

Partnership Teacher Night – November 2016

Using a Green Screen to Create Images, Movies, and Stop Motion Animation

What is a Green Screen?

A green screen functions as an empty background while recording video or taking pictures. The solid green area can then be replaced with images or film from any source, creating the illusion that the person(s) in the room are somewhere else. A green screen does not need to be green, any color will do, but green is used traditionally because it is a color of clothing that most people do not wear on a regular basis. If the person being recorded is wearing the same color as the background, that part of their body will also be removed from the final image(s)—i.e. floating heads, dismembered bodies, etc.

Green screens can be as simple as a painted wall or a bed sheet or could be as complex as a fully illuminated LED screen. Obviously there are large price differences between these options, but even the cheapest green screen set up can be used effectively with proper planning.

Tools Needed for a Green Screen

Many teachers and schools choose to buy green screen kits. These kits come with a green sheet or tarp, a frame to hang the sheet, some poles, and occasionally some beginner lighting equipment (bulbs, stands, and white umbrellas). If you have one of these kits, directions are usually included within the case or box.

Our list of Tools

- Amazon Green Screen Kit- <https://www.amazon.com/ChromaKey-Lighting-Backdrop-Included-U15/dp/B003UOOTCS>
- iPad with camera or video camera
- Software or app with green screen capabilities
- Tripod (optional) https://www.bhphotovideo.com/c/product/842088-REG/Magnus_VT_100_Tripod_System_With.html
- iOgrapher (optional) <https://www.iographer.com/collections/cases>

DYI Green Screen

If you are going to make a DIY green screen, here are some suggestions:

- Painting a wall green can be effective; however, be sure to ask first! If the school has an extra classroom and other teachers are interested in using green screens for their classes, see if you can all get together to create a communal room with a painted wall. The additional benefit of having a quiet space will make videos better, too.
- You can also use a green bedsheet or green bulletin board paper for your green screen. If you choose to go this route, make sure that you keep the green screen as wrinkle or crinkle free as possible. Ironing the bedsheet before bringing it in to school would be a good idea.
- Whatever you choose to use for your green screen, make sure to choose a good location. During the week leading up to the assignment, take care to look at the lighting in your room during the day. Do you have windows? When does the sun shine through? Where does it glare? Where are shadows cast? Is there a fluorescent bulb that's burned out in your room and hasn't been replaced yet? Shadows on the green screen *do* make a difference, so always try to **keep even lighting** whenever possible.
- If you can afford them, or you have access to them, setting up lighting stands with or without umbrellas can make a huge difference in the quality of your students' productions. Proper green screen lighting is done both in front of the screen and behind the screen (if it's a sheet). For instance, hanging a sheet in front of a window where bright light shines through may cause lighting problems.
- Think about what is involved with writing a script and recording in front of the green screen. Separate students into groups, if you can, and rotate where students are, or what task they are working on, so that when there is filming going on, students have a quiet location and can continue working on a finished product. Suggested tasks include: taking photos outside, researching in the library, recording, practicing their speeches, story boarding, etc.)

Apps and Programs that can be used for Green Screen Images and Movies

Now that you have a green screen, you need to download software for students to use it! There are tons of options for you to choose from. The programs you select will depend upon what equipment is accessible to your class.

iPads – For iPad-centered classrooms, we highly recommend **Do Ink**. Do Ink is a simple, cheap app that will allow students to easily drag and drop backgrounds, record their videos, and add music all in one program. It's also easy to fix mistakes. <http://www.doink.com/>



iPads – There is also a free app called **Veescop Live**; however, without upgrading to the paid version, all videos have a watermark placed on them. <https://itunes.apple.com/us/app/veescop-live-green-screen/id568390801?mt=8>

PowerPoint – PowerPoint on Microsoft devices (and some Macs) can be used for replacing the backgrounds of green screened images. This program will only work for still images, though, so don't expect students to use it for videos. <https://www.youtube.com/watch?v=uLHkLCbIPLg>

