

Getting Started with

Virtual Reality

IN THE CLASSROOM

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Getting Started!

You'll need:

Google Cardboard (under \$10!)

Mobile device with a VR app

Many of the apps in this eBook work with iPhones, Android phones, and even iPads

If you are using an iPad or web browser for a VR (360 degree video) experience you won't have to worry about a Google Cardboard. On iPads you can just stand up and spin around and on Chromebooks or computers you can use the mouse/trackpad to explore!

5 Apps to Use With Google Cardboard

Have you tried Google Cardboard in your classroom? This super inexpensive (under \$10!) tool lets students explore virtual reality straight from your classroom. I'm a huge fan of Google Cardboard virtual reality experiences. You can take your students on virtual field trips, help them understand life in different parts of the world, and push students to ask questions about the world around them.

When virtual reality first came on the stage a few years ago it seemed like the cost would make it impossible for teachers to use it as a learning tool. The combination of a Google Cardboard viewer and a mobile device make this the perfect choice for classroom teachers. The handful of quality apps mentioned below are great choices for teachers looking to combine the super inexpensive! Google Cardboard with apps developed for both iPhones and Android devices.

YouVisit takes students on virtual college tours. A virtual reality college tour is a great choice for students who might not be able to visit the number of colleges they plan on applying to in the future. Whether the cost of traveling to different spots in the country is prohibitive or the scheduling of multiple visits is just not feasible, YouVisit is a great resource for students.

Nearpod is a super cool presentation tool. Nearpod has now added a virtual reality component to their engaging lessons. With Nearpod VR, students can experience the world through virtual field trips to faraway places.

Thinglink is another favorite online tool. It now has virtual reality lessons that you can access from the mobile app. With Thinglink's VR experience students can transport to ecosystems around the world.

New York Times VR is an easy to use app with dynamic content. The totally free NYT VR app for iOS and Android devices let viewers experience the sights and sounds of places around the world.

Discovery Channel VR is another awesome virtual reality tool. The folks at the Discovery Channel have loaded this app with lots of great content. There are adventure experiences like deep sea diving and mountain biking and the opportunity to see endangered species in action. If you or your students are fans of Discovery Channel programming you'll love the content from shows like MythBusters and Survivor.



8 Tips for Teachers Using Google Cardboard

I'm excited to share eight tips for teachers who are using Google Cardboard in school this year. On this list you'll find a handful of things you may not know about Google Cardboard and a few ways to take your use of this super cool tool to the next level.

Brand new to using Google Cardboard in school?

Google Cardboard is a special viewer that is used with a smartphone. Kids can look through the viewfinder and take part in virtual reality experiences. There are apps for iOS and Android devices making it great for BYOD (bring your own device) learning environments. You can use just one Google Cardboard in your classroom and have students take turns diving in a coral reef or peeking at the Great Wall of China.

- Google Cardboards are inexpensive – under \$10 to purchase. You might not add this to a back-to-school supply list, but if a parent asks for suggestions on extra items to donate to the class you might suggest a Google Cardboard which can be easily purchased on Amazon.
- There are lots of apps to choose from including the NYT VR app and a very cool app from the Discovery Channel. I mentioned my super popular post on 5 Apps to Use with Google Cardboard in the introduction and you can check it out on the previous page.
- Finally get rid of your school's phone ban by making a case for using smartphones with Google Cardboard. You can probably think of a dozen ways students can use their cell phones in school but the powers that be in your district might not agree. Here's another reason why cell phones are useful in school.
- Check out the Help Center hosted by Google that offers lots of tips for getting started. It takes you through step-by-step instructions for Google Expeditions.
- Add a new project idea to your makerspace by giving students the chance to make their own Google Cardboard.
- Nearpod virtual field trips are like Google Cardboard lesson plans since they give teachers a way to integrate virtual reality content into their instruction. This is a great way to clearly connect VR to a set of learning objectives.
- Customize your Google Cardboards with stickers, wrapping paper, you name it. You might ask students to submit designs they've developed in an art class or simply use a box of craft supplies for inspiration.
- Companies give them away for free at special events like teacher conferences. Next time you're walking through a conference expo hall keep your eyes peeled for free Google Cardboards companies give away as promotional items.

