ANIMATION AND STOP MOTION WITH WHIO

Activity Description

Use your digital technology skills and knowledge about whio/blue ducks to create a stop motion video or animation.

The Whio Forever digital learning activities can be used as part of the Whio Forever Education Resource, see: http://whioforever.co.nz/teachers. This activity supports learning in Activity 6. Threats to whio and Activity 8. The future for whio in this resource.

Curriculum links

Levels 3-4 (Year5-8)

Technology: Digital Technologies

Computational Thinking: Progress outcome 1S: In authentic contexts, students use their decomposition skills to break down simple non-computerised tasks into precise, unambiguous, step-by-step instructions (algorithmic thinking).

Designing and Developing Digital Outcomes (DDDO): Progress outcome 1

In authentic contexts and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital content in order to meet technological challenges. In doing so, they identify digital devices and their purposes and understand that humans make them. They know how to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.

DDDO: Progress outcome 2

In authentic contexts and taking account of end-users, students make decisions about creating, manipulating, storing, retrieving, sharing and testing digital content for a specific purpose, given particular parameters, tools and techniques. They understand that digital devices impact on humans and society and that both the devices and their impact change over time.

English: Speaking, writing, presenting

Key competencies: Thinking; Managing self; Using language, symbols and texts.

Learning intentions

Students are learning to:

- create stop motion videos with appropriate inputs, software and tools.

Success criteria

Students can:

- plan and produce a video about whio/blue ducks using stop motion animation technology.

Vocabulary stop motion, animation, character, video, costumes, backdrop, images, frames, input, output.

New to learning about digital technology or have limited devices? Start with the Create a whio/blue duck algorithm unplugged (non-device) activity

Context for learning

The whio (Blue Duck) is endemic to New Zealand, and one of only four duck species in the world that lives in fast flowing water. Whio are also indicators of a river's health. If they are present the river or stream is considered to be in a very healthy state.

The Whio Forever project is funded through a partnership between the Department of Conservation and Genesis. This partnership is currently in its second five-year term, with Genesis funding $400,000 per year to support the work done through the Whio Forever project.

For more information on the Whio Forever project see www.whioforever.co.nz.

What is stop motion animation?

Stop motion animation is a technique that uses still images or photos, moving objects and variations in technology to make videos and visual effects.

By playing a series of still photos quickly, one after the other, we can create the illusion of movement.
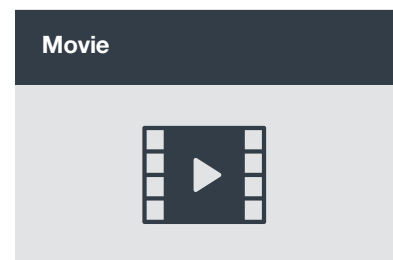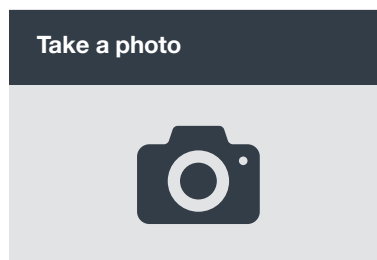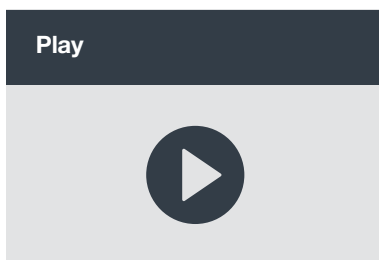
Note: You will need patience and perseverance for making a stop motion video. It takes hundreds of images to create a short video animation but the results are captivating and exciting.

View examples of whio stop motion videos:

These amazing animated whio videos* were made by Sarah Ridsdale using a stop motion technique:

- Whenua finds a future https://www.youtube.com/watch?v=gmY5Zf0MOIQ
- Check clean and dry: https://www.youtube.com/watch?v=pPIzJs6ZHWQ

Useful tool icons to recognise for stop motion and animation:

Play	Take a photo	Movie

Understanding technology terms: Input, output, frame rate

What is an input?

Data or information sent to a computer or device is known as an input. This input will be processed by your computer or device. This may be text from a keyboard, photos from your camera or recording on your microphone.

What is an output?

Data or information generated by a computer or device is known as an output. This could be a video, website or music. An output is information transferred to the user.

What is a frame rate?

