THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

2021-2022

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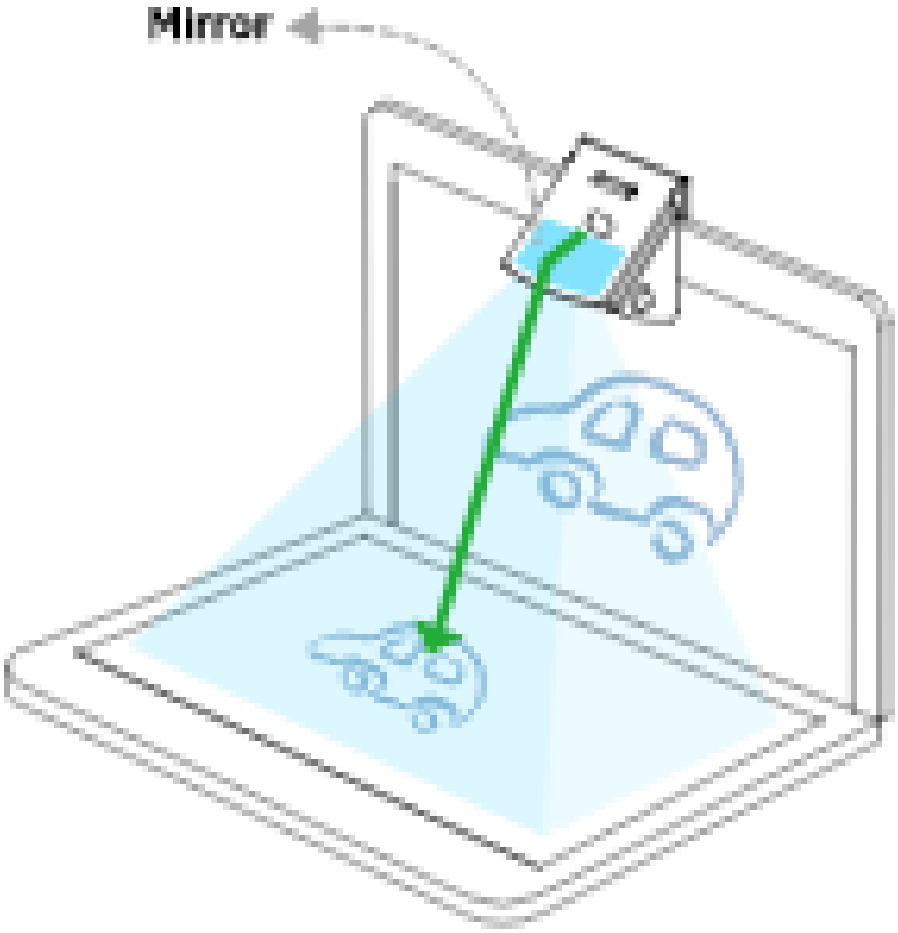
Mirror Me This!

Mirror Me This



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Goals and Objectives

Mirror-Doc Cam:

- Lets students take the lead of their own learning, even through online lessons.
- It gives an overhead view to create a space where students can take notes, create a sketch, solve a math problem, give explanations, do read-alouds, and many other things.
- Gives parents, teachers and students the flexibility and convenience to make the most out of the learning process!
- Demonstrate examples - Show the whole process step by step before students start working on their own.
- Share the close ups - document each stage of instruction.
- Zoom In on details.

: All without switching/ sharing screen

Florida Standards:

WL.K12.IH0. Formulate and deliver a presentation on an assigned topic using multimedia resources to support the presentation.
WL.K12.AL.5.Write using style, language, and tone appropriate to the audience and purpose of the presentation.
WL.K12.AM..1 Deliver an articulated presentation on personal, academic, or professional topics.
LAFS..SL.2.5 Include multimedia components e.g., graphics, images, music, sound and visual displays in presentations to clarify information.
SC.05.CSCP.0.2 Present digitally created products, either individually and collaboratively, where a topic, concept, or skill is carefully...

Course Overview: Course Overview

One of the challenges of transitioning to distance learning is not being able to view student work that is on paper or requires manipulatives they hold in their hand or arrange on a desktop. Sometimes snapping a picture or recording a video just isn't enough. If you want to see students work in real-time during a video call, you'll definitely want to check out a variety of Mirror Doc Cameras.

Mirror Doc Cameras lets students take the lead of their own learning, even through online lessons. It provides students and teachers an overhead view without the expensive or cumbersome document camera to create a showcase space where students can take notes, create a sketch, solve a math problem, give explanations, do read aloud, and many other things. Students can also have them at home so they can share their work. Whether remote or in person, quality teaching is a two-way process instructors give lectures to a class, and they also work closely with students on homework and on understanding. With classes held remotely, Zoom has filled the need for teachers to broadcast their lectures. But how best can students share their work with their teachers, in a one-to-one manner that feels as familiar as writing on a shared notepad across a desk? One of the challenges of transitioning to distance learning is not being able to view student work that is on paper or requires manipulatives they hold in their hand or arrange on a desktop. Sometimes snapping a picture or recording a video just isn't enough.

A document camera is a modern-day replacement for transparency projectors although document cameras are a greatly improved technology!

