

VIRTUA IMMERSIVE LEARNING SOLUTIONS

GeoLab Faculty Onboarding Manual

Meta Quest headset setup, classroom use and teaching practices

This guide helps faculty and onboarding participants prepare a Meta Quest headset, open GeoLab, guide learners through an activity, and plan an effective class session. Keep it beside the headset for a quick reference.

Quick start

1. Charge the headset, check the controller batteries, clear the space, and prepare an alternative activity.
2. Put on the headset, adjust the fit, secure the controller wrist straps, and confirm the boundary.
3. Press the Meta button on the right controller and open the app Library.
4. Open the Library menu and select Unknown Sources. Choose the Virtua Campus or GeoLab app supplied for your headset.
5. Select a lab from the Virtua Campus Lab Contents menu and follow the instructions in that activity.
6. Give learners a clear task. Have them record observations, explain their reasoning, and revise their conclusions.
7. When finished, return to the app menu, select Quit, clean the equipment, and recharge it.

Before your first class

Run the complete activity yourself, including any casting or handout. Menu names and available activities may differ by headset software and GeoLab build. The screenshots in this guide show the Western University configuration in the supplied onboarding video.

For a visual demonstration, use the accompanying Onboarding Video. For support: nahgeib.virtua@gmail.com.

1 Prepare for a safe session

Make comfort, choice and an uncluttered physical space part of the lesson. Read Meta's health and safety guidance for the headset model and follow your institution's policies. Links are on the final page.

Set up the room

- Choose a well-lit area away from stairs, furniture edges, cables, hot surfaces and other hazards. Space headset users so they cannot bump into one another.
- Use a stable chair if the activity and learner benefit from seated use. Keep enough clear space for arm movement and a person assisting nearby.
- Set or confirm the headset boundary for the actual clear space. A boundary is an aid, not a physical barrier; a facilitator should remain attentive.
- Explain that virtual surfaces cannot support body weight. Ask the user to stay in place unless the activity and cleared space allow movement.

Protect comfort and participation

- Invite learners to stop immediately and remove the headset if they feel dizzy, nauseated, disoriented, uncomfortable or experience visual strain. Do not resume until symptoms have fully resolved; follow Meta's guidance for serious or persistent symptoms.
- Begin with a short session and allow breaks. For learners new to Meta Quest, Meta gives an example of no more than 30 minutes initially, followed by a 15-minute break; individuals may need shorter sessions and longer breaks.
- Offer a comparable non-VR route, such as a real specimen, images, a partner-led observation or an instructor demonstration. Learners do not need to disclose a diagnosis to use an alternative.
- For minors, check the device's current age, account, supervision and consent requirements and your institution's policies before the session.

If someone has a history of seizures or symptoms associated with an epileptic condition, Meta advises consulting a doctor before using the headset. Avoid collecting personal medical details in the classroom.

2 Set up the headset and controllers

Get ready

1. Check that the headset has enough charge for the session and that both controllers have working batteries. Turn on the headset with its power button.
2. Put the controller wrist straps on. Hold the headset with both hands, place it over your eyes, and adjust the side and top straps so it is secure without uncomfortable pressure.
3. Adjust the lens spacing for a single clear image. If wearing glasses, follow the fit guidance for your headset and prevent the glasses from rubbing against the lenses.
4. Confirm the floor level and stationary or roomscale boundary when prompted. If the room has changed, recheck the boundary before starting.

To adjust a boundary: Meta button → Quick controls → Settings → Environment setup → Boundary → Adjust boundary. Labels can change with software updates.

Find the basic controls

Control	Where to find it	Common use
Meta button	Right controller	Open the headset menu. Press and hold to recenter the view.
Trigger	Front of each controller	Point at a menu item and squeeze to select it.
Grip	Side of each controller	Commonly used to hold and release virtual objects.
Thumbstick	Top of each controller	May be used for navigation or movement.