Photoshop – Photoshop is also an image-only choice. Should your students have access to Adobe Creative Cloud or one of the Creative Suites, Photoshop is a terrific program that will create high quality products. Students who learn to use Photoshop will also have an advantage in professional situations later, as it is one of the core photo editing programs in the workplace today. There are also thousands of training videos available online that students can rely upon.

https://www.ndsu.edu/fileadmin/www.its.ndsu.edu/tlc/spongepdfs/Removing_a_green_screen_background_in_Photoshop.pdf

iMovie – iMovie has a green screen function built in to the program. Students can use this simple tool to edit their videos, as well, making it a great all-in-one solution for a green screen project if your students are using Macs. <https://www.youtube.com/watch?v=eUay0sA2Ps>
https://support.apple.com/kb/ph2245?locale=en_US

WeVideo- Wevideo is a free program that can be used in the Google Chrome browser or on a Chromebook. There is a free version that allows you to upload up to a 1 GB file that is 2 minutes or less per month. You can also purchase a classroom license that will allow you to keep the videos that students create in one private area where the general public will not have access to them. The education price allows for longer videos and 50 student users. <https://www.wevideo.com>

Finding Background Images

The first step when creating a green screen video is to find the background image(s) that you want to use. We highly recommend taking your own background images or using copyright friendly images with students. (Hint: This is a great way to teach some copyright and digital citizenship skills in your classroom).

Just be aware that some of these websites may not filter all content that is not child friendly, so be sure to try this at school ahead of time to be sure the images on the web site are ok to use with your students.

Sources of Copyright Friendly Images

Google - use Google Image Search and select the "Search Tools" option. Then click on "Usage Rights" and you can refine search results to include only images that are available for reuse. Pics4Learning- <http://www.pics4learning.com/>