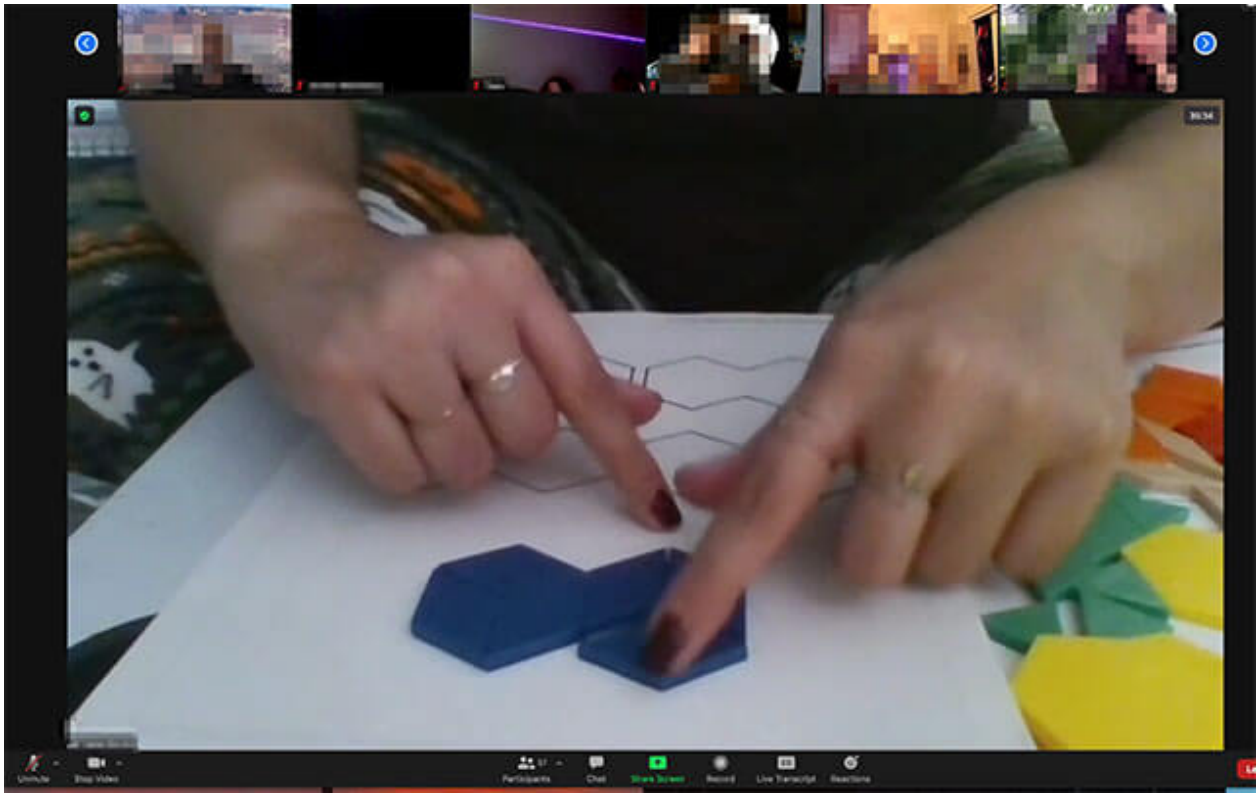
A document camera allows you to project documents and anything else digitally. At its most basic level, a document camera is a specially constructed web camera for projecting images of documents and objects crisply and clearly to a display, touchscreen panel, or other device. We live in a physical world, and technology in the classroom needs to bridge the gap

between the real world and the digital one. For example, there is still have a need for books and physical objects in the educational process, and document cameras give teachers the ability to work with these objects while gleaning all of the benefits of digital technology. Also document cameras give students the ability to see an object or text clearly from anywhere in the classroom, which is important for comprehension and understanding. This type of technology can help give students, teachers, and staff a way to provide clearer access to information and enhance learning programs. But for some departments or boards, it might be hard to persuade them to provide the necessary budget for document cameras.

Now there is a low cost, effective and innovative way to have the “document camera effect” which allows you to share any work remotely. Mirror Doc Cameras feature a smart, foldable, and compact designs that project anything onto your laptop screen in real-time from the keyboard. The Mirror Doc Camera is simple. Essentially, it’s a mirror to project the computer’s web camera down to see the keyboard and view anything you place on it. Just attach Mirror Doc Camera to the built-in webcam of your laptop and see everything that happens over the keyboard instantly streamed to the screen. You do not need to “share” your screen back and forth. With a Mirror Doc Camera in Zoom sessions, students can show their homework by placing their notepad on top of their laptop keyboard or below an upright tablet, where the redirected webcam can see it. The student can continue to write on their paper while talking to their teacher because the notepad is lying flat on a horizontal surface. Both the student and the teacher also see a vertical image of the paper on their laptop screen. The teacher can write on that image using Zoom's annotation tools as they discuss the work.

Using the webcam on a student laptop, Chromebook or tablet, Mirror Doc Cams shows what is happening on a student's desk instead of pointing the camera at their face.

They are inexpensive to buy or to make a 3d print, laser cut or cut from chipboard plus a mirror. This makes it easy to supply a whole class with this device. It even can be part of a STEAM lesson where everyone can make their own. When each student has their own, students can share their work as well. Purchasing a document camera for every student could be cost prohibitive



