Augmented Reality and Google Expeditions

Presentation Link: https://bit.ly/2X9idAG
Who Am I?

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What is Augmented Reality?

The origin of the word augmented is augment, which means to add or enhance something. In the case of Augmented Reality (also called AR), graphics, sounds, and touch feedback are added into our natural world to create an enhanced user experience.

RealityTechnologies.com
VR vs AR

Virtual-reality (VR) tours—Teachers and students use mobile devices and VR viewers to virtually explore an art gallery or museum, swim underwater, or navigate outer space, without leaving the classroom.

Augmented-reality (AR) tours—Teachers use mobile devices to bring virtual objects into their classroom. Students, using mobile devices, can see and walk around 3D objects as if they were physically in the classroom.

Expeditions FAQ Site
Augmented Reality and Google Expeditions

With AR Google Expeditions, teachers can bring digital 3D objects into their classrooms to help their students learn about everything from biology to Impressionist art.

Google Education Blog

#CARNVERGE19
Augmented Reality Advantages

Virtual Reality and Augmented Reality can both be used to provide authentic student learning.

- With AR - no headset or lens is required
- Individual mobile devices or tablets can be used
What You Need:

- Expeditions App
- Mobile Device or that supports ARCore (Android) or ARKit (iOS)
- Markers (If Guiding)
- Optional: Selfie Stick
Expeditions App

Available for download in the App Store or in Google Play Store for Android
Compatible Devices

Devices that support ARCore (Android) or ARKit (iOS)

ARCore requires Android 7.0 or later (some 8.0 or later)
- **Asus**: ROG Phone, Zenfone AR, Zenfone ARES
- **Google**: Nexus 5X (8.0), Nexus 6P (8.0)

ARCore requires an ARKit compatible device running iOS 11.0 or later
- **iPhone**: iPhone XR, iPhone XS and XS Max, iPhone X, iPhone 8 and 8 Plus, iPhone 7 and 7 Plus, iPhone 6S and 6S Plus, iPhone SE
- **iPad**: iPad Pro, iPad (5th & 6th Generation), iPad Air (3rd Generation), iPad mini (5th Generation)

**MORE DEVICES**

**IOS COMPATIBILITY**
Markers

There are 7 markers that you need to print out and place around the room.

Click HERE to get Markers.
Selfie Sticks
How It Works
Guided AR Tour

Choose a tour and download

You can choose a tour in a few ways:

The Discover tab—Search for and download an AR tour from Expeditions.

The Library tab—Choose a tour from one of the 2 sections of your Library tab:
- Downloads—Choose a tour you downloaded previously.
- My Tours—Choose a tour you created in Tour Creator or one that you found on Poly.
Guided AR Tour

The Discover Tab

- Search Tours
- AR
  - NEW & FEATURED
    - China Economic Silk Road
    - Objects from the Freer and Sackler Galleries
    - Pearl Harbor and Hawaii During World War II
- POPULAR AR TOURS
  - Da Vinci's Inventions
  - Dinosaurs
  - Instruments of America
  - Objects from the Freer and Sackler Galleries
  - The Paintings of... Museo Dolores Olmedo
  - The Skeletal System of Human
- ALL EXPEDITIONS
  - Hōkūle'a's WorldWide Voyage
  - Kanakamana: Unification of the Hawaiian Islands
  - Fly with NASA's Juno Mission to Jupiter

THE AMAZING CIRCUS SHOW
Guided AR Tour

The Discover Tab With AR Chosen
Guided AR Tour

The Library Tab-Downloads

- DNA and RNA
- Forces of Nature AR
- Recycling
- Sharks - Test Tour
- States of Matter
- Teeth
- The Circulatory System
- The Phases of the Moon
- Tomatoes
- Trees
- Understanding Your Eyes
- Using Simple Machines

Search Downloads

Downloaded Tours:

- 7 scenes
- 5 scenes
- 8 scenes
- 9 scenes
- 7 scenes
- 7 scenes
- 5 scenes

Library

Library

Discover

Class

THE AMAZING CIRCUS SHOW
Guided AR Tour
The Library Tab-My Tours

Create and find more VR tours.
Browse Poly for free or make your own tours. Share a tour to add it to your library.
Get started
Guided AR Tour

Preview

Before you download a tour, tap it to see a summary of the content. If it is what you want, tap “Download to view or guide.” The checkmark indicates that the tour downloaded.
Guided AR Tour

Set Guiding Device

After you download the tour you want, it appears in your Library Tab in Downloads.
Guided AR Tour

Set Up Guiding Device

Set up the tour on the device you are using as the Guide first. Tap on “Guide” to get started.