Controls can differ between GeoLab activities. Follow any on-screen instructions and try the controls before the class. Press a controller button to wake it if needed.

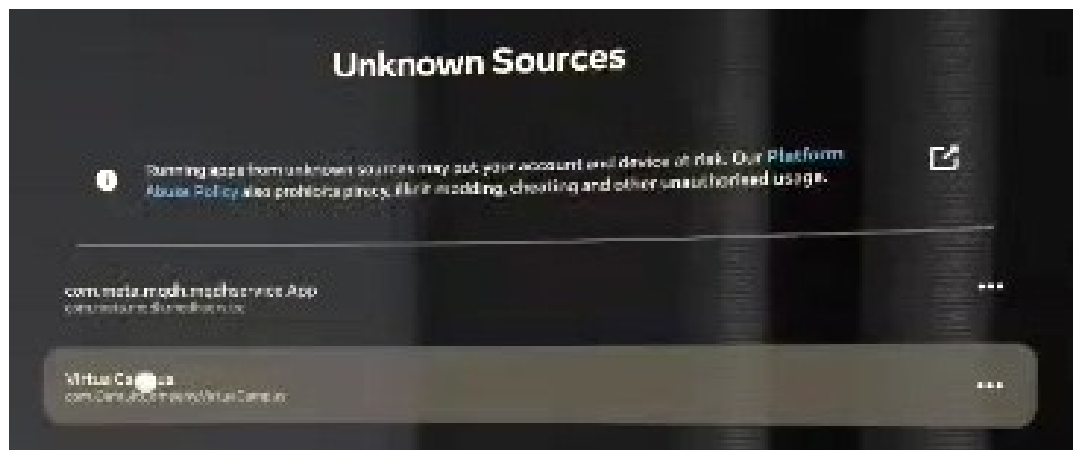
New to VR

If it is installed, use Meta's First Steps app for a short orientation to pointing, selecting and handling objects. Return to the headset menu when finished.

3 Open GeoLab

GeoLab is already installed on the prepared headset. It is accessed through the Library category called Unknown Sources.

1. Put on the headset and pick up the controllers. Press the Meta button on the right controller to open the Navigator or headset menu.
2. Open Library, usually shown as an app-grid icon.
3. Open the Library menu or category list. In the onboarding video it appears on the left side of the Library screen.
4. Select Unknown Sources.
5. Select the Virtua app. In the supplied video the entry is labelled Virtua Campus; the name on your headset may differ.
6. Wait for the app to load. When the Virtua Campus Lab Contents menu appears, point to the desired activity and select it.



Unknown Sources screen from the supplied onboarding video. The highlighted entry is the Virtua app; the screen layout may change.

Why is it listed under Unknown Sources

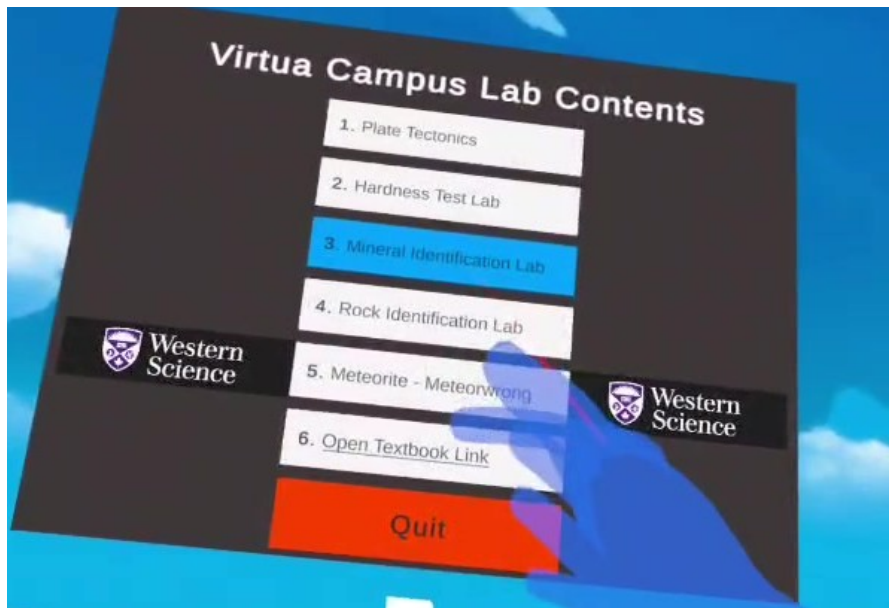
This is Meta's category for apps installed outside its regular app store. Open only the Virtua-provided app approved for your institution. If the category or app is missing, contact your institution's headset administrator or Virtua rather than installing an unfamiliar file.

