

Metro Waste Authority Virtual Reality Kit Overview

This virtual reality kit allows students to view various Metro Waste Authority sites in simple 3D. While viewers will be able to look around by turning their heads, they will not move throughout the site, and there are no clickable components. The experience is entirely teacher directed using the teacher tablet.

This experience is ideal for a first exposure to Metro Waste Authority's sites and is intended to be followed up with our interactive ThingLink resources, which provide more in-depth, interactive experiences.

- A binder is included with your kit, which includes:
 - A guide to the Virtual Reality kit and experience
 - Links and QR codes to the follow up resources, like interactive, 3D ThingLink explorations, which students can utilize after the VR experience has been completed
 - Hard copies of work pages and organizational tools you can copy

Equipment List

- (1) storage tote
- (1) teacher tablet with sleeve + micro USB charging cable
- (15) student headsets with Nokia devices
- (1) 10-Port USB charging hub
- (5) single-port USB charging blocks
- (1) router**

***Additional Notes About the Router*

The kit is designed to run **offline**. In the kit, you are provided with a router for all kit devices to connect to.

1. Plug the router into power outlet only. There is no need to connect to your school's network.
2. If 4 blue lights on the front of the router do not automatically turn on, turn the router on using the power button at the back of the router by the power supply port. This will broadcast **"RobotLABWifi" Network with no internet (offline)**.

All the devices are pre-configured to this network. *Please do not make any changes.*

If for some reason the tablet or student devices have lost connection to the provided router, please re-connect to the "RobotLABWifi" network with the password RobotsRCool.

Initial Set Up

First, ensure teacher tablet and student devices are charged. If not, plug in to charge.

Then, set up the **router** and **teacher tablet** following these steps.

1. Check the equipment list and identify all components in your VR case.
2. Plug the **router** into a power supply. *Note: do not connect to internet or plug in ethernet cables.*
 - a. Check to see that the front of the router has blue lights illuminated. If not, push power button, located on the back of the device by the power supply port.
3. Locate and power on the **teacher tablet** by pressing and briefly holding the power button on the right side of the device.
4. Once the device is powered up, swipe up on the screen to reveal apps.
5. Open settings app to verify that the device is connected to the **router**.
 - a. Click **Settings**.
 - b. Click **Network & internet**.
 - c. Click **WLAN**.
 - d. Select **RobotLABWiFi**.
 - i. This should say "Connected, no internet"
 - e. Exit **Settings**.
6. Open **VR Expeditions2** app.
7. Select "**MY DOWNLOADED TOURS**" option along the left side of the screen.
8. Scroll through the list and click on any tour options of interest.
9. Click the **red "Ready" button** underneath each scene on the right side of the screen to preview.
10. Drag your finger along the screen to change the view within the scene.

Next, test the **student devices**.

1. Remove a **student headset** from the VR case. *Note: these are located underneath the top materials tray.*
2. Open the **exterior headset** and remove the **device** inside.
3. Find the power button on the side of the device.
4. Once the device is powered up, swipe up on the screen to reveal the apps.
5. Open the VR Expeditions 2.0 app.
6. The app should have a screen that says "**Looking for a teacher on RobotLABWiFi**".
7. In a few seconds, the screen should update to show a green circle and the message "**Ready for Broadcast**", as shown below.



8. Return device to exterior headset and close the headset.

Finally, test scene broadcasting.

1. Using the **teacher tablet**, open a scene of interest.
2. Push the **red play button** centered at the bottom of the screen.
3. Check the **student headset** to verify that the scene is being broadcasted.

The initial setup is now complete! Detailed instructions are next.

In Advance of Your Lesson

- Set up a charging location for devices.
- Plug in all devices to ensure they are well-charged for student use.
- Preview teacher tablet and student devices (detailed instructions in next section).
- Decide which tours you'd like students to view.
- Review and select supporting resources, including:
 - worksheets
 - notice / wonder / connection pages
 - Thinglink Virtual Tours
- Prepare chart paper or whiteboard space to record student notice / wonder / connection share outs.
- Access and load the corresponding ThingLink tour to utilize whole-class, in pairs, or on individual student devices after the VR experience is completed.

General Plan

Follow detailed instructions below to prepare the teacher tablet and student headsets/devices.

Teacher will select tours and control images from the teacher tablet.

Students will work in pairs to explore each site.

- Each pair will share one headset.
- Students will take turns using the headset.

DETAILED TEACHER INSTRUCTIONS

The teacher tablet is your main controller. You will use this to lead tours, monitor the student's connectivity, and manage the classroom experience.

****Teacher tablet should be connected to RobotLABWiFi - NO INTERNET NEEDED**

1. The teacher app

The teacher app is where the teacher can access and broadcast scenes to students.