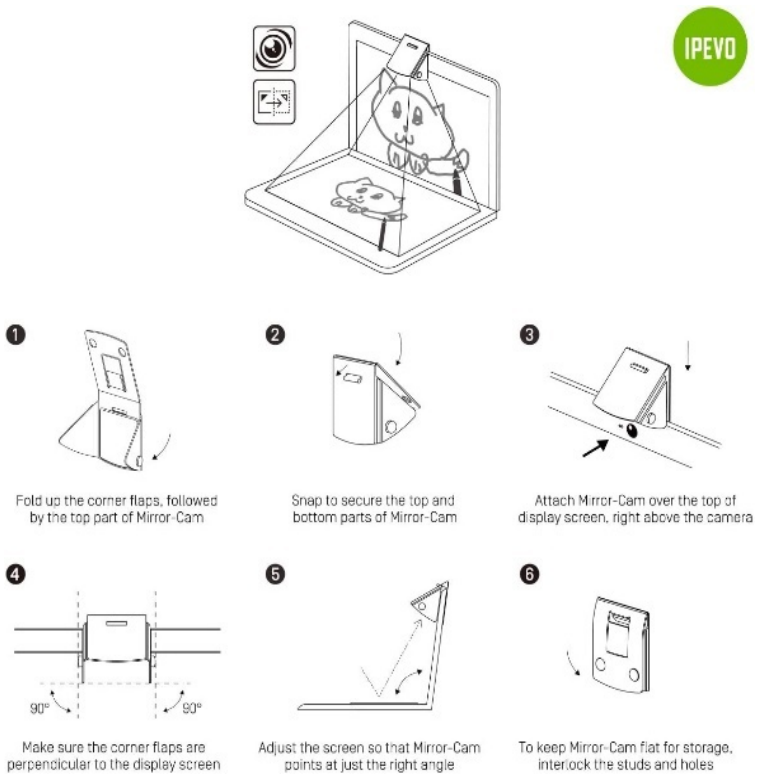
Lesson Plans: ƨnɒlʅ noƨƨǝ⅃

https://www.youtube.com/watch?v=707khsnzf1Q

General How Tos:

- Easy to Use: Attach and visualize. Mirror Doc Cameras are perfect for all-ages. Everything that happens over your keyboard or below the tablet, happens on your laptop screen. It provides a “document camera effect” that allows teacher and student to share any work remotely.
- Smart Design: Mirror Doc Cameras features a smart, foldable, and compact design that is fun and easy for kids and adults alike. Its flexible flaps are adjustable and fit a wide range of Laptops, Chromebooks and tablets. Its pocket-size design and lightweight allows it go wherever you go.
- Add on Features: Mirror Doc Cameras works with any third-party software of your preference; or you can pair it up with IPEVO Visualizer to access many fun features like Rotate, Mirror, Filters, Video Recording, Slow Motion, Time-Lapse, among others.

- Project anything onto your laptop screen in real-time. Just attach a Mirror Doc Camera to the built-in webcam of your laptop and see everything that happens over the keyboard instantly streamed to the screen.
- The mirror, which is inside of a Mirror Doc Cameras, reflects the keyboard area of your laptop or the area below an upright tablet and simultaneously allows your webcam to capture perfectly the reflected image



Options for use as a teacher and/or a student:

Option 1: Use your built-in camera and share that as your screen

Open your default camera app. It will have the correct orientation for you. While in Zoom, as you screenshare, select this app as the window to show. What you see on your screen is what your participants will see.

Option 2: Make a few changes in Zoom Settings

There are two settings that need to be adjusted in Zoom, and the result is that you share your screen to show your video.

Option 3: Use a third party tool, like ManyCam and Ipevo

For the purpose of switching between different video sources while live streaming. These software are a handy piece of software.

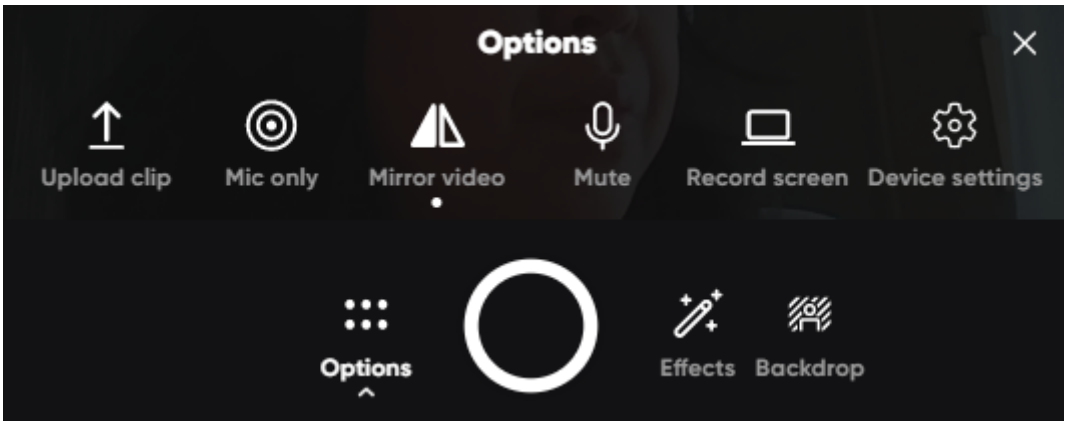
Flipgrid: If you are a Flipgrid user, this platform has a built-in feature to mirror any video that you want to upload.

Flipgrid provides a number of powerful, easy to use editing features for members when recording videos. One of those options is to mirror the image of your video. This is great when you're holding up a sign with text or practicing sign language (ASL) in the video!

Here's how members can mirror or flip the video for their submission.

Web Browser **Mobile App**

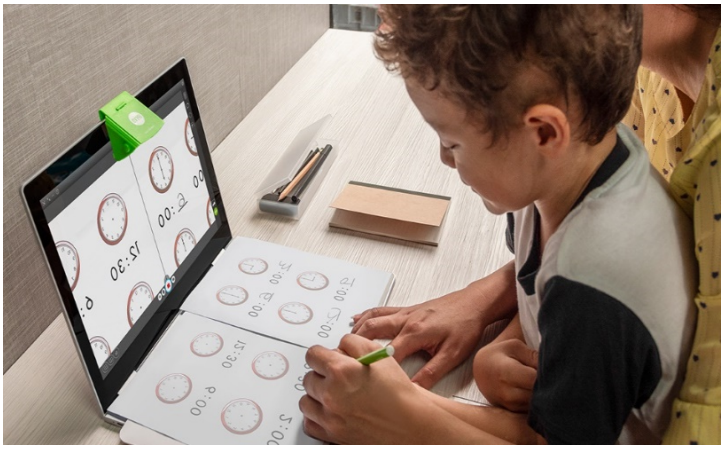
BEFORE you begin recording, open the **Options** drawer and select **Mirror video**.