World Images- <http://worldimages.sjsu.edu/>

Morguefile- <https://morguefile.com/>

Creative Commons- <http://search.creativecommons.org/>

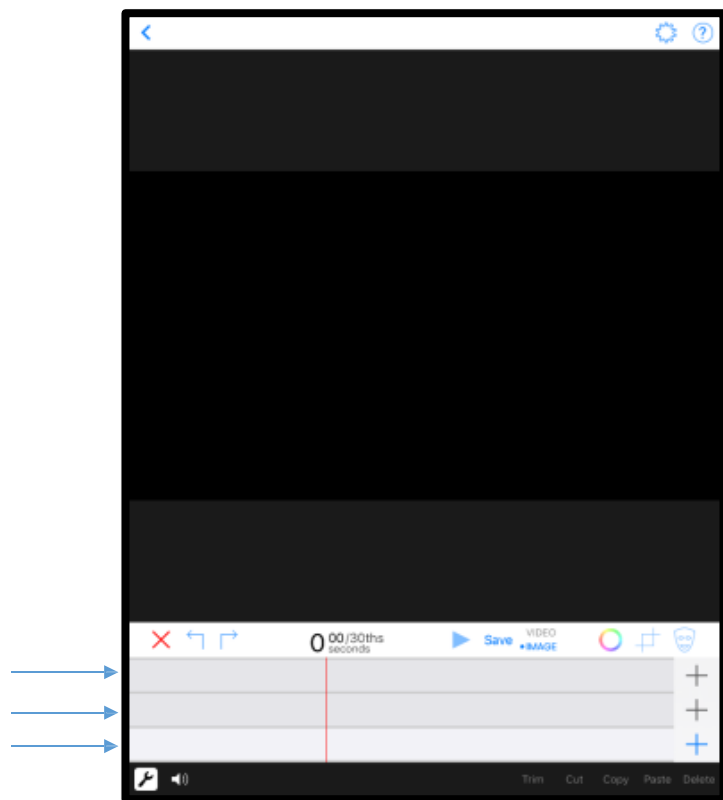
Pixabay- <https://pixabay.com>



Using Dolink to create still images

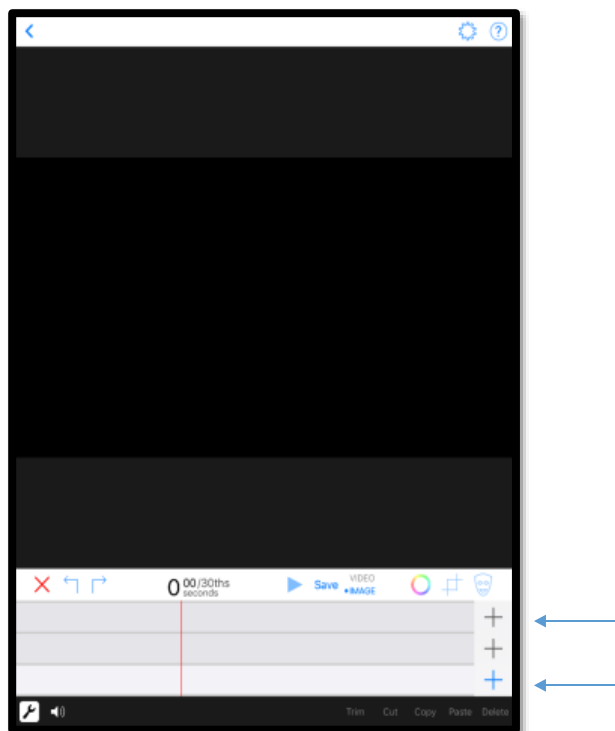
1. Use the iPad camera to take photos in front of the green screen and save to the Camera Roll
2. Find a copyright free image from the internet and save to the Camera Roll
3. Launch the Dolink App
4. At the top-right of the app, hit the “+” sign to create a new project
5. Allow all permissions
6. Click Image in the toolbar right above the layers
7. Locate desired background image from the iPad’s Camera Roll and place it in the bottom layer in the app screen
8. Locate the green screen photos from the iPad’s Camera Roll and place it in the top or middle layer of the app screen
9. Edit and/or position the green screen image as needed to fit within the background image
10. When you have finished your project, press the “Save” button to add the image to your Camera Roll
11. You can now share the image or video by opening the iPad’s Gallery app and emailing, texting, or sending the image to social media

Dolink User Interface



At the bottom of the screen are your “layers.” The top row is the closest layer, or the highest layer in the hierarchy. Anything placed in this top row will appear “in front of” the rows below it. The middle row will appear behind the top row and in front of the bottom row. The bottom row is always in the back.

For this reason, we recommend **placing all background images in the bottom row**. This gives you the opportunity to add either multiple photos to the project, or to add a watermark of your own creation.



Clicking on the plus sign next to a layer will bring up these options:

- **Camera** – Adds a layer where you can capture footage using the Do Ink Program. We do not usually recommend using this option. Use the iPad’s Camera app, instead.
- **Video** – Adds a video to the selected layer.
- **Image** – Adds an image to the selected layer.

The toolbar above the layers also presents a few options:

- **Chroma** – The colorful wheel brings up the Chroma Adjustment Screen. Make sure Chroma is enabled when adding green screen images to layers. If you choose to use the DoInk Camera, add background image layers *before* taking the individual’s photo, and also make sure Chroma stays enabled. You can also adjust the color that is omitted from the image in this menu, as well as the sensitivity. This can be useful if you have a blue screen instead of a green screen, for example.
- **Crop** – You may crop images and videos using the Crop command.
- **Image Adjustment** – The mask allows you to perform basic editing on photos.
- **Save** – This will save your project to the Camera Roll.

There are also some editing options at the top of the screen.

The gear-like icon includes properties of the app and can be adjusted to suit your needs.

The question mark icon is the help feature and can be used if you need help completing a task within DoInk.

30 Minute Exploration and Challenge

Use an iPad to find an image, then take a photo of yourself in front of the green screen. Combine them both using Do Ink.

Create a green screen video following a similar process. This time videotape yourself in front of the green screen and then put an image in the background.