How-To 3D Print a Virtual Reality Headset

Although I've been creating some of my own 3D print designs in Tinkercad, one of the coolest things I've found on are instructions to print virtual reality headsets. If you follow my blog, you know how excited I've been about Google Cardboard and virtual reality this year. Thingiverse is a fantastic resource for teachers full of designs that are ready to be sent to your 3D printer. In my last post I shared some of the things I found on this website, including customizable designs. Now I can now add virtual reality headsets to the list.

It's a little more complicated than simply hitting print, printing your own virtual reality headset is a great way to introduce your students to printing functional products. By analyzing the design they can have a better understanding of what it takes to create their own design.

After printing out the file you have to add a special lens similar to what you would find in Google Cardboard headset. These can be purchased on Amazon and are pretty low cost especially if you stock up on them.

Extension Activities for after you 3D Print a Virtual Reality Headset!

- Have students critique the design they print and write a review or set of recommendations.
- Ask students to brainstorm the best ways to move forward with a design.
- Introduce a creation software like Tinkercad to have students create their own design using their critique as a guide.
- Take students through the prototype process to fine tune their creation.
- Introduce an entrepreneurial angle to have students price out labor and supplies, and make a business plan.

Interactive 3D Content from Lifelique

Have you used virtual reality in your classroom? Well if you're ready to take it to the next level you'll want to check out the interactive 3D content from Lifelique. Teachers can use augmented reality with Lifelique – every single one of their 1,000 models has an AR view, where you can either capture the model in the environment, or swap the camera and take a selfie or interact with the model yourself. With this tool, teachers can now integrate three-dimensional models in a digital format instead of the two-dimensional images students are used to seeing in traditional textbooks.

I'm a big fan of augmented reality and virtual reality so it's been especially exciting to see all of the innovation in this space over the past year. Teachers who use Lifelique can drag and drop the interactive models right into a presentation, ebook or lesson plan. It's a great option for educators looking to create engaging, interactive 3D experiences for their students.

Visit the Lifelique's website to learn more about the 1,000 augmented reality models in awesome tool!

4 Ways to Use Thinglink's Virtual Reality App in Your Classroom

It has been so exciting to see the way virtual reality apps are making their way into K-12 classrooms. They give students a new way to interact with information and Thinglink's virtual reality app is a great example of this technology in action. One of the reasons I particularly like this tool is how it works with and without a VR headset. This means it's easy to get started without an additional investment in a set of Google Cardboard.

There are a handful of great virtual reality apps that I've profiled including Discovery Channel VR and New York Times VR as well as the VR lessons from Nearpod. I've been a fan of Thinglink for awhile and I often share it when leading sessions with teachers looking to make the most of the devices at their school. It's one of my favorite tools because it lets students create interactive products that demonstrate their understanding of a topic. In addition to being a great platform for creating something for an authentic audience, it's also iPad, Android and Chromebook friendly.

Here are 4 ways to Use Thinglink's Virtual Reality app in your classroom:

- **Introduce ecosystems:** Students can check out the animals that live in different spaces and places including the tundra and deciduous forests. Students can list some of things that they find as they move around each biome.
- **Promote curiosity:** Before kicking off a lesson on ecosystems let students spin and tap on the screen to develop questions for a KWL chart. As they move through each environment have your class periodically pause for a stop and jot or turn and talk to share their questions.
- **Inspire student creations:** Students can use Thinglink to create their own interactive images. Use the Thinglink VR app to help students understand how adding content to a picture can teach others about a topic.
- **Explore the outdoors:** Taking students on a field trip to more than one biome is a challenge for most teachers. This app can take students around the world to spark discussions, build background knowledge and make text-to-world connections.

Check out the Thinglink Virtual Reality app on the Apple App store. If you've tried this app in your classroom or have a great VR story, share in the comments below!

CoSpaces Virtual Reality Creator

You've probably heard. Virtual reality is one of the hottest topics in education this year. CoSpaces is a free virtual reality creator tool that makes it possible to create virtual reality content yourself or let students create it. One reason I'm so excited about CoSpaces is because it combines content creation and content consumption.

With CoSpaces, virtual reality isn't only experienced from a consumer, but also a creator's perspective. It gives kids the chance to get creative with a new medium. You might use it in class for storytelling, building models, immersive infographics, or to create VR exhibitions. CoSpaces is a free platform consisting of a browser and a mobile app. With the browser app, you create VR content via drag and drop (on a computer or laptop). With the mobile app, you experience your own virtual reality content on a smartphone plus a cardboard headset or look at someone else's creation if they share it with you.