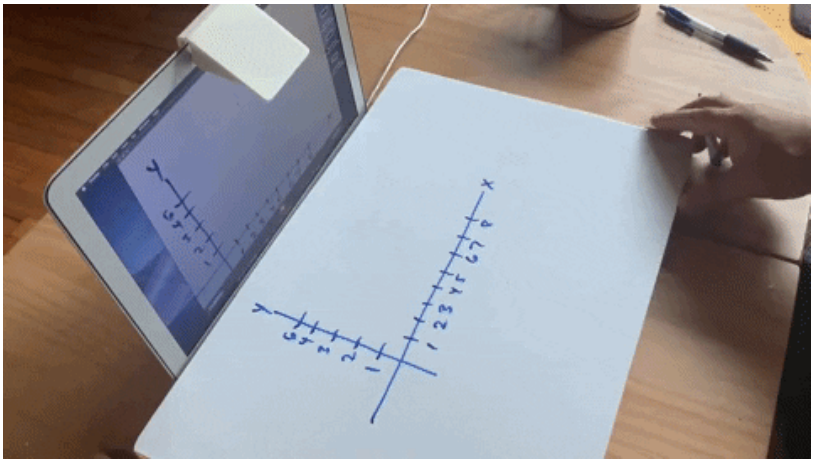
Turn your keyboard into whiteboard

Mathematics

https://www.youtube.com/watch?v=p5Lk0I-6GqQ Video showing how to use with math



- Seeing how a student's approach to a math problem unfolds in real-time so that you can give real-time guidance
- Teacher can 'write' the entire mathematics problem or equation, thus demonstrate the entire process.
- Math manipulatives! These amazing educational tools teach students math basics such as counting, arithmetic, and pattern recognition while also honing their fine motor skills. With the Mirror Doc camera, you can use your interactive display to model the task for your students before they try it for themselves. Create a pattern with foam color tiles for your students to copy at their desks. Or, project a geoboard and make shapes with rubber bands while your students follow along.

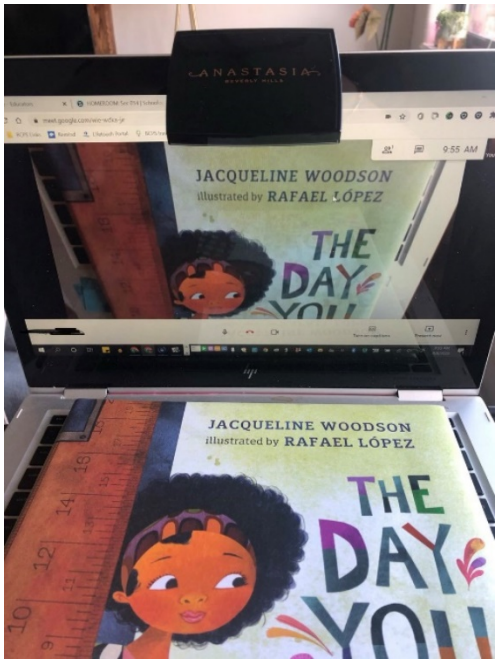


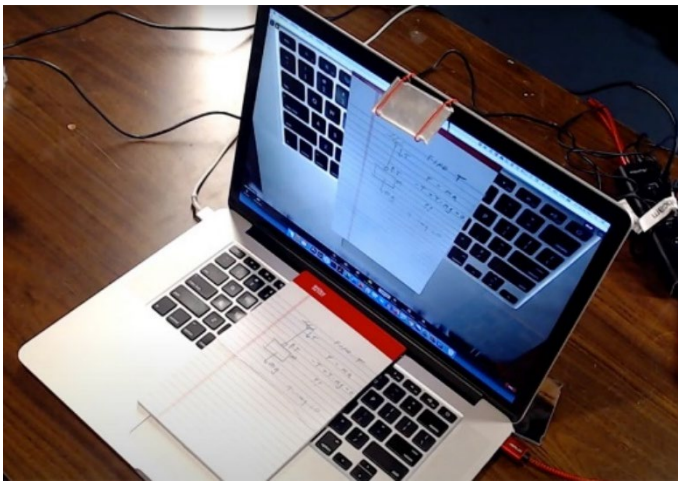
Writing

•As young students learn to write, the teacher can 'view' virtually as the students writes and practices their letters.

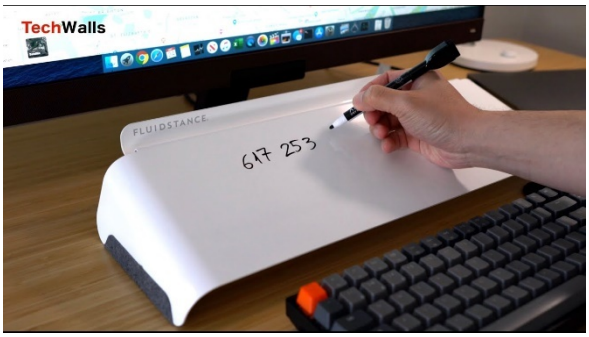
•Students' writing in real-time, be it for learning how to write letters, Chinese characters, or occupational therapy support. The Mirror Doc camera is also an invaluable tool when you want to display in-class writing and go over it with your students.