For a challenge, see if you can insert multiple images behind you in different areas of the video.

Other Tips

You should always have students save all movies as MPEG-4 files. This file extension is used for nearly all videos on the web, is compatible across Macintosh, Windows, and Android devices, and is of high quality.

If you are using a learning management system (LMS) like Blackboard, LiveText, or Google Classroom/Drive and student's disk space is limited, you can also elect to compress videos. Compression reduces a video's quality slightly and shrinks the file so that it can be emailed, uploaded, etc. without being too taxing on storage space. Instead of being 20GB, for instance, compression can reduce a video to 10 or even 2GB, depending on video length and desired final quality. Handbrake is a simple video compression tool for both Windows and Mac OS. For detailed instructions on how to use this software, visit the ITC's website: <http://www.winthrop.edu/uploadedFiles/itc/edtpacompressingvideo.pdf>

For more green screen information, please visit our online resources page:

<https://www.winthrop.edu/itc/default.aspx?id=45878>

Scoop.it also has several articles on how to use the green screen in education.

<http://www.scoop.it/t/igeneration-21st-century-education/?tag=green+screen>

Exploring Stop Motion Animation Using StikBots

What is Stop Motion Animation?

Stop Motion Animation is animation that is created by using one image at a time, with objects that are moved in each frame and when put together in a sequence, give the appearance of movement.

Generally you take a picture of an object, move it slightly, then take the next picture, move the object slightly again, and repeat the process.

What are StikBots?



StikBots are plastic figures connected by elastic bands and covered in suction cups. Their unique design allows them to bend in fun ways and stick to a variety of surfaces. They also come with a mini-green screen and can be used to make stop-motion animated films. While these are made to work with the StikBot Studio app, you can use them with any green screen tool.



This is the StikBot Studio app icon. More information about StikBots, including a link to download the app can be found at <http://stikbot.toys/app/>