To leave GeoLab

Return to the app's main menu and select Quit. If needed, use the Meta button to access the headset menu and close the app through the options shown.

4 Navigate a GeoLab activity

The video shows a Virtua Campus Lab Contents menu. The activities available to you depend on the build and the institution's licence or pilot scope.



Example menu from the Western University build shown in the onboarding video. Your menu may have different activities or branding.

The example menu includes Plate Tectonics, Hardness Test Lab, Mineral Identification Lab, Rock Identification Lab, Meteorite–Meteorwrong and an Open Textbook Link. The video also shows Quit. Do not assume every installation includes every item.

A practical activity sequence

1. Choose the assigned activity and read its instructions. Use Next Page and Previous Page where shown.
2. Look over the virtual workspace. Point with a controller to select an on-screen control; use the available grip interaction to handle objects when the activity supports it.
3. Inspect the specimen or task, record observations, and make a provisional interpretation. Use the activity's available tools and prompts; not all builds provide the same tests or feedback.
4. Explain the evidence for the choice. If the activity offers a Submit Answers control, use it as instructed and then review the feedback.
5. Use Return To Menu when ready to change activities. Use Restart only when ready to restart: it may clear the current activity's progress.

5 Run a class session

Before learners arrive

- Choose one learning outcome and a short task that is achievable in the available time. Confirm that the required activity is present on every headset.
- Test the headset, controllers, app, physical space, student handout and any monitor or casting connection. Open the activity once yourself and check where instructions and feedback appear.
- Prepare a way to capture observations outside the headset. Do not assume the installed build saves student work or sends results to a learning management system.
- Explain the rotation, safety rules and non-VR option. Arrange a facilitator or observer who can help without crowding the user's space.

During the activity

- Start with a short orientation: fit, wrist straps, boundary, selecting, holding an object if supported, and how to stop.
- Let the learner investigate before providing the answer. Ask what they observe, what evidence matters and what they would test next.
- Check comfort regularly. If the learner wants to stop, help them remove the headset safely and move to the alternative activity.
- Invite learners to treat an incorrect answer as information. Ask them to compare their first interpretation with the available feedback and explain any revision.

After the activity

- Ask learners to share one observation, their conclusion and one uncertainty. Connect their findings to the course concept and, where possible, to a physical sample.
- Collect the response sheet or exit ticket. Clean and dry shared contact surfaces according to the headset model and institution's approved procedure, then recharge.

A virtual representation is useful for observation and rehearsal, but it does not reproduce every property of a real specimen. Plan physical sample work when the learning outcome requires touch, weight, a real scratch test or other physical measurements.

6 Cast the headset to a screen

Casting lets a partner or instructor see the headset view on a computer or display. It is optional; GeoLab can still be facilitated by having the learner describe what they see.

Cast to a computer browser

1. Connect the headset and computer to the same Wi-Fi network. On the computer, open horizon.meta.com/casting and sign in with the Meta account used on that headset.
2. On the headset, press the Meta button on the right controller and select Quick controls.
3. Select Cast, then Web, then Next. Select Computer and then Next to connect.
4. Open or return to GeoLab. Put the computer display where the partner can see it without entering the headset user's clear space.
5. To stop, open Quick controls and select Stop casting. Menu wording may differ after a Meta update.