- Writing Above the Keyboard
- Check spelling and comprehension
- Read along with the book. Use your Mirror Doc camera to follow along in the textbook or novel when your students are reading out loud, to display a handout, or to inspect a chart, map, or graph as a whole class activity.
- If you teach younger students, your document camera can make story time come alive and ensure all students can see the pictures.





An issue is how to write on top of the keyboard? A simplest solution is to create a small table that can lay on top of the keyboard as seen below. The table just needs to large enough to cover the keyboard and have room for "legs" in each corner. An example of legs can be left over foam from packaging, dowel rods, small pieces of carboard, etc. To add to its utility, you can use dry erase sticker paper to turn the table into a whiteboard or place a piece of whiteboard on top..



Science

- Demonstrate science experiments - Show the whole process step by step before students start working on their own.
- Share the close ups - document each stage of a biological process.
- Model Data Recording. Project your data recording form and then review the process together with sample data.

- Zoom In on Nature - Studying three dimensional objects from every angle. Students sure do love taking things apart, and garden exploration is a great way to meet science standards. Break down flowers, wood, old technology, and other raw materials to bring the fun and scientific world to life.

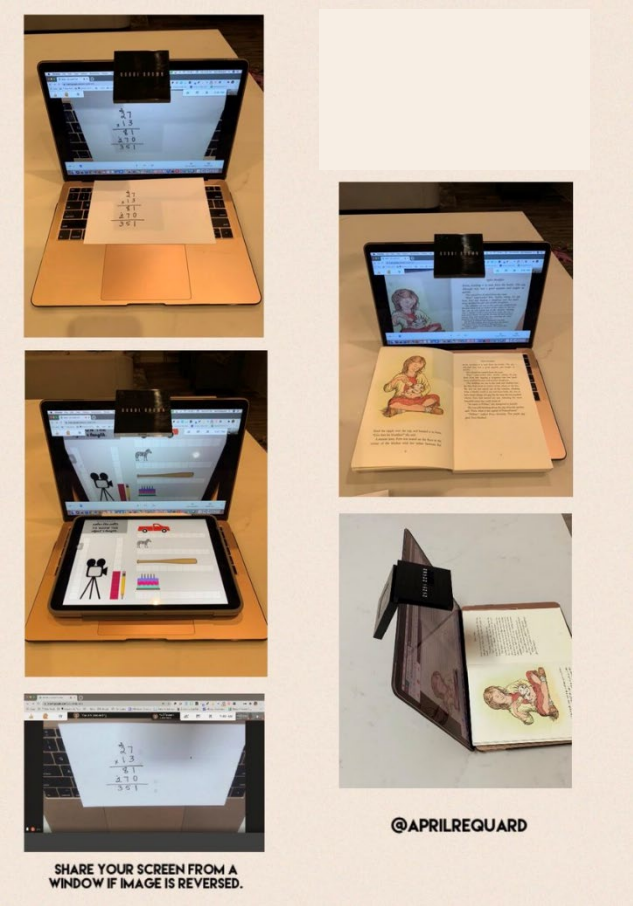
Zoom activity

In Zoom sessions, students show their homework by placing their notepad on top of their laptop keyboard, where the redirected webcam can see it. The student can continue to write on their paper while talking to their instructor because the notepad is lying flat on a horizontal surface. Both the student and the instructor also see a vertical image of the paper on their laptop screen. The instructor can write on that image using Zoom's annotation tools as they discuss the work.

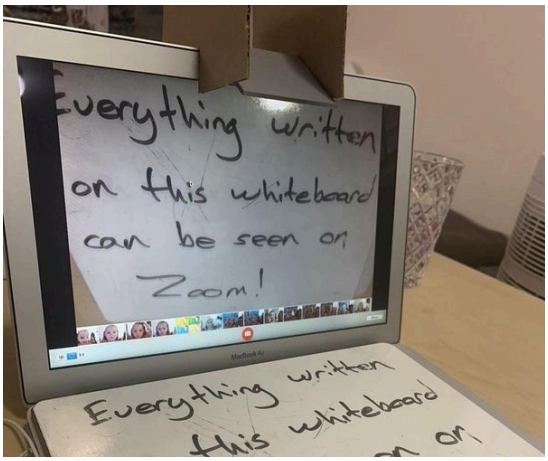
Sharing Student Work

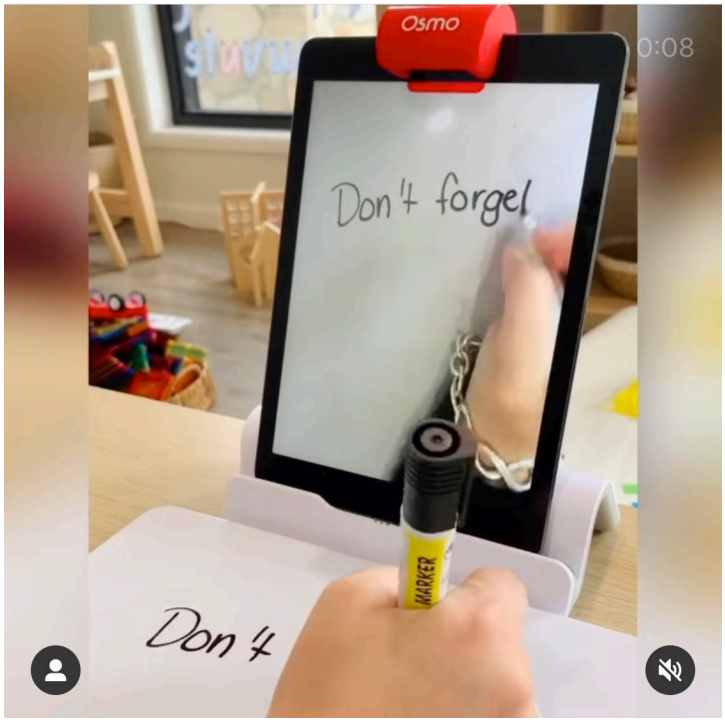
The Mirror Doc Camera gives the teacher a window into student work, as a teacher you can watch the process and provide support during distance learning, including primary and secondary educators.