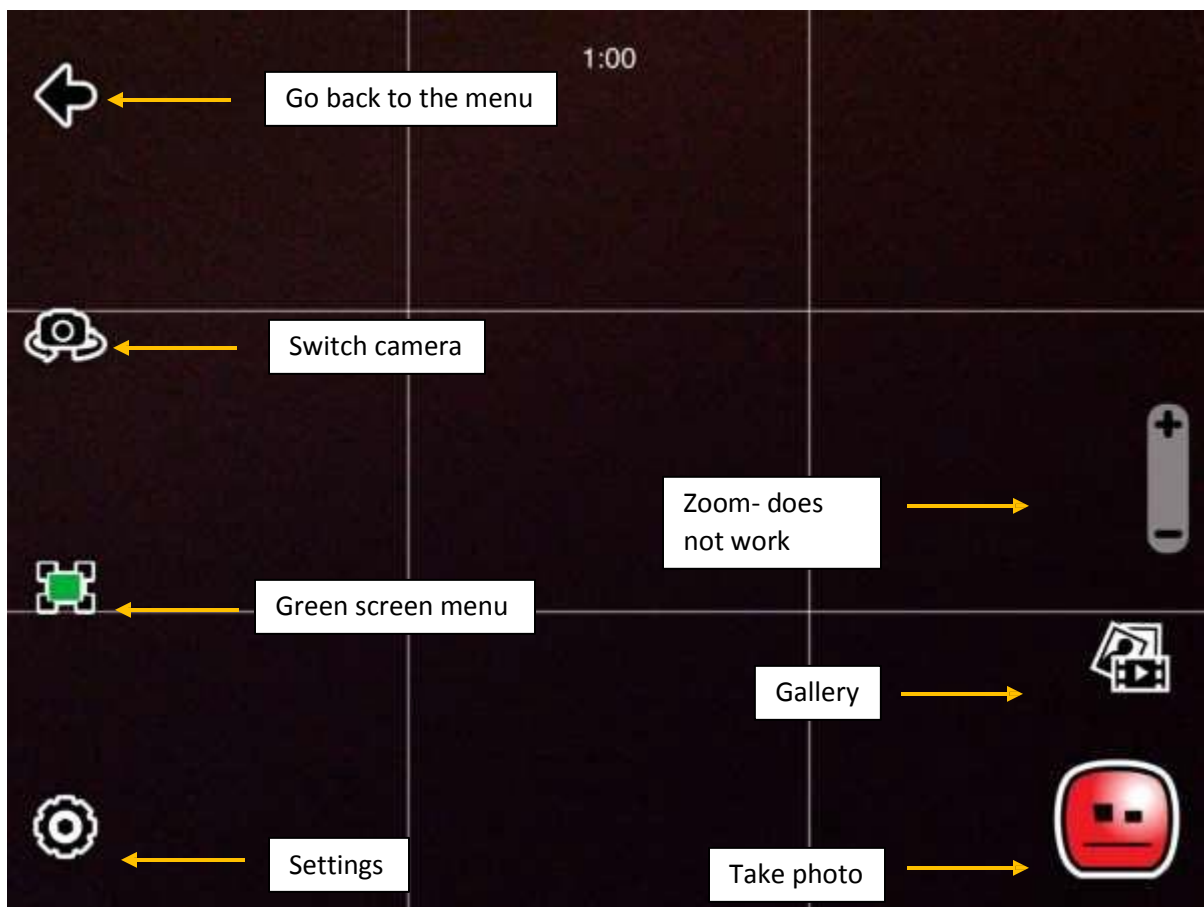


When you open the Stikbot App, **always use Stop Motion Video tool to capture your content in order to create a movie.**

If you take pictures in Picture mode, the app will not allow you combine them into a movie later on.

To begin creating your movie, click the Stop Motion Video icon. If you are asked to allow access to the camera on your device, click **OK**.

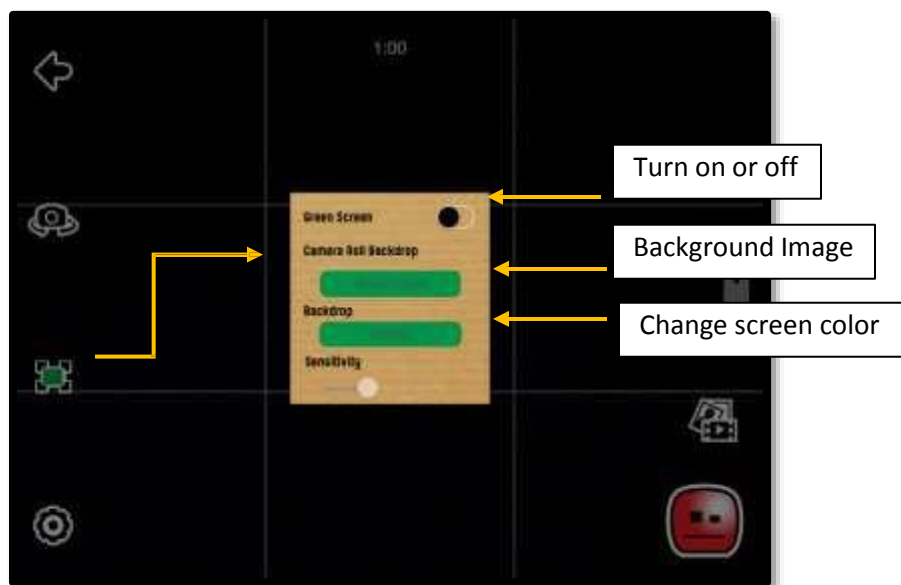
You will see this screen, which allows you to prepare for creating your movie.



Note: The zoom function currently does not work.

Green Screen menu

The first thing you will want to decide when you create your movie is whether to record using the green screen function or not.



When the **Green Screen** dot is to the left, the green screen function is off.

If you keep the green screen off, then whatever background is in your video will be the background you see when recording your movie. Or, if you want to use the green background here, then you could import your movie into another piece of software and use that software to make changes to the background.