Visit [CoSpaces' website](#) to learn more!

Virtual Reality College Tours from YouVisit

Times have changed! You can now take a tour of college campuses from around the country no matter where you are. From Harvard and Yale, to Syracuse University and the University of Kentucky, there are dozens of college campuses that now offer virtual college tours. These virtual reality experiences can happen straight from your web browser or with a Google Cardboard device – for a more immersive experience.

Virtual College Tours

How does it work? Open YouVisit.com's Education page on your web browser. If you are interested in a Google Cardboard experience you'll want to open up this page on your mobile device. Once you're on the page you can scroll through dozens of colleges and decide if you want a 360 degree experience from your laptop or set up your device for Google Cardboard viewing.

What will you see? Each virtual reality college tour takes you to important or notable places on campus. The tour of each college is a little different. For example, the tour of West Point lets you choose between an Admissions Tour, Athletics Tour or Visitors' Tour. Skidmore College also provides a few choices as well as an introduction before you dive in.

Why is this useful? A virtual reality college tour is a great choice for students who might not be able to visit the number of colleges they plan on applying to. Whether the cost of traveling to different spots in the country is prohibitive or the scheduling of multiple visits is just not feasible, YouVisit is a great resource for students.

When can I use this? Guidance counselors might set up a meeting for a few students interested in a particular college to embark on a virtual campus tour with a small group. This is perfect if you have students bring a personal mobile device or purchase a handful of Google Cardboards that stay in the guidance office.

Discovery Channel Virtual Reality App

The concept of virtual reality in education has grown wildly in the past few months – and it is more affordable than you may imagine. A smartphone a carefully folded piece of cardboard (aka Google Cardboard) can transport students to the depths of an ocean or the middle of the wilderness. The Discovery Channel now offers a powerful virtual reality experience. With the Virtual Reality Discovery Channel app you can take students on field trips around the world.

How does it work? Students can slide their mobile device into a Google Cardboard or simply point their screen in different directions. As they turn their head or move the smartphone in their hand, students will experience a 360 degree view of different places and space.

The folks at the Discovery Channel have loaded this app with lots of great content. There are adventure experiences like deep sea diving and mountain biking and the opportunity to see endangered species in action. If you or your students are fans of Discovery Channel programming you'll love the content from shows like MythBusters and Survivor.

When could you use the Virtual Reality Discovery Channel App in your classroom?

- Make connections to a unit on ecosystems by virtually bringing your students to underwater habitats.
- Kick off a unit on persuasive writing by inspiring students to learn more about the reasons different animals are endangered.
- Prompt students to reflect on their virtual adventure experience through creative writing.

Introducing new tools is a great way to get students interested in a new topic. Beyond the "wow factor" you want to make sure you are connecting technology tools to learning goals. The Discovery Channel Virtual Reality app for iOS and Android experiences provides an opportunity for students to interact with content in a completely new way!

VIRTUAL REALITY PREREADING ACTIVITY

A Virtual Reality experience for students helps set the stage for reading. Students can use a virtual reality headset to take a simulate visit to a new place before reading a book. This type of activity can help them better understand the setting of a book and/or what life was like during a specific time period.

You will tailor a virtual reality prereading activity to the book you are reading and the technology you have available. In a low-tech classroom this could explore a 360 degree video with students on an interactive whiteboard, in a high-tech classroom students can use VR headsets with a smartphone.

Steps for Success

Choose the book you want to share with students and identify important aspects of the setting, time period and theme. This will help you figure out the best type of virtual reality experience to share with students.

Locate a virtual reality video or simulation to share with students. Your choice will depend on the topic related to the book you choose and the technology you have access to.

Share the virtual reality experience with students. This might be a whole class share on a projection screen or sharing of VR headsets amongst students.

After students have had an opportunity to experience virtual reality in action, ask them to share their wonderings and noticings with a partner. You may want to use the questions on the Virtual Reality Noticings and Wonderings activity sheet as prompts for think-pair-shares.

Once students have had a chance to discuss their reactions to the virtual reality experience have them record their noticings and wonderings. You will want to tailor these questions to the VR experiences of your students and the connections you would like to make to the new book.

As you read the new book to students pause to make connections to the VR experience where notable.

Students can reflect on how the VR prereading experience helped them make meaning of the text.

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