Questacon
Virtual Excursions

PROJECT SUMMARY

proudly supported by Raytheon

Join us for Mission Astronautica in 2014

An innovation challenge for secondary school students

Questacon – The National Science and Technology Centre and Raytheon Australia are combining to give schools across Australia a unique challenge.

To respond to this challenge, students will investigate the topic of neutral buoyancy by making an object that 'hovers' in water without any support. Along the way, they will cover topics such as buoyancy, forces, and how a topic like neutral buoyancy is related to moving in zero-gravity.

Students (and teachers) will be required to work on the challenge throughout Term 3. During this time, they will receive guidance from Questacon and project mentors during virtual workshops and via an online forum.

Finally, they will give a short presentation to all participants during the last virtual excursion.

Teachers will be responsible for coordinating 'build' time and time for the virtual excursions. However, students are able to work on projects in their own time if, for example, the project is set as a homework task. There will be a total of four virtual excursions throughout the *Mission Astronautica* project (see the timetable below).

This project is linked to the Australian Curriculum and is complemented by teacher resources.

The challenge

To create an object that is neutrally buoyant in water.

There are multiple levels to this challenge however, the primary objectives are:

- for the object to stay at the same level in water
- for all parts of the object to remain at least 10 cm beneath the surface of the water
- to build the object using items available around the home, classroom or local shop.

You may choose to complete the challenge as a class project, or split your students into small teams.

The final presentation

Your class will be asked to present the story of their innovation at the final event on Thursday 28 August 2014. The presentation will be delivered during the final virtual excursion to the other participating students and Questacon staff.

Project support

A web forum will be set up to encourage collaboration both within and between schools. Students and teachers will be able to discuss and share their ideas, challenges and solutions.

This will be a closed forum for current *Mission Astronautica* participants only. Each school will be provided with a username and password that can be distributed to participating students. You will receive this information prior to the start of the project.

Virtual excursion timetable

Date and time	Description
Thursday 21 July 9.40 am (AEST)	**Challenge launch** Meet the other schools and your project mentors, and then participate in an innovation challenge workshop.
Thursday 7 August (time to be negotiated)	**Progress session and Mechanisms workshop** Students will participate in virtual workshops where they can ask for assistance and be provided with extra information about their projects.
Thursday 14 August (time to be negotiated)	**Presentation skills workshop** Students will be given a tutorial on presentation skills by Questacon staff.
Thursday 28 August TBC 9.40 am (AEST)	**Final presentations** Students present the results of their investigations, telling the story behind their project, demonstrating their object and presenting answers to the questions raised within each challenge.

Secure a place for your class now!

Positions are limited and will fill up fast. Send your class details to digitaloutreach@questacon.edu.au or phone 02 6270 2829 for more information.

King Edward Terrace Canberra
02 6270 2800
www.questacon.edu.au

Follow us on

Australian Government
Department of Industry

Questacon
The National Science and Technology Centre