

Path	Digital Art
Mission	2 - Stop Motion Animation
Introduction	In this mission, apprentices will use a tablet and an app called Stop Motion Studio to take series of photos that can play as an animated movie. This mission will teach the basic principles behind all film and video technology, as well as a common technique for creating special effects.
Objectives	Use a tablet and the Stop Motion Studio app to create a set of simple stop motion animations. Learn the basic principles of film making such as frames, frame rate, lighting, story boarding, and more.
Recommended Age Level	7-12
Setup and Background	You will need a tablet or smart phone with the “Stop Motion Studio” installed on it. This app is freely available for both Android and iOS devices. You will also need a set of interesting objects to use as the props and subjects for your animation. These could be anything you like – toys, paper cutouts, or objects you have around the house.
Safety	No safety considerations
Tools and Materials	Tablet or smart phone Tablet stand Set of animation subjects/props Paper Pencil

Project 1	First Frames
<ol style="list-style-type: none"> 1. Choose a single prop for your first animation. It will be a very simple one, so you only need one or two objects. 2. Get your tablet or smart phone ready, and open the “Stop Motion Studio” app. On the main screen, select “New Movie.” 3. Put your device into the tablet stand and point it towards a clear, open area of the table that you will use as your “stage.” Put your subject onto the stage. 4. Click the sliders icon at the right of the app screen. Take a look at some of the options in this menu. You can change the focus of the camera, and the exposure of the image. Adjust these options to make your subject look sharp, and bright enough to see clearly. Tap “done” when you are finished. 5. Take your subject off of the stage so you cannot see it on the device view screen. Tap the red button on the right to take your first photo of the empty stage. 6. Now move your subject to the edge of the stage, so it is just barely visible on the screen. Take another picture. 7. Move your subject a tiny bit further and take another picture. Continue moving your subject and taking photos until you have moved your subject all the way across the stage and off the opposite side. 8. At the bottom of the app screen, tap the backwards button that looks like “ <” to go to the first picture, or “frame” of your animation. Tap the play button just beneath the red button on the right. This will play your animation back. 9. You can add and remove pictures until you are happy with the way your animation looks. Can you make it look as smooth and steady as possible? 10. When you are finished, go back to the main app screen using the back button at the left side. At the very top right, click “select.” Then tap your animation and tap the button at the top left that looks like 	

an arrow pointing up from a box. Select “Export Movie.” Select “Save Video” to save your first animation to your device. From there, you can watch or share it like any regular video.

Project 2	Proper Production
<ol style="list-style-type: none">1. Get your smart device with the Stop Motion Studio app, and a set of objects or props ready. In this project, you can use multiple objects rather than just one.2. This animation will get a little more complex, using multiple objects all moving together. In order to plan your animation, get some paper and a pencil ready to create a storyboard.3. Draw three large boxes on your paper. These will represent the beginning, middle, and end of your animation.4. In the first box, draw how your animation will start. Draw each object, and where it will be on the screen. Then, you can use arrows and notes beneath the box to show how all of these objects will start moving.5. In the second box, draw a scene from the middle of your animation. Draw each object in the place that it will be in the middle of your animation, and use arrows and notes to describe how it will be moving then.6. In the last box, draw the final scene of your animation. Where will each of the objects end up? How will they be moving when they get there? You will use this storyboard sheet to help you keep your objects moving in the right way throughout your animation.7. Arrange your objects on the stage so they look like the first image in your storyboard. Take your first picture.8. Move each object according to the notes you made on your storyboard. Take another photo. Keep moving the objects and taking photos until you have completed the planned animation. Remember to look at your storyboard to remind yourself of where each object is going, and how they are all moving. You can review your animation at any time by tapping the “rewind” button at the bottom and then tapping the “play” button on the right.9. When you are happy with your animation, you can try adding some more advanced effects. Tap the gear icon at the bottom. Here you can change the “frame rate” of your animation, which can make your animation go faster or slower. You can also add fade transitions that can make your animation start or end with a fade to black. Try changing some of these options and see how they affect your animation.10. Tap the microphone icon at the bottom left. This will allow you to record sound for your video. You have to make all of the sounds yourself, so watch your animation carefully and plan out what kind of sounds you want. You can record both spoken lines, and also make sound effects.11. When you are happy with your animation, save it the same way as in the last project. Go back to the main app screen, tap the “select” button and choose your newest animation. Tap the “export” button at the top left and save your movie to your device for viewing and sharing later.	

Project 3	Stop Motion Filmmaking
<ol style="list-style-type: none">1. This project will be similar to the previous one, except this time rather than just making objects move on the screen, you will create a full story. Get your smart device with the Stop Motion Studio app, and all of your props ready. Get some paper to use for your storyboard, and start thinking of a story for your movie.2. Your animation will need characters, and a plot. Write down who the characters are, and what happens to them in your story. Then, make three boxes on a piece of paper and start drawing your characters, and making notes about how and where they will move. You might need more than one piece of paper for this storyboard. A storyboard can be as long as you want. You should use a new box for every plot point in your story. Every time a new thing happens to your characters, draw a new picture in your storyboard. Don’t forget to make notes to remind yourself how each object needs to move.3. Set up your stage by looking at the first box in your storyboard and setting up your objects just like you drew them. Take your first picture.4. Just like before, keep moving your objects and taking pictures. Look at your storyboard often to remind yourself	

exactly what needs to happen next in your story. Your story might be hundreds of pictures long, so make sure you take lots and lots of pictures, and preview your animation using the play button.

5. When you have taken all of your pictures, you can adjust the settings with the gear icon. Add a fade transition at the beginning or end of your movie. Adjust the frame rate so that your characters look like they move smoothly and realistically.
6. Finally, use the microphone button to record audio for your animation. You can record multiple times, starting at different parts of your animation. This can be useful for recording both dialogue (talking) and sound effects as different “tracks” or different recordings that play over top of one another. Try to do your audio recording in a quiet room to reduce background noise.
7. When your story is complete, save your animation by selecting it on the main app screen and exporting it as a movie to your device.

Discussion Questions	Your stop motion animations were made by taking lots of pictures that change a little bit each time. All movies work this way! How many pictures do you think there are in your favourite movie? How do you think a movie camera is able to take lots of pictures so quickly all by itself?
	What kind of stories would you like to make movies about? Who are some of your favourite characters in stories, and what makes them interesting to you?