Forces of Nature AR

What do tornados, hurricanes, tsunamis, volcanoes, and earthquakes have in common? They’re all natural occurrences, and they can all leave devastation in their wake. On this tour, you’ll get a bird’s eye view of some of nature’s most violent expressions.
Guided AR Tour

Set Up Guiding Device

This screen appears to remind you to set out your markers and it also gives you another link to the PDF to print the markers. Just tap “Let’s Go” if you are ready to start the tour.
Guided AR Tour

Set Up Guiding Device

This screen appears to show which tour number and guide students should be following. Tap “Got It” to begin the tour.
Guided AR Tour

Set Up Guiding Device

The next screen will be the beginning of the tour. Press the “Start” button when all students are ready.
Guided AR Tour

Set Up Guiding Device

Swipe up from the scene title to read/share the information.
Guided AR Tour

Set Up Guiding Device

Swipe to the left for a new scene.
Guided AR Tour

Set Up Student Devices

For each student device, go to the Google Expeditions App and tap the Class Tab. Find the Guided tour and tap the Join button.
Guided AR Tour

Set Up Student Devices

The next screen just verifies the Guide and tour number that students should be following. This can be done before all students arrive to save time.
Guided AR Tour

Set Up Student Devices

Student devices can be set up to this screen to be ready to start the tour.
Guided AR Tour

AR tours contain 3D virtual objects. To set up your classroom for an AR tour, place printed markers around the room. They show one object across all markers at the same time. Place the markers on flat surfaces, such as the floor or tables, with enough space between them so that Explorers can group at a marker and walk around it.
Guided AR Tour

Start The Tour

Once the Guide “starts” the tour, students will see this screen. They should now scan one of the markers for their group.
Guided AR Tour

Spotlights

As the Guide you can “Spotlight” areas of interest on the tour.

- On an object, touch and hold any point to create a spotlight.
- At the bottom, use the slider to change the size of the spotlight.
- When you have the spotlight the way you want it, tap Done to send it to your Explorers.

Tap anywhere on the screen to dismiss the spotlight.
Guided AR Tour

Spotlights

The student view directs students to “Find the spotlight.”
Guided AR Tour

Resize Objects

1. Tap View in AR.
2. Point your device at the marker.
3. Once the object appears, pinch to resize the object or lift it up or down.
4. When the object is the way you want it, tap Done to send the changes to your Explorers.
5. (Optional) To undo a change, tap Reset.
6. Tap AR to leave AR mode.
Guided AR Tour

End A Tour

At the top, tap Close to end a group tour.
Solo Tours

You can explore augmented-reality (AR) tours on your own (without a Guide) using a mobile device.

1. On your mobile device, tap Expeditions.
2. Sign in with your Google Account.
3. Select the tour you want.
   If you see a checkmark on the tour you downloaded it previously.
4. Tap the tour.
5. (Optional) Review the summary of the content.
6. Tap View in AR.
View in AR

1. Tap Expeditions.
2. Tap an AR tour.
3. Move your mobile device up and down in the space where you want the object to appear.
   - On your device, you’ll see a dotted pattern, and the object will appear shortly. An information card will also appear at the bottom of the screen.
View in AR Continued

4. Swipe up from the scene title to review descriptions, questions, and points of interest.

5. (Optional) Pinch to enlarge or reduce an object.

6. At the bottom of the screen, swipe to the left to go to the next scene or right to go back to a previous scene.

7. Swipe through titles to view all the objects in a tour.

8. At the top of the screen, tap Close to exit the tour.
Browse Poly Tours

Poly Tours are those that are user created or ones you can create. Google doesn’t approve these tours so before you guide or join a group tour with user generated content you will see a warning. It says the content is generated by a user and not included in the Google list of available tours.
Planning A Tour

Google Expeditions Lesson Plan Template

Google list of available tours.
Tours To Explore

171 Tours

- A Look At Earthquakes
- African Animals
- Dinosaurs
- Earth Geology
- Electricity
- Famous Sports Arenas
- Exploring the Solar System
- Food Chains
- Forces
- Math In Structures
- Moon Landing
- Recycling
- States of Matter
- Teeth
- The Phases of the Moon
- Using Simple Machines
Questions?
THANK YOU FOR COMING TO THE SHOW!

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