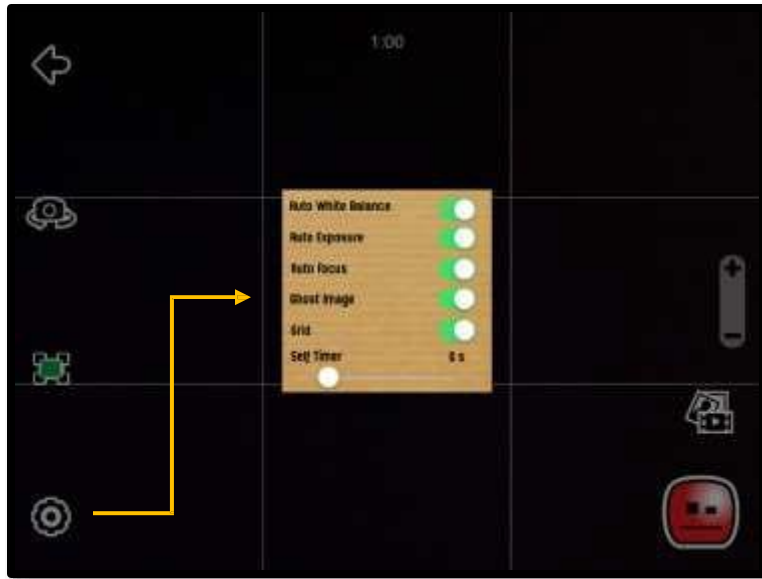
When the **Green Screen** dot is to the right, then the green screen function is on.

This will change the settings of your device so that the background looks like it has disappeared. When you choose to use the green screen setting, the ability to add a backdrop will be enabled.

If you click **Camera Roll Backdrop**, you will have the option to use an image that is built into the StikBot Studio software, or you can use an image in your camera roll as the backdrop. If you add an image as your backdrop, you will see that image as you are filming your StikBots.

Depending on the lighting situation while you are filming, you might find that you need to change the **Sensitivity** feature of the green screen. Sliding that button right or left, will adjust the way your device's camera reads the light. Your goal is to get rid of all green, but also see the details of your Stikbot.

Once you have chosen the green screen settings, it is time to look at the **Settings Menu** and make a few more changes. Click the gear icon to access the Settings Menu.



Suggestions for settings

- Keep the Auto White Balance, Auto Exposure, and Auto Focus on. These settings will keep you from having to worry more about lighting and focus.
- Keep the Ghost Image and Grid settings on. These tools will help you as you are filming because they give you a point of reference to work from. See more info on the next page.
- The Self-Timer is a good option if you want to quickly make a movie. This will take images at the intervals that you choose, freeing up your hands to move the Stikbots. Just be aware, you need to move fast to make your changes



Enabling **Ghost Image** leaves a shadow of the prior shot on the screen. It can be very helpful when creating stop-motion videos, indicating how far the subject has moved (or should move) between scenes.

Enabling the **Grid** allows you to see nine rectangles on the screen, which help you determine the space around the items on the screen as you are creating your movie.

Storyboarding

We recommend that you have a storyboard of your movie before you begin so that you can think through the actions and placement of characters before creating the movie. This will help the movie process go a little faster.

Take a look at the **Tools for Planning** section on Kathy Schrock's web site for tools to use to plan out your movie ahead of time. <http://www.schrockguide.net/digital-storytelling.html> There are also some other great resources here for turning your stop motion project into a digital story.

Creating your Movie

Click the icon of the red StikBot head to begin creating your movie. This will allow you to begin taking pictures.

