Virtual Reality- Using a Pre-Made Google Expedition

Starting a Google Expedition with Students

When you are ready to get started, there are a number of things to check before you begin. Here's what you need to know.

1. Power on all devices

2. Ensure that the student devices and the teacher devices are connected to the same WiFi network. Students on a different network will not be able to take part in the tour. (Be sure to test this out ahead of time to be sure that this works on your school network.)

3. Launch the Expedition app on the teacher device. Read the Welcome information, then accept it. Teachers should choose to be a guide and tap the **Lead** button.

4. On the teacher device, find the Expedition you want to show your students and tap it to download. Once downloaded, the tour will be saved to the device for future use.

5. Launch the Expedition app on the student devices. Read the Welcome information, then accept it. Ask your teacher if you have any questions about the information. Students should choose to be an explorer and tap the **Follow** button.

6. If the teacher has already chosen the Expedition, then students will be prompted to join the Expedition. Students will see the name of the Expedition on their screen once it has been chosen by the teacher. They will also see **Waiting for Teacher** on their screen.

7. As the Guide, select the scene you want to begin with by sliding the cards left and right at the bottom of your screen. When you find the one you want, tap **Play**.

8. Once students see the Expedition on the screen, insert student devices into the VR headsets and ensure that they are orientated the correct way with the word **Ready** written in green letters on the screen.

9. To direct student attention to a specific part of an image, scroll down and tap on the targets that are located beneath the teacher script. Read the script or talk about the location to the students as they are viewing it in the headsets.

10. To move to a new scene, swipe left or right on the cards to select a new location. Each time you change scenes, your screen will fade to black until the new image loads. This will happen on student devices also.

11. To exit the tour, tap the **X** in the top left-hand corner.

Note: If you are pulling up the expedition on a mobile device that can be mirrored to a smartboard, then all students will be able to see the expedition, even if it's not in 3d in their headsets.

Top Tips for Leading a Google Expedition

The first time you begin an Expedition with students, the excitement level will be hard to contain. Their emotions will be high and the chances of them paying much attention to curricular level applications will be slim. So, plan accordingly. Pick a tour that is fun and something that will introduce them to all that they will experience on a Google Expedition. Let them explore, ask questions, and soak in all that it has to offer. Once they are done, explain how you hope to use these virtual field trips to enhance future lessons.

When you are in a tour, look out for the smiley face icons on your teacher device. These are the indicators that show you where your students are looking. There is one face for each student. When you ask your students to look at a specific part of the scene, the smiley faces will give you a good idea of how many students are looking where you asked them to look. Unfortunately, there is no way of telling exactly who is looking and who is not, but this is still a useful feature for seeing how many students are on task, and how many are not.

Each tour comes with a teacher script that can be read aloud while students are engaged in a virtual tour. However, that doesn't mean you have to read the script verbatim. Read it ahead of time and pick out the things that you think will be most relevant for your students. Be prepared for questions from the kids about things they see that are not on your script. Have your key questions about the Expedition ready and take some time to let the students experience the Expedition before you dive in with additional information.

Be sure to download the Expedition before the day you show it to students. As long as you are using the same device when you download it as when you play it, then the expedition will be saved to the device and load much faster.

Reflecting on Google Expeditions Field Trips

It is important to take some time with students to reflect on the Expedition after it has ended. How did the virtual field trip experience add to or enhance student understanding of this topic? What questions do they still have? Was there anything that they wanted to see, but couldn't see? These can be good questions to ask, and can help cement some of the learning that took place during the whole class event.

Have students share in pairs or small groups to vocalize how effective the Expedition was as a way to learn more about the topic you are studying. Afterwards, give students time to express some of what they experienced in a blog post, journal entry, or as a video response. This can be a valuable record of learning and, over time, could be an ideal way to reflect on the impact that Google Expeditions has on your classroom.

Directions, tips, and reflections in this documents were taken from
https://owlcation.com/academia/Google-Expeditions-Help-Support-for-Schools

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More Resources

Here is a current list of Google expeditions (October 2016)- goo.gl/jwxtCw

Here is one more resource for tips on using Google Expeditions in the classroom-
http://blog.edtechteam.com/2016/07/4-easy-steps-to-start-google.html

Best Buy is offering Google Expedition kits for the classroom-
http://www.bestbuy.com/site/clp/googleexpeditions/pcmcat748302046351.c?id=pcmcat74830204635
1

Sign up to be a Beta tester with Google and they might just bring the Expeditions and equipment to you!
https://www.wired.com/2016/01/google-brings-its-vr-field-trips-to-more-schools/

Create your own Google Expedition by creating a Panoramic photo

Using the Google Cardboard Camera app to create a panoramic photo

To help students create their own expeditions, all you need is a smartphone or tablet with the Google Cardboard Camera app and Google cardboard headset. Here's how you do it.

1. Open the Google Cardboard Camera app on your device.

2. Go to your photos

3. Click the camera icon in the lower right corner. Allow the app to use the Camera and microphone.

4. Choose to record the sound with the photo or turn it off by clicking the sound bars in the lower right corner.

5. Tap the red record button at the bottom of the screen to begin your recording.

6. You will be prompted to move the phone in a circle to the right. Follow your progress by watching the orange arrow on the screen. If you do want to record your voice then you would record it as you are gathering your image.