- Real-time display of sketching or diagramming to students, when you want to do it fluidly with your hands (not through some app)
- Making any kind of artwork, for example, painting, drawing, collage-making
- Students love Show-and-Tell. It's a classic elementary school rite of passage that encourages even the most reluctant students to share a little more about their lives. But how often can the entire classroom really see what's being shown? The next time your student proudly brings in a seashell or favorite toy, put the object on the document camera so the whole class can see it in stunning detail.



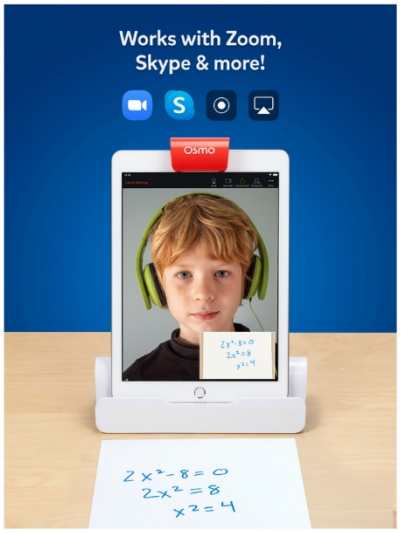
- Effective and Interactive Learning: With Mirror Doc Cam, students take the lead of their own learning. See them live as they solve the hardest math problems, or they record a read aloud video to share with you. Teachers can do live tutorials, and students can show their work progress.

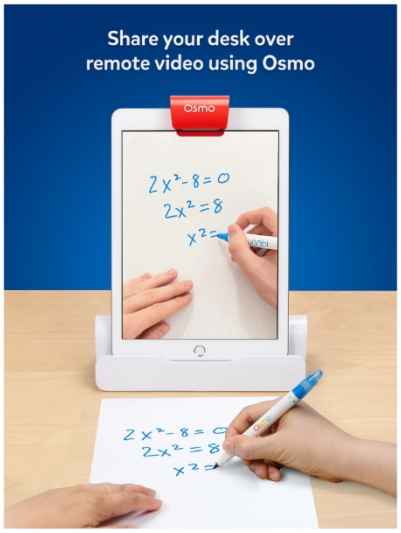


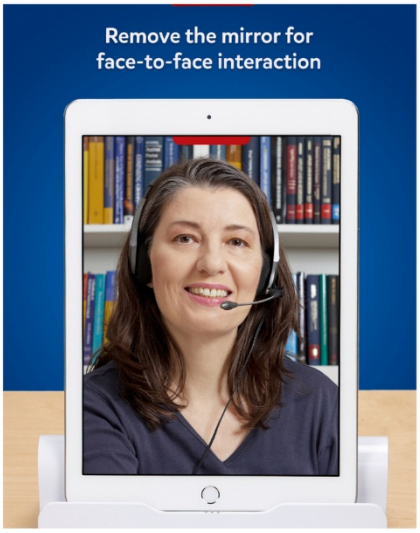


No just for a laptop!

Tablets/iPads too!







Resource List: :tsiL ecruoseR

Pocket Doc Cam for Laptops

Cut red
Score black
Inner black square is for mirror alignment

twitter: @jumekubo

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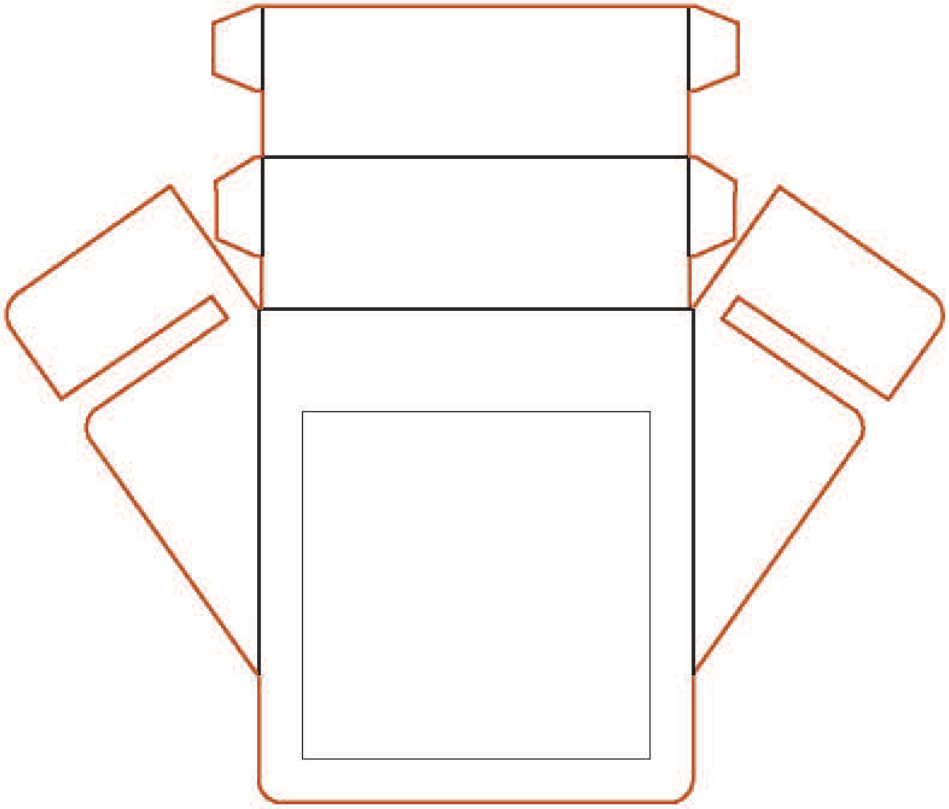


IPEVO Visualizer Software Setup Guide

This document describes how to mount the Pocket Document Camera device as well as how to use the IPEVO Visualizer software to present documents. This is required because the image is flipped horizontally(left-right) by default. IPEVO is used to un-flip it and make the document legible.