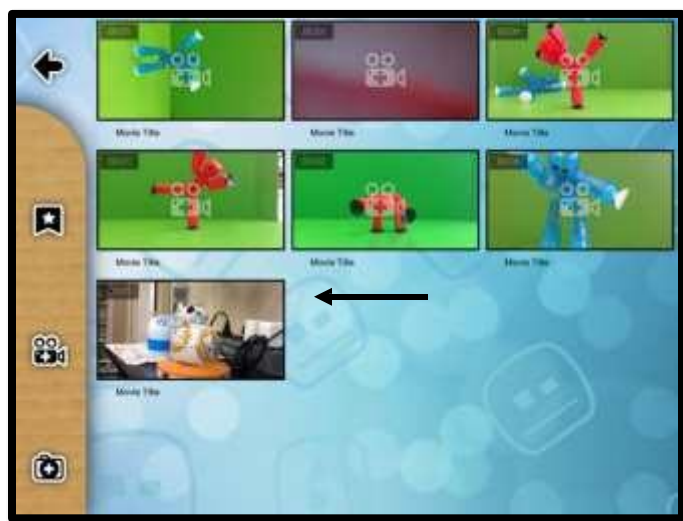


While looking through the camera, if your StikBot or other items are out of focus, then click on the screen to focus the camera before taking your photos.

Continue moving your objects and taking images until you are done with your movie.

Stikbot Studio Gallery

This is the StikBot Studio Gallery, which is accessed from the **Gallery** icon. Video projects that are in progress and/or finished will appear here.



Viewing and Editing your Project

Click on the icon of your project to view it. This will take you to an editing menu and a screen where you can also preview your movie



View your Movie

Click the **Play** button to view your movie.

In the timeline at the bottom of this screen, you will see each of the images contained in your movie. You can also click on these individually to see each scene.

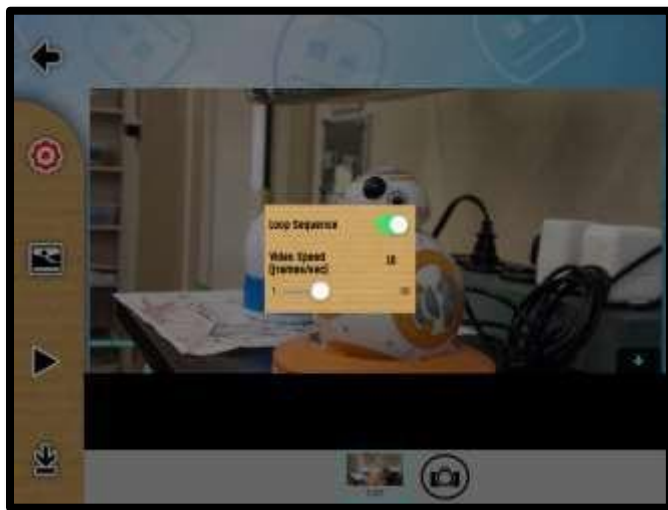
Notice the **camera** icon in the timeline. If you need to edit your movie, click the camera icon to return to a place where you can insert more images.



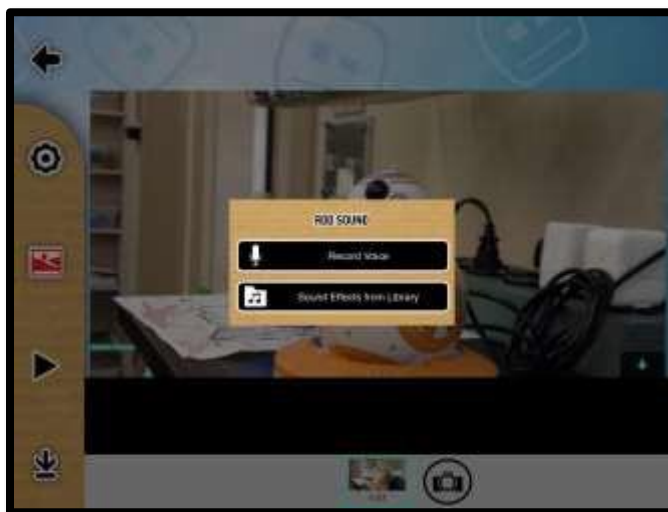
Editing your Movie

There are several ways to edit your movie using the Stikbot Studio app. While you are viewing the movie, clicking on one of the images in the timeline allows you to edit just that image. One trick to try is to copy and paste the same image multiple times to make that action last longer in your movie.

