

GETTING STARTED

'Unlocking the Universe in 3D' Virtual Reality program

Installing the program on your Meta Quest headset/s:

1. In your Meta account ensure that you have developer mode enabled to allow access to custom applications such as 'Unlocking the Universe in 3D' (unknown sources). The link below provides further information on how to enable developer mode.

<https://developers.meta.com/horizon/documentation/native/android/mobile-device-setup/>

2. You will need SideQuest <https://sidequestvr.com> – SideQuest is an alternative app store for Meta Quest VR headsets that allows users to access VR content not available on the Meta Quest Store. It serves as a tool for developers to distribute experimental, early-access, or unique VR applications. To set up SideQuest you will need to create an account then go to <https://sidequestvr.com/setup-howto> and follow the instructions and helpful videos for installing the app.

You can upload the U3D program to your headset/s in two ways:

- 1) Directly load SideQuest to your headset – once you have set up an account search for 'Unlocking the Universe in 3D'.
- 2) Upload the APK file from the ASTRO 3D website via SideQuest. You will need to have installed the 'Advanced Installer' for this option.

Once you have the program installed onto the headset/s, put on the headset and select 'store' from the task bar (far right). Select 'Unlocking the Universe in 3D' application to list all applications on the headset. Using the dropdown option at the top of the library window change the filter from 'all' to 'unknown sources', then select the 'Unlocking the Universe in 3D' app. If the app is the last one used it will appear on right hand side of Oculus Home task bar as a small, round purple icon (a miniature version of the U3D space badge). Clicking on this in the future will give you quick access to the application. Once the application is running, you will see the U3D main menu where you/the student can select an activity. When a selection is made you will be transported 'up' to the U3D Space Telescope to begin.

**Before you start VR with your class:**

It is important that you familiarise yourself with all the resources available to ensure you have a good understanding of how the students will work in VR and how they will extract their data. If you are not familiar with VR, this may take some time.

It is suggested you:

- Read all of the documents in the 'Supporting Resources' section. This includes:
 - the 'Using the controllers' document. This gives an in-depth explanation on how the controllers are used in this VR program.
 - the 'Outline of tasks and associated snapshots document' – this lays out clearly the progress of each activity, the tasks to be carried out and the data collected for each activity.

- the scripts/narration:
 - Kirsten's script.
 - 'Kirsten's notes' – additional information on specific topics (2 per activity) that users can access via the 'Kirsten's notes' button on the console.
 - The guided tour through the Epoch of Reionisation.
- the Standard Operating Procedure and Risk Assessment (accessed via the 'Safety' button).
- the Unit Plan to see if you wish to follow it or to 'cherry pick' from the suggested lesson progression.
- Watch the explanatory videos – guided tours through each module, including how to use the controllers and how to download the snapshots of data.
- Practise using 'Unlocking the Universe in 3D'. Run through each VR training module and each activity a number of times.

Before each VR lesson:

- Ensure all devices are charged and matched to their controllers.
- Ensure sufficient disinfectant wipes are available (after each user the device and controllers should be disinfected).
- Each VR user should have sufficient space for limited movement (approx. 2 x 2m) with no obstructions within that space. Students can draw a 'room scale' boundary or 'stationary' boundary area. The latter will create a circular 1m wide VR area. Students can either stand (preferred) or be sitting, if necessary. (Note: if a student is seated they will need to be on a raised platform.)
- Have the students form groups of two or three and assign the students to the real-world spaces you have set up earlier.
- The head strap's tightness can often affect the overall comfort of the VR session, so the students must understand how to adjust it to be comfortable. The strap's lowest point should be on the back of the head, roughly at the same level as the user's nose. This prevents the upper portion of the headset from applying excessive pressure to the forehead.
- All VR headsets provide adjustable lenses to accommodate all users, this allows for different inter-pupil distances. On Quest 2, lenses can be moved manually apart or together with 3 available positions. On Quest 1, there is a mechanical slider at the bottom of the headset.
- Remind the students to wear the wrist straps on the controllers at all times.