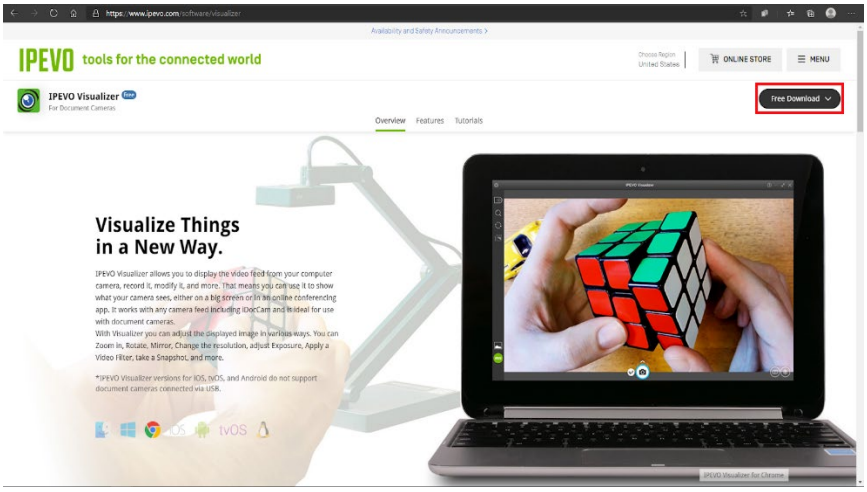
Mounting the device

To attach the device to the screen, align your device at the center of the screen (where the webcam is located), and gently slide it down until it securely holds the screen. Make sure that the mirror is clean before you mount it to get a clear image. **Click here** to watch a video made as a reference for the correct way to mount the device.

Caution: Although the 3D printed device is flexible, it is not designed to be flexed all the way to its limits. The flexible design is only to accommodate for all types of screen thicknesses. It will snap and break into two pieces if it is flexed beyond its limits.

Downloading the software

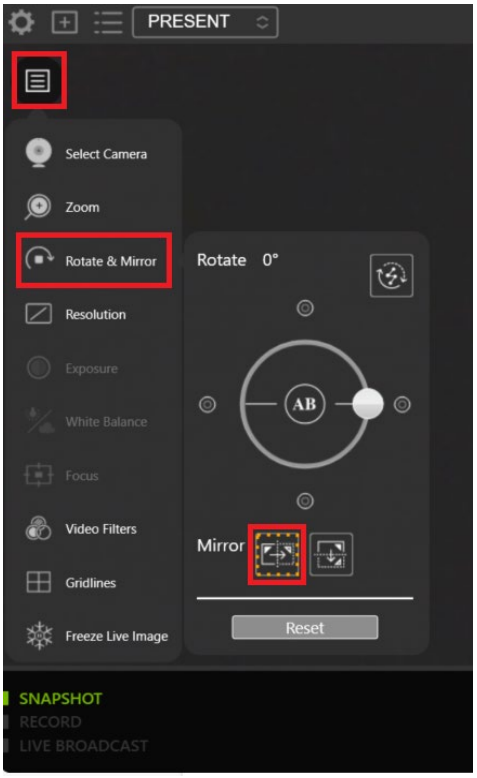
Click on this link to visit the website for download. IPEVO Visualizer is available for Windows 7/8/10, MacOS 10.13 and above, Android, iOS, Linux and ChromeOS.



Open the downloaded file and install the software to your computer. If you do not find the program, search your File Explorer for "Visualizer."

Using the IPEVO Visualizer

The main screen will have the camera open as soon as you run the software. The image can be mirrored using the image manipulation options in the hamburger menu on the left.

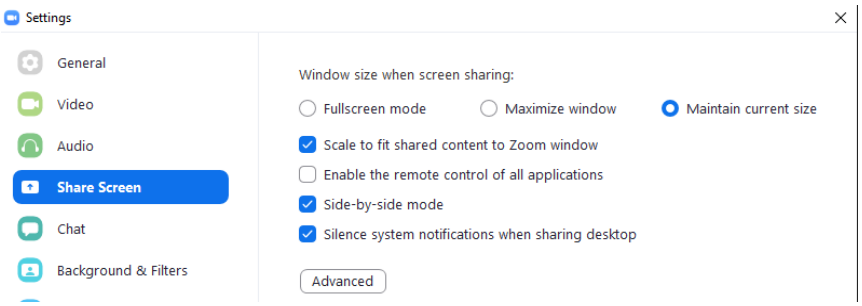


- Click on the Menu icon.
- Click on the Rotate and Mirror button.
- Select the Horizontal button.

Sharing Screen on Zoom

Zoom performs some post-processing and filtering to optimize the screen sharing experience. However, it gets confused with the camera output while screen sharing. Some settings need to be tweaked for using zoom to share the image of the IPEVO Visualizer before starting the Screen share.

1. Open settings in Zoom and click on the Screen Share tab.
2. Select 'Maintain current size' for **Window size when sharing screen**.
3. Click on the Advanced button.
4. Select 'Advanced share without window filtering' for the **Screen capture mode**.