7. Recommendation: Have students work in groups of 2 and have one move the camera to record the image, while the other student talks about what is being seen.

8. Wait for the image to render. Note that the image is automatically saved into your Photo Library.

The cardboard camera app is available for iOs and Android devices.
https://play.google.com/store/apps/details?id=com.google.vr.cyclops&hl=en
https://itunes.apple.com/us/app/cardboard-camera/id1095487294?mt=8

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Create your own Google Expedition by Creating a Photosphere

Using the Google Street View app to create a photosphere

To help students create their own expeditions, all you need is a smartphone or tablet with the Google Street View app and Google cardboard headset. Here's how you do it.

1. Sign into a Google Account. First, go to "profile." Then, scroll down until you are presented with the "sign in" option.

2. Go to the physical location where you would like to create your photosphere. Open the Google Street View app on the device.

3. Next, click the "+" icon in the lower right corner of the app to begin to create the photosphere. Select "camera."

4. Follow the yellow dots that appear on the screen to take a 360-degree panoramic photo. Be sure to move the device up, down, left and right to complete taking all the photos. You will know you are finished when the circle at the bottom, has a line completely around it.

5. Wait for the image to render.

6. After taking photos in Google Street View, the image will appear in your private gallery and will be saved to your Photo Library.

7. View the image by rotating it on the screen. When you have taken all of the necessary images, you will see the checkmark at the bottom of the screen turn gren.

8. You can also view it in google Cardboard. Click on the photo to launch the Google Cardboard icon in the upper right corner of the screen. Students can set their phone into the cardboard viewer or other viewer case to see the image as a VR immersive experience.

9. Publish the image to Google Maps or keep it on that device for viewing.

The Google Street View app is available for iOS and Android devices
https://play.google.com/store/apps/details?id=com.google.android.street&hl=en
https://itunes.apple.com/us/app/google-street-view/id904418768?mt=8

More Resources:
Take this one step further and create a Storysphere where students can add their own voice to describe their photosphere. Note that you will need to record an mp3 file and upload it via a computer. This website is in beta version and there is not an easy way to upload audio files from a mobile device at this time.

Storyspheres web site- https://www.storyspheres.com/scene/3yao6xVS
You could also use this site to look for places to take your students. You can use the stories already recorded or you could use your own script.

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Augmented Reality- Using Aurasma

Create your own Aura

There are two ways to create an Aura: the mobile app, for iOS and Android devices, or Aurasma Studio, which can be accessed via a web browser. For your students, the Aurasma mobile app is probably the best option. Though it does not allows users to create with some of the more advances features of Aurasma Studio, it is simple with a focus on core features.

Aurasma Mobile App focuses on two piece of content – the **trigger** and the **overlay**.

The **trigger** is a real world image that is used by Aurasma to recognize the Augmented Reality overlay that you are putting on top of it. The trigger image needs to be something simple for your mobile device to read with the built in camera.

The **overlay** is the object, video, web link, or photo you want the viewer to see when they look at the trigger image with a mobile device.

More about trigger images
A Trigger Image needs to be:
• A JPEG or PNG file
• Less than 500,000 pixels in size (width x height) when uploaded to your account

Using a good Trigger is the most crucial step in creating a great Aurasma experience. You can have the most amazing video content or 3D animations, but without a dependable Trigger Image, the performance of the Aura will be negatively affected. A good Trigger Image means the Aura will activate smoothly and the Overlays will track well.
Qualities for good Trigger Images are:
- Tonal variation and contrast
- Unique shapes and forms
- Lots of detail across the entire image
What makes a bad Trigger Image?
- Sparse images, including basic logos
- Very dark images with no tonal variation
- Recurring and identical features (patterns, text)
- Blurs and gradients

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**Creating an Aura using the Aurasma App on an iPad**
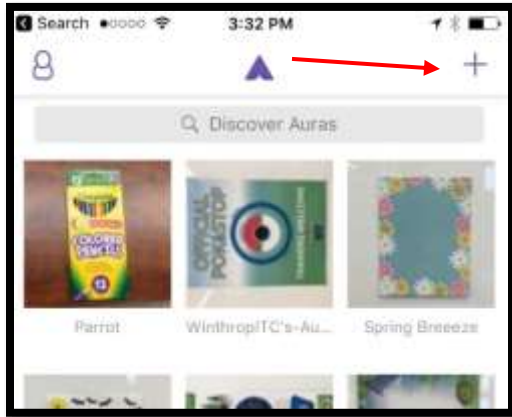
1. The first step of creating an Aura is to select or make your trigger. After signing into an account, touch the plus sign in the upper right-hand corner of the main menu.

2. From here, your device will switch to its camera, with a grid overlay and a slider that moves from red to green. As you aim your camera at different items, this slider will move from red to green to indicate the quality of the photo as a trigger – the more distinct the photo, the more reliably it will be recognized to trigger the overlay. You want to see the dot in the green section.