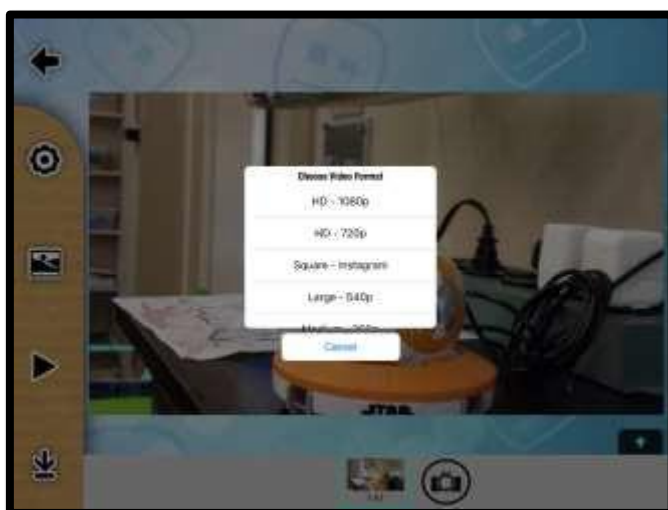
There are also several editing options in the menu on the left side of the screen.



The **Settings** menu (gear icon) allows you to choose whether you would like your video to loop or not, and also to adjust how many frames will appear per second. The more frames per second, the faster your images will cycle. Play with it and see if you like the video faster or slower. You may be surprised at the results of this one change.



The **Add Media** icon brings up this menu. You can record your voice and place it at different parts of your video from here. You can also access sound effects that have been premade and are a part of the StikBot Studio program.

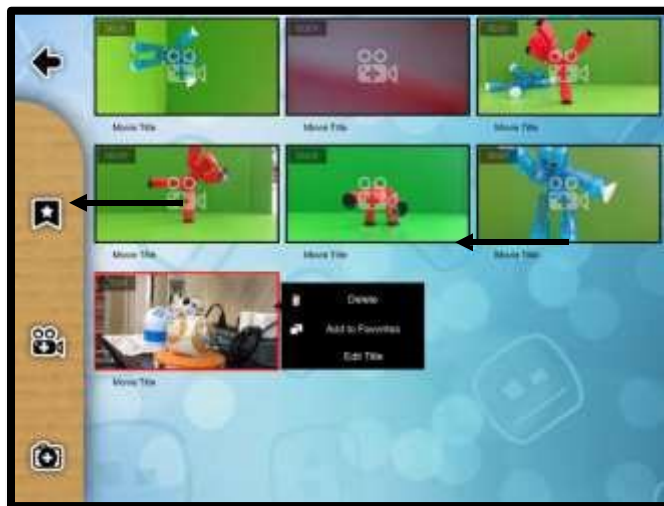


Pressing the bottom left **Download** icon will give you the option to save your movie. As you can see, the quality can be as high as 1080p, however an iPad's camera is not really strong enough to produce HD images, so 540p is more than enough. The lower the p value, the less disk space the video will take up. Keep this in mind because emailing videos or placing them on websites can eat up a lot of disk space.

Once you choose the video format, the video will be saved to your Camera Roll. From here, you can share it on a social media site, email it, or text it.

A Little more About Stikbot Studio

If you hold down your finger on a project, this small menu will appear. You can delete the project, add it to your favorites, or edit the title from this menu.



Adding Favorites

If you create many projects and want to easily get back to one of them, you can add it to your Favorites.

Click and hold on top of the project icon to open the menu. **Click Add to Favorites.** From here, you can click on the Favorites icon to see that movie.



Editing the Title of the Movie

That same menu option allows you to edit the title of the movie.

Type the name of the title and then click the green **Submit** button.

Additional Suggestions

Work in pairs or with a tripod to take photos. Stop motion takes time!

If you would like more resources on stop motion animation or green screen technology, check out our website: <http://www.winthrop.edu/itc>