# Space programs reference sheet

Space programs squawk and talk – workshop resource

## Resource information

|  |  |
| --- | --- |
| Resource element | Details |
| Exolab curriculum alignment | * **Relevant KLAs:**
* Science
* iSTEM
* Engineering
* Technology
* **Curriculum links:**
* iSTEM specialised topic – Design for space: Critical problem solving
 |
| Aldrin Maps project curriculum alignment | * **Relevant KLAs:**
* Science
* iSTEM
* Technology
* **Curriculum links:**
* iSTEM specialised topic – Mechatronics and robotics
* Computing Technology 7-10 – Building mechatronics and autonomous systems
 |
| Cyber City curriculum alignment | * **Relevant KLAs:**
* iSTEM
* **Curriculum links:**
* iSTEM specialised topic – Cyber security and PBL
 |

## Exolab

1. Visit the [Magnitude.io's website](https://magnitude.io/exolab/), which explores the various projects associated with the Exolab program. Register to receive updates about upcoming missions and projects.
2. Go to the [Magnitude.io Classroom website](https://classroom.magnitude.io/login) and establish a complimentary account. This account can be upgraded later to enhance your involvement in the program.
3. Engage with the sample of online resources in the trial account to see the diverse and enriching activities provided.
4. Go to the [Contact us webpage](https://magnitude.io/contact-us/) to upgrade your account and start setting up your class.
5. For further details on connecting with the Exolab 11 ISS Mission, visit the [ExoLab-11 – Magnitude.io webpage](https://magnitude.io/exolab-11/). You can express your interest and schedule a conversation with a representative from Magnitude.io for additional insights.
6. Visit the [Fizzics Education website](https://www.fizzicseducation.com.au/). This site will act as the distributor for Exolab missions and materials for the upcoming October mission.
7. Visit the [ExoLab – International Space Station Experiment webpage](https://www.fizzicseducation.com.au/schools/secondary-science-incursions/exolab-international-space-station-experiment/). Select ‘Enquire now’ to arrange the procurement of an Exolab, along with any supplementary materials. Please mention ‘Exolab 11’ in your inquiry, considering that Exolab 10 has concluded.
8. Establish your Exolab in the department network, as they require internet access to operate effectively. Seek guidance from Magnitude.io as required, as they have significant experience in navigating these networks. You may also need your Technical Support Officer’s involvement during this process.
9. You should now be prepared to organise your class, experiment with your Exolab using the lessons available through the online platform and start preparations for the upcoming Exolab International Space Station mission.

## Aldrin Maps project

The Aldrin Maps Project, based in the United States, is in its initial stages of extending its presence to Australia. This expansion is being supported by the STEM Industry School Partnerships (SISP) program until 2024. Visit the [SISP Contact Us webpage](https://sispprogram.schools.nsw.gov.au/contact-us.html) to obtain an available loan kit. Alternatively, for a direct interface with Aldrin Maps and to acquire a map package from the United States, go to the [Aldrin Family Foundation – Giant Mars Map webpage](https://aldrinfoundation.org/giant-mars-map/).

1. Communicate with the SISP representative for your region (Shane Dryden for Hunter and Ben Moore for Newcastle). If you are not located in these regions, these representatives will be able to direct your query to the appropriate local representative.
2. Arrange to borrow one of the kits, which includes:
3. one Giant Moon Map
4. one Lunar Pro Globe
5. 15 ‘Welcome to the Moon’ books
6. one Giant Mars Map
7. one Mars Pro Globe
8. 15 ‘Welcome to Mars’ books
9. 12 Spike Prime Lego kits (with supporting parts needed for rover build).
10. Numerous digital resources are being offered to support the incorporation of Aldrin Maps in schools. Some of these resources are accessible to the public, while others are restricted. They include:
11. all Moon and Mars-related materials featured on the [Aldrin Family Foundation website](https://aldrinfoundation.org/stem-resources/)
12. unrestricted access to [Project Ianos](https://www.projectianos.org/)
13. primary activities for ages 5–9, concentrating on using the Giant Mars Map
14. primary activities for ages 9–11, focusing on the using the Giant Mars Map
15. project-based learning activities for ages 12–18, titled ‘School on the moon’
16. project-based learning activities for ages 11–14, involving robotics for lunar or Martian exploration
17. project-based learning activities for ages 11–14, titled ‘The Aldrin cycler challenge’.
18. Once you have a loan kit or a school-acquired map, explore the online resources and materials to actively engage your students in space exploration.
19. Look out for an upcoming iSTEM Mechatronics unit concentrating on the Giant Mars Map. This module will involve the construction, operation and programming of a rover by using the Spike Prime Lego kits to complete a range of autonomous missions on the Martian surface. This unit will be integrated into the digital resources package and will be uploaded to the [iTeachSTEM](https://iteachstem.com.au) website. The package will include:
20. a detailed iSTEM unit plan and lesson sequence
21. rover build instructions
22. optional remote-control rover activity, inclusive of instructional guidance
23. sample code for each autonomous mission
24. video tutorials corresponding to each mission.

## ****Cyber City****

1. Go to the [Cyber City website](https://cybercity.education/) and select ‘learn more’.
2. Explore the website to understand the program's objectives, its intended goals and its industry partners.
3. Communicate with the program's creator through the [Cyber City – Contact us webpage](https://cybercity.education/contact-us/).
4. Go to the [Cyber City – Join us webpage](https://cybercity.education/membership-join/). Complete the survey to enrol in the program and create an account.
5. Once your email address has been verified, explore the [Educator’s dashboard](https://cybercity.education/educator-dashboard/).
6. Select ‘Online sequences and resources’ at the top of the page to access the program's available resources.
7. Explore the right-hand panel on the webpage, where content is organised into a 10-week course. By interacting with each material, you will find syllabus mapping, lesson objectives, supplementary videos and matching resources.
8. Please note that this course is currently undergoing revisions and updates for future improvements. For more information, contact the program’s creator through the [Cyber City – Contact us webpage](https://cybercity.education/contact-us/).

**© State of New South Wales (Department of Education), 2023**

The copyright material published in this resource is subject to the *Copyright Act 1968* (Cth) and is owned by the NSW Department of Education or, where indicated, by a party other than the NSW Department of Education (third-party material).

Copyright material available in this resource and owned by the NSW Department of Education is licensed under a [Creative Commons Attribution 4.0 International (CC BY 4.0) licence](https://creativecommons.org/licenses/by/4.0/).



This licence allows you to share and adapt the material for any purpose, even commercially.

Attribution should be given to © State of New South Wales (Department of Education), 2023.

Material in this resource not available under a Creative Commons licence:

* the NSW Department of Education logo, other logos and trademark-protected material
* material owned by a third party that has been reproduced with permission. You will need to obtain permission from the third party to reuse its material.

**Links to third-party material and websites**

Please note that the provided (reading/viewing material/list/links/texts) are a suggestion only and implies no endorsement, by the New South Wales Department of Education, of any author, publisher, or book title. School principals and teachers are best placed to assess the suitability of resources that would complement the curriculum and reflect the needs and interests of their students.

If you use the links provided in this document to access a third-party's website, you acknowledge that the terms of use, including licence terms set out on the third-party's website apply to the use which may be made of the materials on that third-party website or where permitted by the *Copyright Act 1968* (Cth). The department accepts no responsibility for content on third-party websites.