A frame rate is the number of photos per second, e.g. a frame rate of 60 frames per second means that there are 60 photos being taken per second. The more photos taken per second, the more seamless the movement and better quality your movie/animation will be. Most movies are filmed at 24 frames per second but 2 frames per second is adequate for classroom activities.
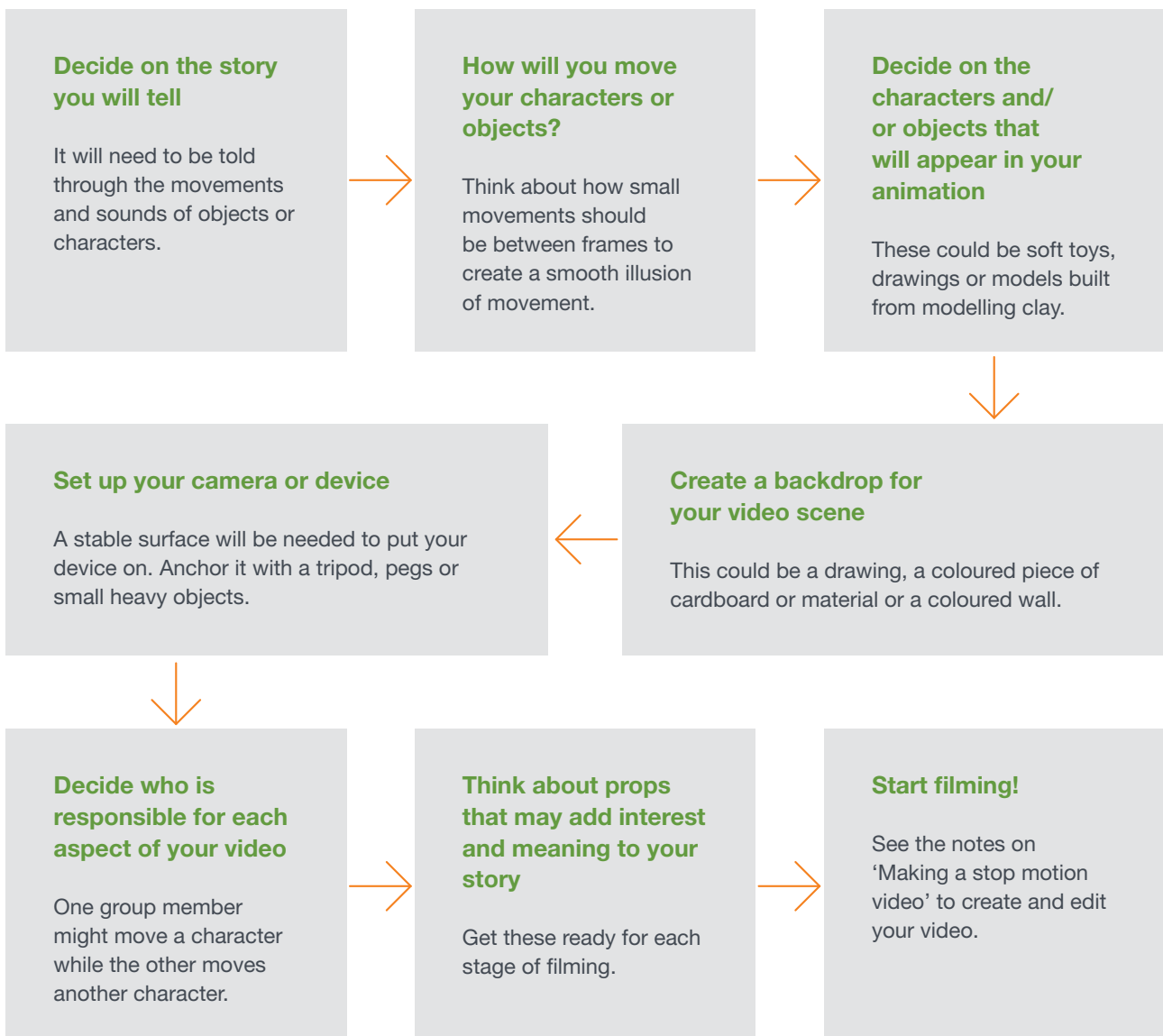
Planning your stop motion video

- Write a brief description of your ideas on a storyboard (see storyboard template). Your story will need to be short: every second of your video will need about 10 frames of photos to look seamless.

My whio storyboard

Google Docs version:
https://docs.google.com/document/d/1VaowV6NbpHymOHKs2PiNnWuRQb9Vy0mWaDWkcDyLY5Y/edit?usp=sharing

Stop motion planning sequence

Decide on the story you will tell

It will need to be told through the movements and sounds of objects or characters.

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How will you move your characters or objects?

Think about how small movements should be between frames to create a smooth illusion of movement.

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Decide on the characters and/ or objects that will appear in your animation

These could be soft toys, drawings or models built from modelling clay.

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Set up your camera or device

A stable surface will be needed to put your device on. Anchor it with a tripod, pegs or small heavy objects.

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Create a backdrop for your video scene

This could be a drawing, a coloured piece of cardboard or material or a coloured wall.

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Decide who is responsible for each aspect of your video

One group member might move a character while the other moves another character.

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Think about props that may add interest and meaning to your story

Get these ready for each stage of filming.

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Start filming!

See the notes on 'Making a stop motion video' to create and edit your video.

Making a stop motion video

We recommend using the Stop Motion Studio or ClapMotion apps.

See https://www.cateater.com and http://clapmotion.com for details.

- Select your characters for the opening scene.
- Place your chosen actors in the starting position.
- Consider your lighting; where is your light coming from? How much light do you need? Artificial light is more consistent than sunlight for filming. Aim for even light.
- Act out the sequence, pausing with any small movements to take photos with your chosen device or camera. If you want the character to appear to move smoothly you will need to take a photo for every very small movement of your objects/characters. Some apps have auto photo taking every so many seconds, (you can set how often it takes photos) which can speed up your process.
- If you use a camera to take your photos, you will need to download or transfer your photos from the camera to a computer or device where you can edit your animation video (these photos are your 'inputs').
- Edit in the app (cateater or clapmotion) or upload to another programme such as iMovie to edit. Put the images in the correct order (if necessary) and adjust the frame rate to a suitable speed.
- Add sound or music if desired (another input).
- Press play on the app to see what your movie looks like. The resulting video is your 'output' which is the result of the computer processing and putting together all of your inputs (photos, sounds and editing).

Using Google Slides or PowerPoint to create stop motion animations

- It is also possible to make stop motion videos in PowerPoint and Google Slides.
- Each photo for your animation can be on a different slide. Set an automatic transition of a second or less between your slides and this will pull them together, giving the illusion of movement!

Extending learning

Try the Digital action for whio activity and use your new knowledge and skills about stop motion techniques to plan a longer video animation, featuring an important message for whio/blue duck conservation. See Sarah Ridsdale's videos as examples (https://www.youtube.com/watch?v=gmY5Zf0MOIQ).