

# Module 5: Engineering

Module 5 explores engineering skills and careers across a range of disciplines. This module allows students to use their problem solving skills to design, revise and build solutions to a range of civil, environmental and chemical engineering problems.

The Module 5 Risk Assessment highlights potential risks and their management strategies. Please read the Risk Assessment document before commencing any of the sessions.

Feedback forms have been provided for students, parents/guardians and coordinators to complete at the end of each session. Feedback assists with continued improvement of your club experience and the resources.

Module 5 sessions would be a fantastic opportunity to invite along a guest speaker from an engineering field. Some places to enquire about guest speakers are: Engineers Australia, City Councils, Engineering firms and Universities. Ensure “Working with Children Checks” are cleared for any session guests (systems vary in each state of Australia).

## Module 5.1: Engineering – What’s it all about?

This session explores engineering as a career, allowing students to discover the many areas in which an engineer can specialise. The use of the ‘My Big Tomorrow’ website is intended to give students a resource they can use at home for further exploration. The challenge activity focuses on civil engineering, as students design and build a device to propel an item across the room.

## Module 5.2: Environmental Engineering

In this session, students discover the positive impact they can have on the world around them using scientific and engineering skills to solve important problems. After investigating current technologies and their pros and cons, students then go on to design their own oil spill containment and clean-up device in the challenge activity.

## Module 5.3: Chemical Engineering

This session investigates the discipline of chemical engineering. Students gain an understanding of what a chemical engineer does and how this impacts on our everyday lives. This session also explores in further detail the engineering design process of designing and refining solutions to everyday problems. Students learn about the pH scale and the digestive system as they investigate the need for tablet coatings. In this week’s challenge, students make their own recipe to protect a tablet from the acidic environment of the stomach.

*The views expressed herein are not necessarily the views of the Commonwealth of Australia, and the Commonwealth of Australia does not accept responsibility for any information or advice contained herein.*