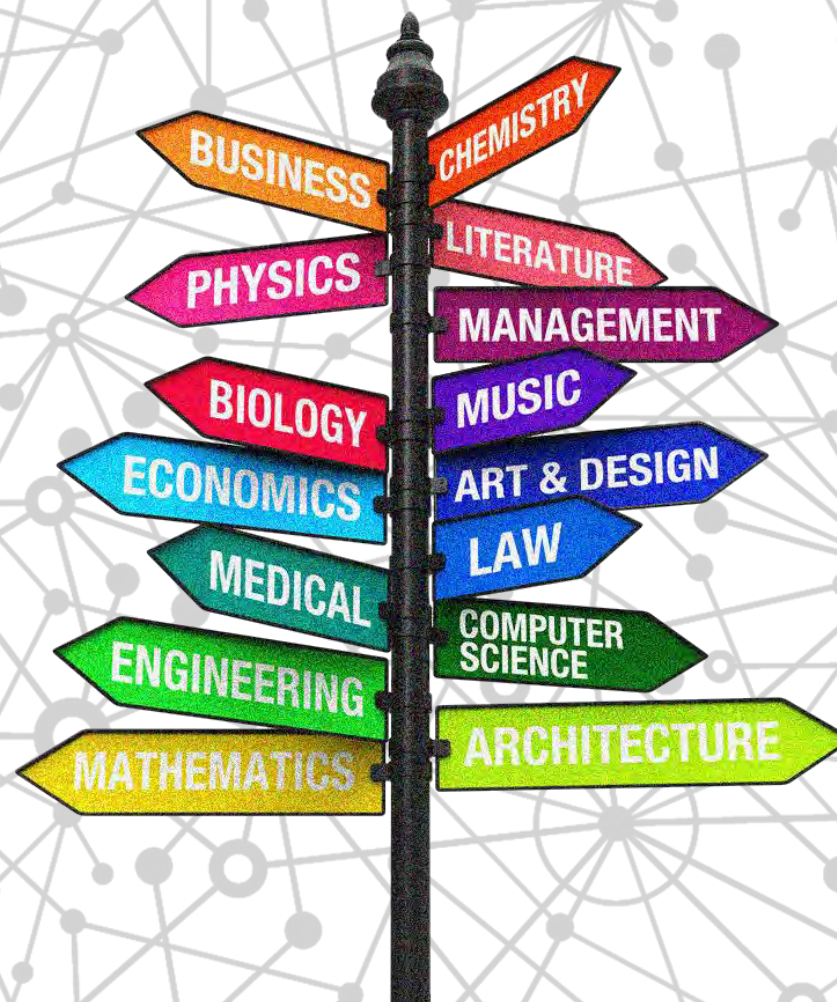
# HELPING WITH STUDY CHOICES

**As** your child approaches their senior school years, they will be able to choose their own subjects of study.

**Suitable** choices of subjects will vary between students. For some, it may be better to select a broad range of subjects that will allow entry into a variety of fields. For others, especially those who know what they would like to study, choosing subjects that are pre-requisites of further study options, would make sense.

**Another** important point to consider for the future is work experience. This is a fantastic way for your child to explore potential occupations to discover if this is the right area for them to work in.

**Schools** may provide a list of organisations used by previous students. Your child may have to organise their own placement, so it is advantageous to do some research into organisations in the industry that your child is interested in pursuing.



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# ONLINE RESOURCES



[www.queenslandstem.edu.au](http://www.queenslandstem.edu.au)

[www.chiefscientist.qld.gov.au](http://www.chiefscientist.qld.gov.au)

[www.starportal.edu.au](http://www.starportal.edu.au)

[www.eajuniorclub.com.au/parents](http://www.eajuniorclub.com.au/parents)

[www.starportal.edu.au/stem/activities](http://www.starportal.edu.au/stem/activities)

[www.education.wa.edu.au](http://www.education.wa.edu.au)

[www.familiesmagazine.com.au](http://www.familiesmagazine.com.au)