Before using multiple headsets

- Test each headset with its intended computer or display and authorized account before class. If casting multiple headsets, plan a separate destination and account arrangement with your technology team.
- Ask campus IT about wireless restrictions if devices cannot see one another. Meta notes that account mismatches, different Wi-Fi networks and network restrictions can prevent casting.
- Explain what will be displayed and follow institutional privacy and consent practices. Avoid showing notifications, account details or other personal information on a shared screen.

If casting is unavailable

Have the headset user describe what they see while a partner asks questions and records observations. A facilitator can also demonstrate to the group before students work in smaller rotations.

Meta also supports casting to the Meta Horizon mobile app on a compatible phone. Use the current Meta instructions linked on the final page if that is the preferred setup.

7 Teaching use cases

Select a use case that matches your learning outcome and the activities installed on your headset. These are teaching ideas; they are not a promise that every feature is present in every version.

Pre-lab preparation

Before handling physical specimens, learners explore a virtual sample and practice describing observable properties. In the physical lab, ask them to repeat the description and note which properties could not be judged reliably in VR.

Prompt: “Which observations would you trust here, and which require a physical test?”

Mineral identification

Give learners an unknown sample and an observation sheet. Ask them to record visible evidence, use the available virtual tests, propose an identification, and explain why another possibility is less convincing.

Prompt: “Which two observations best support your identification? What would change your mind?”

Rock identification and comparison

Ask learners to compare two specimens by visible texture, grain size, colour and other features available in the module. Have them propose a rock type or formation history using evidence, then compare with a real sample or reference image.

Prompt: “Which visible feature supports your interpretation, and what remains uncertain?”

Hardness and evidence

If the Hardness Test Lab is available, have learners use the activity as presented to reason about relative hardness. Discuss the distinction between a simulated response and an actual physical scratch test.

Prompt: “What does this comparison tell you? What would you check with a real specimen?”

Meteorite or meteorwrong

Where the institution’s version includes this activity, ask learners to record surface appearance and other available clues, sort a specimen, submit when instructed, and explain any change after feedback. A single dark colour, apparent heft or magnetic response is not proof of a meteorite.

Prompt: “What evidence supports your choice, and what further evidence would you need?”

Plate tectonics

If available, ask learners to sketch a boundary shown in the activity, explain an associated process, and identify one limitation of the model.

8 Example 50 minute rotation

Example: 21 learners, seven headsets and groups of three. Each learner gets a headset turn within one 10-minute rotation period. Allow time within each period for fit, cleaning and handover. A monitor for each station is helpful if casting is available; otherwise learners describe the experience aloud.

Time	Activity
0–5 min	Introduce the learning goal, the safety and comfort rules, the alternative activity and the group roles.
5–15 min	Round 1: first learner uses the headset; the other two support the investigation.
15–25 min	Round 2: rotate so a second learner uses the headset.
25–35 min	Round 3: rotate so the third learner uses the headset.
35–45 min	Compare observations and discuss evidence, disagreements and remaining uncertainty.
45–50 min	Complete a short exit ticket; return equipment for cleaning and charging.

Roles within each group

- Headset user: operates the controls, examines the sample and describes observations aloud.
- Navigator: reads the task or flowchart, asks guiding questions and helps keep the activity on track.
- Recorder or observer: records evidence and the group's reasoning; watches the cast if available.

Rotate all roles each round. Allow time for a comfortable handover and hygiene; if cleaning takes longer, shorten the task or extend the class. Never rush a learner who needs to stop.

Adapt the plan

With fewer headsets, provide parallel stations such as physical samples, images, readings or written analysis, or extend the rotation. Adjust the number and length of rotations so every learner has a meaningful task, including those using the non-VR route.