Zoom Settings for Pocket Doc Cam

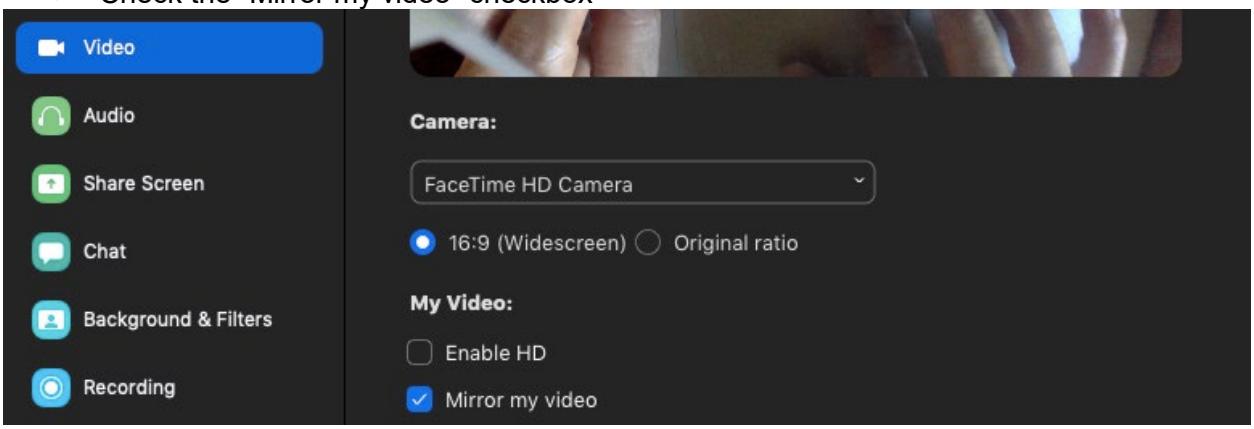
John Umekubo (@jumekubo)

These instructions cover how to set up Zoom so that your image comes across correctly to your participants. Normally, even with Mirror My Video checked, the image remains reversed on the participant side. The following method allows for that mirror correction.

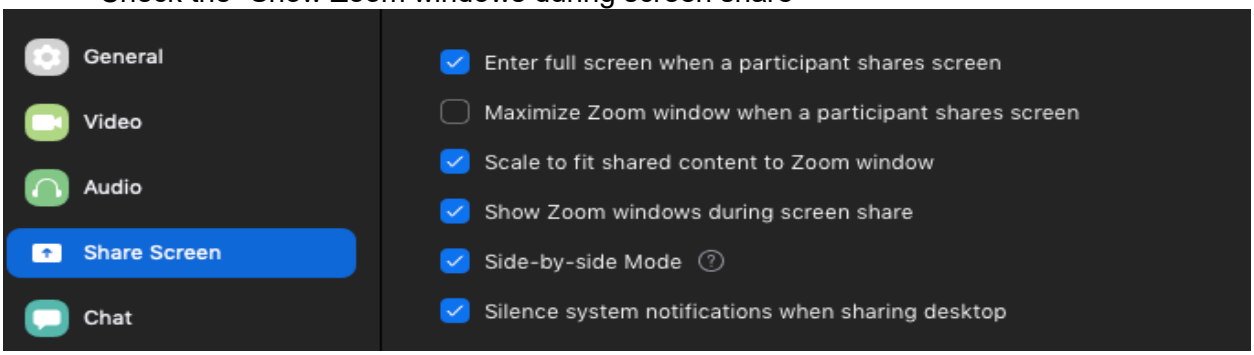
OPTION 1: USING THE BUILT-IN CAMERA APP AND SHARING YOUR SCREEN
When a single presenter (whether person leading or a participant) is sharing their screen, the easiest solution is to launch a camera app (Photobooth on Mac, Camera on Chromebook and Windows), then select that app as the window to share. The image will appear as it does on your own screen, which is the correct orientation.
NOTE: You can also use the free Ipevo software and adjust for keystone (see below).

OPTION 2: ZOOM SETTINGS ADJUSTMENT
If you want to do this all within Zoom, here are the settings that you need to verify. While using the Zoom app, go to **Settings** and do the following:

1. **Video**
- Check the “Mirror my video” checkbox



2. **Share Screen**
- Check the “Show Zoom windows during screen share”



- **IMPORTANT NOTE:** If the above option isn't available to you in the Zoom app, you must log into the web portal of zoom (http://zoom.us) and allow it in Settings:
    - In the web portal, go to **Settings**
        - **In Meetings (Basic)**
            - **Show Zoom Windows during screen share**
    - Now log out of the Zoom app and log back in. You should see the screenshot above and can now check the box "Show Zoom windows during screen share."

To Show Your Video

- Starting your Zoom session and Pin your video
- Share your Desktop
- Make your zoom window full screen
- Your participants can now view the video in the correct orientation.

Please note in testing there is a bit of latency using this method.

OPTION 3: USING A THIRD PARTY INTEGRATED SOFTWARE OR EXTENSION

ManyCam

Use ManyCam (both free and premium) with Zoom to achieve similar results, along with more video switching options. With ManyCam, you can select your computer's camera as one of the existing channels, and you can mirror your image on that channel. You then select ManyCam as your camera source in Zoom. In this scenario, you do not have to do a screenshare, your current image becomes the ManyCam channel.

Ipevo Visualizer

Use Ipevo Visualizer software (free) with Zoom as you share your screen. One of the advantages to using the Visualizer is that it allows you to correct for keystone so that the image appears as flat as possible. For Chrome and Chrome OS users, there is an iPevo extension.

VideoMirror Chrome Extension

If you are in Google Meet or using Zoom from a web page instead of the app, you can use the VideoMirror Chrome Extension. This extension will reverse the image of videos shown on a web page.