To start the teacher app, simply locate the **VR Expeditions 2.0 Teacher** app on the main screen of the tablet, or, if missing, swipe up from the bottom of the screen to see the list of all apps and select from there.



The system is designed to work off the **RobotLABWiFi** network and should not be connected to the internet.

2. Select student tours

When the teacher tablet is connected to the RobotLABWiFi network, the teacher can browse the saved tours from the "My Downloaded Tours" tab.

3. Prepare student devices to receive broadcast

More detailed instructions for navigating the student VR devices are in the Student Instructions section. Once students turn on their devices and open the VR Expeditions 2.0 App, they will see a spinning status bar looking for a teacher and "connecting". Once a teacher tablet is found, the status bar will change to green and the message will read "Ready to Broadcast" on their device. The device can then be closed inside the VR headset.

On your teacher tablet, a counter centered at the top of the screen will show how many student devices are connected and ready to receive the scene.

4. Broadcast scenes to students

To send the scene to students, student devices must be on, connected to RobotLABWiFi, and the VR Expeditions 2.0 app open. Simply select a scene, then click the red play button at the bottom center of the screen. It only takes a few seconds to send the scene to all your students.

5. Navigating scenes



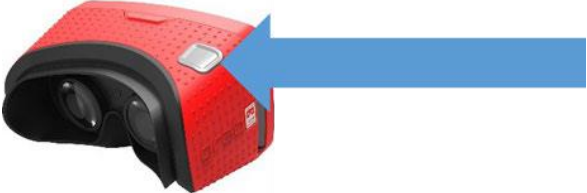
To move between scenes, click "Next Screen" or "Previous Screen" buttons on the right or left of the screen. You will need to click the red play button at the bottom center of the tour to broadcast the scene to student devices. This means you are able to look ahead on your teacher tablet before students move ahead.

Important Note

If students join the tour after the scene has been broadcast to devices, simply pause the experience on your teacher tablet, then hit play again. This will allow all devices to connect to the image.

DETAILED STUDENT INSTRUCTIONS

Below is a brief overview of the student devices and headsets included in this kit.

The Standard kit includes android-based devices and headsets. To operate the student devices:	
Push the latch down at the top of the viewer and pull back to open.	
Make sure each phone is on with enough battery.	
This button is used to click on objects for other apps.	
Make sure the phone is centered in the viewer. (Align the marking on the screen with the one on the goggles). Doing so will ensure a smooth viewing experience.	

For the devices in this kit, students will need to begin by removing the device from the 360 viewer, turning on their devices, and opening the app.

****Student devices should be connected to RobotLABWiFi**

DETAILED STUDENT INSTRUCTIONS, continued

1. The student app

The student app is designed for students. It allows them to connect to the teacher tablet and be on standby to accept the broadcast of scenes from the teacher tablet.



2. Opening the app

Once the phone is turned on by clicking the smaller, lower side button, swipe up on the screen and click on the VR Expeditions 2.0 icon to start the student app.

(Note: the app has the same name as the teacher's app, but the icon has a student with a headset instead of an adult, and background is gray instead of red)

3. Connecting to the teacher

Once the app is opened, a spinning status bar will show on the screen. This indicates that it is looking for a teacher's tablet and a specific network.

Once a teacher tablet has been found, the status circle will change to green and will read 'Ready to Broadcast'.

The students will wait in this mode until the teacher broadcasts a scene to their devices.

Once the students have connected their devices and are awaiting broadcasts, they should return the devices to the headset, ensuring the device is held in place by the prongs, the headset closes securely, and the screen is visible through the view finder.

4. Viewing the tour

Once the teacher pushes the red play button on the teacher tablet, the scene will be broadcast to all connected student headsets. Students will be able to turn 360 degrees in the scene by turning their heads and bodies in circles, but will not be able to interact with the images or move beyond the teacher-selected scene.

5. Concluding the tour

Once the experience has concluded, students should power off their devices and plug them in at the teacher-designated charging station.

How to ensure successful VR Expedition session in class

- If a student wears glasses have them wear their glasses normally and place the viewer over their glasses initially, then test whether glasses on or off provides the better experience.
- If a student feels dizzy while using the viewer, they should remove the viewer from their eyes to re-orient themselves.
 - Looking with one eye is another option students can try to reduce dizziness.
 - With Standard kit, you can remove the phone from the goggles, and press the X located on the top left corner to View the scene in full screen mode.
- You can clean and disinfect the viewers and phones with any standard disinfecting wipes.
- There is no need to move or walk while wearing the goggles. Students can stand and turn in 360 circles to enjoy the expedition.
- Make sure student devices and teacher tablet are completely charged before daily usage.