9 Assess and improve learning

Assess the geological reasoning you intended to teach, rather than speed with the controllers. Use equivalent expectations for learners who complete a comparable non-VR activity.

A simple observation record

For each specimen or task, ask the learner to record:

- Observation: What did you see or test?
- Interpretation: What is your provisional identification or explanation?
- Evidence: Which two observations support it?
- Uncertainty: What can you not determine from the available evidence?
- Revision: After feedback or comparison, what changed and why?

Quick formative rubric

Criterion	Look for
Observation	Accurate, specific descriptions of relevant features.
Reasoning	A conclusion connected to more than one observation.
Reflection	A reasonable uncertainty or a clear explanation of a revision.

For a simple score, rate each criterion 0 (not yet demonstrated), 1 (partly demonstrated) or 2 (clearly demonstrated). Adjust the language and weighting to fit your course.

Use a pre and post comparison carefully

If you want to assess change, use comparable questions or specimens before and after the activity and score them with the same rubric. Record the number of students, time on task, alternative learning activities and any other relevant context. A gain within one group alone does not establish that VR caused the improvement.

Record what the technology can actually provide

Use student sheets, instructor observations or other institution-approved methods. If your particular GeoLab build offers data capture or reports, confirm what is recorded, where it is stored and who can access it before relying on those features.

10 Troubleshooting and equipment care

Problem	What to try
No image or headset will not start	Check charge; use the power button and allow time to start. If unresponsive, contact your headset administrator.
Image blurry or uncomfortable	Refit the straps and adjust the lenses for a single clear image. Check glasses clearance. Stop if discomfort persists.
Controller or pointer not responding	Press a controller button to wake it; check its battery and room lighting. Use the correct controller and retry.
Unknown Sources or the app is missing	Reopen Library and its category menu; confirm the correct headset and account. Ask the administrator or Virtua to check installation and device configuration.
GeoLab freezes or closes	Note the activity and error, then close and reopen the app. If necessary, restart the headset through its power menu and ask support for help.
Cast will not connect	Confirm the headset and computer use the same Wi-Fi and the correct Meta account. Ask IT to check network restrictions. Use the non-casting option meanwhile.
Workspace is off centre	Face the desired direction and hold the Meta button on the right controller to recenter. Recheck the boundary if the room changed.

Between users and after class

Follow Meta's cleaning instructions for the exact facial interface and your institution's infection-control procedure. Meta advises a dry microfiber cloth for lenses and no alcohol or chemical cleansers; do not spray or immerse the headset. If a component is washed as instructed by Meta, let it dry fully before reinstalling. Use clean, compatible face covers if provided.

Store lenses away from direct sunlight, including sunlight through a window. Return controllers, charge equipment as appropriate, and report damage or repeated problems. Do not factory-reset a managed headset without the administrator's direction.

11 Faculty planning and support

Plan your next GeoLab session

Course or topic: _____

Learning outcome: _____

GeoLab activity and version: _____

Number of learners / headsets / facilitators: _____

Learner task and evidence to record: _____

Non-VR route and accessibility arrangements: _____

Casting or display setup, if needed: _____

How learning will be assessed: _____

Virtua support

Nahgeib Miller, M.Phil., P.Geo., EP | Founder and CEO

nahgeib.virtua@gmail.com | 647-200-7692 | virtuacampus.tech

For troubleshooting, share the headset model, app or activity name, what you were doing, the exact error and whether it affects other headsets. Avoid sending learner names or images without the required permission.

Reference links

- [Meta Quest 3 health and safety](#)
- [Meta Quest 3S health and safety](#)
- [Meta controller basics](#)
- [Meta boundary setup](#)
- [Meta casting instructions](#)
- [Meta device cleaning](#)

Prepared from the supplied faculty onboarding slides and video; Meta guidance checked 26 October 2026. Headset interfaces and app features may change.