3. When you have snapped a photo to use as your trigger, you will be taken to the overlay selection screen.
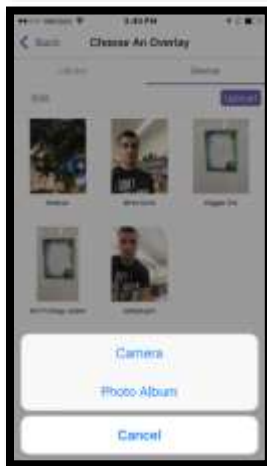
4. From here, you can either select an overlay that already exists in the Aurasma Library, or create your own using a photo or video from your Device. The two tabs at the top switch between these options.

5. Choose the Device Tab to upload your own content. Choose the Photo Album to upload an image or video you have already created.

6. Choose the Camera to choose take a photo or video from right within the app.

7. After you have added the overlay, you can drag within your screen to move the overlay or change the size of it.

8. Once you have the overlay finished, then click Done. Give the aura time to render, then test it once you see the message that it's available. Test it on another device logged into the same account.

Note: For classroom purposes, it may be simplest to have the entire class create auras within the same account. This way, any auras created across devices in the classroom will be immediately viewable to all other devices in the classroom - without the need to "follow" other users.

Aurasma Accounts
In order to view Auras created by other users, you will need to "follow" that user in Aurasma. When you follow another user, any Auras he or she creates and shares in their public folder will be accessible to you on your device. Essentially, following a user allows your device to recognize triggers they have created.
You can follow a user by searching for their username in the "Discover Auras" search bar on the app's home screen.

Using Premade Triggers
It is possible to use Auras created by other users by duplicating the trigger images via a color printer. If you are using the Aurasma App, you can do this by tapping on the trigger image to get a larger view. You can then take a screenshot of this trigger and print this image via a wireless printer or by emailing it to a computer with printer access.
If you are using Aurasma Studio, right-click the image and "open the image in a new tab." Print the image straight from the resulting webpage.

Tips for Using Aurasma with Students:
Tips taken from "Aurasma tips for Teachers"- https://aurasma.zendesk.com/hc/en-us/articles/206292695-Are-you-a-teacher-Guidance-for-teachers-and-other-educators-getting-started-with-Aurasma

I want my Auras to be viewed through multiple devices – should I create them on my phone or online in the Aurasma Studio?
Teachers looking to make Auras viewable through multiple devices (for instance parents' and students' phones) will find it more convenient to create Auras online in the Aurasma Studio - in fact for any type of large scale implementation of AR, we would recommend creating content in Studio vs the app.
Auras created on your device will be more simple Auras, and, initially at least, can only be viewed through your device. Whilst it is possible to share Auras created on your phone with other phones and tablets, this is a less efficient way of making Auras accessible to multiple devices. Auras created in the Aurasma Studio, on the other hand, can very easily be delivered to tens, hundreds, even thousands of mobile devices.

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I want students/ faculty to use the Aurasma Studio – do they all need separate accounts?
No, they do not need separate accounts. However, accounts are set up on a one account-one user basis. If you do want students or staff to use the same account, we advise setting up an account with a general login which you are happy to share.

If we want Auras to be available to students and parents, but we do not want them to be 'public' and accessible to all Aurasma users, is there any other way we can deliver these Auras to multiple devices privately?
Yes. Sharing Auras in the Aurasma Studio and allowing students or parents to follow your account in-app is undoubtedly the easiest and most efficient way of making Auras available to multiple devices. However, you can also keep Auras 'private' and unavailable to the wider Aurasma platform whilst still making them available to certain app users you have identified. The way to do this is to send your account's private subscription link to the specific email addresses or phone numbers of people you want to be able to see your content.

All you need to do is: click the 'My Account' option (top right) in your account; and then, under your profile image, click the option to 'Share your Private Campaign'. You can then copy the link (using ctrl + c) into an email to be sent to those who you want to be able to view your private AR content. If they tap on this link on a mobile device which has Aurasma installed, the app will automatically open, and they will automatically follow your account containing the Auras you want them to be able to view. This way multiple devices will be able to see Auras in an account which is still private and not available to the wider app user base.

AR and VR in the Classroom
Other Resources
Aurasma Help Desk- https://aurasma.zendesk.com/hc/en-us
How to create an Aura in Aurasma Studio- https://aurasma.zendesk.com/hc/en-us/articles/205584239-Aurasma-Studio-How-To-Create-An-Aura
Examples- http://www.drvtechhelp.com/digging-deeper-into-aurasma.html

Lesson Ideas
https://digitalteachingandlearning.files.wordpress.com/2015/03/classroom-uses-of-aurasma.pdf
https://www.commonsense.org/education/lesson-plans/wax-museum
https://www.commonsense.org/education/lesson-plans/community-helpers-come-alive
https://www.commonsense.org/education/lesson-plans/biography-writing-w-augmented-reality
https://www.commonsense.org/education/lesson-plans/augmented-reality-book-reviews

Similar apps
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Blippar- https://blippar.com/en/solutions/blippar-for-education/

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