



Australian Government



## ANSTO Big Ideas

# Application Process – Information for Teachers

ANSTO Big Ideas is open to all students in Years 7–10. Students must work in pairs to complete their submission.

An application for Big Ideas includes two students from years 7-9 or two students from year 10, **and one teacher**.

Students in year 7-9 will be considered “Junior Scientists” and will be competing to win a Science Experience at the Australian Synchrotron on November 22-25<sup>th</sup> 2020

Students in year 10 will be considered “Senior Scientists” and competing to win a Science Experience at ANSTO’s Lucas Heights campus on November 8-12<sup>th</sup> 2020.

Teachers are free to submit as many entries as they see fit. Each entry must be submitted independently, with all relevant forms.

Note: the teacher does not need to have a current year 7-10 class.

We have created some posters that you can print out and post on your notice boards or in your classrooms to generate interest in this activity (see Promotional Material). Please like [ANSTO on Facebook](#) and share any related content about Big Ideas via your social networks.

## Why should you have your class enter Big Ideas?

STEM fields have enormous power to shape the future. Achieving great things in STEM requires curiosity, creativity and passion, not necessarily top marks in Science. In fact a significant number of the world’s best scientists will tell you that:

- a. They didn’t get top marks in school, and
- b. They didn’t know they wanted to go into science until afterschool.

ANSTO Big Ideas provides an opportunity for students to discover the importance of science for issues that they care about. For example, perhaps students are passionate about marine life, or looking after vulnerable people, but haven’t made the connection between these passions and STEM.



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Feedback from teachers shows that previous students in the program have gone back to their schools and inspired other students to take up STEM subjects:

*“The students have become remarkable advocates for science amongst their peers, particularly for women in science. A number of other girls, who we all thought had no interest in science, are now asking us how they can fit it in for year 11 and 12.”*

## Incorporating Big Ideas into your teaching

- You can use this competition to address aspects of ‘Science as a Human Endeavour’ from the 7-10 Australian Curriculum Science Learning Area. Have your entire class work in pairs to produce videos on that area of the syllabus. Choose the best video(s) and enter this video(s) in the competition.

Below are some suggested areas of the Australian Curriculum that can be addressed through Big Ideas:

**Year 7** identifying the contributions of **Australian scientists** to the study of human impact on environments and to local environmental management projects ([ACSHE223 elaboration](#))

**Year 8** investigating how scientists have created new materials such as synthetic fibres, heat-resistant plastics and pharmaceuticals ([ACSHE136 elaboration](#))

**Year 9** investigating the use of nanotechnology in medicine, such as the delivery of pharmaceuticals ([ACSHE160 elaboration](#))

considering the impact of technological advances developed in Australia, such as the cochlear implant and bionic eye ([ACSHE160 elaboration](#))

**Year 10** investigating technologies associated with the reduction of carbon pollution, such as carbon capture ([ACSHE230 elaboration](#))

investigating the applications of gene technologies such as gene therapy and genetic engineering ([ACSHE194 elaboration](#))

- Use this competition as a class assessment task to assess Science Inquiry Skills, in particular Communicating, and submit the best video(s) from your class for the competition.
- Have students in your Science Club work in pairs to create a video as an extension activity.



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You can submit videos for each year group (Year 7, 8 and 9 for the Junior section and Year 10 for the Senior section) or as you see fit.

We have produced a student worksheet that can be used to help your students get started (see Forms/Documents section)

## Process for Entry

The main component of the application is a video (of up to **two minutes** in length) of the two students:

1. Creatively communicating the work of an **Australian Scientist**
2. Presenting a **Big Idea** which creates something new or could lead to solving a real-world problem in the areas of environment, health or new materials. The **Big Idea** must be related to the work of their chosen Australian scientist.

Steps to enter Big Ideas (see webpage for more information):

- Send permission forms home to the two students' parents/guardians
- Ask School Principal to sign approval form
- Submit your video (in the form of a shareable link via Dropbox, Google Drive or OneDrive) and application on the ANSTO portal before closing date

We encourage students and teachers from groups who are historically under-represented in STEM to apply. ANSTO is committed to gender equity and diversity in STEM and will ensure that at least half of the students and teachers accepted into the program are female.