



STOP.MOTION.NOLAN

online education resource notes for teachers



Australian Government



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**MUSEUM
+ GALLERY**

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about the program

To access the hyperlinks in this document, please view the online version on our website at:

www.cmag.com.au/nolan

Students will use stop motion animation techniques to engage with the paintings and stories in the Nolan Collection. Stop motion animation is a fun and creative means of combining technology and the visual arts in a way that is engaging and meaningful for students. Once the basic skills and techniques of stop motion animation are understood, students can then apply this knowledge to bring any subject area to life.

View the [three-minute video](#) showing students at Ainslie School making their own stop motion animations.

Watch some short stop-motion animations created by Ainslie School students in Years 3 and 4 by [clicking here](#) and some created by children in a CMAG school holiday workshop called Move Me by [clicking here](#).



did you know...

- Sidney Nolan donated 24 paintings to the people of Australia. They are now displayed in the Nolan Collection Gallery at Canberra Museum and Gallery [CMAG].
- Sidney Nolan liked to make paintings that told stories about well-known Australians. Some of the paintings in the Nolan Collection Gallery at CMAG tell the story of Ned Kelly and his gang.
- Sidney Nolan was fascinated by the story of Ned Kelly so he made lots of paintings about it. In fact, when Sidney Nolan was a little boy, he grew up listening to the stories that his grandfather told about the time when he was a police officer and chased Ned and his gang through the Australian bush! Nolan heard these stories many times and when he grew up and became an artist, he decided to paint them.
- Sidney Nolan did not make these paintings at an easel. Instead, he put the board flat on the dining room table to paint so that the paint would not drip!

online resources for students

The following online resources are available to download from the CMAG website so that students can create their own Nolan inspired animation kits.

- Paintings from the [Nolan Collection](#)
- Brainstorm template
- Storyboard template
- Landscapes and Characters

Download the PDF files by [clicking here](#).



online resources for teachers

Recommended links:

[MyStopAction tutorial on YouTube](#)

[MyStopAction iTunes preview](#)

[How to create a stop motion animation](#)

[Animation in a school environment](#)

[Colossal blog – Slovenia based photographer Matej Peljhan](#)

[Jan Van Holleben – Dreams of Flying](#)

[Playschool Art Maker App for iPad \[free download\]](#)

[8 great iPad Apps for creating Stop Motion Animation](#)

There are so many different methods and materials that may be used to create a stop motion animation. Here are some links to animations that show a particularly creative approach:

[Target Commercial](#)

[Doraemon Cartoon – paper cup](#)

[Lost Things](#)

[Chalky Adventure](#)

[Stop Motion Paper](#)

[Paper Motion Animation](#)

[Stop Motion iPhone App](#)

[Her Morning Elegance](#)

[Origami](#)

[Whiteboard](#)

[Animated kids drawings](#)

[Red and Blue](#)

before the program – classroom activities

These classroom activities are suggestions only and may be used to give your students an introduction to some of the terms, concepts, materials and processes that they will experience during the program.

1. Vocabulary

Children may encounter a number of unfamiliar words during the program. We encourage teachers to talk with students about these subject specific terms in the context of Nolan's paintings. This discussion will help to develop children's understanding of art and allow them to communicate new concepts about art. Some new words children may encounter during the program include:

museum	gallery	exhibition	collection
horizon line	landscape	foreground	middle ground
	background		
aerial viewpoint	stop-motion animation	Storyboard	
movie stills		freeze frames	

2. Looking at paintings

- View the paintings in the [**Nolan Collection**](#) online at Canberra Museum and Gallery [CMAG]. Each one of Nolan's paintings **tells a story**. They are like the chapters that make up the bigger story of Ned Kelly and his gang. Look at the paintings and as a class, discuss the story that is being told in each.
- Look at the paintings. Do you think they look like **stills or freeze frames** from a movie?

Nolan's paintings have been described by art historian TG Rosenthal as having '**a distinct similarity to the set of images that constitute a storyboard for a film sequence.**'

Nolan's biographer, Brian Adams also stated that '**Nolan's painted narrative was rather like a series of still frames from a silent screen dramatisation of events...he called them one off snapshots of each episode.'**

In other words, Nolan's paintings look like a series of stills taken from a movie or an animation. Do you agree? **Can you see any similarities between stop motion animation and Nolan's paintings?**

3. I see... I think... I wonder...

Divide the class into 6 groups and give each group a painting from the [**Nolan Collection**](#). Ask children to look closely at the painting and record their observations and ideas under three headings on a large sheet of paper: *I see... I think... I wonder...*

4. The Australian artist Sidney Nolan

Nolan's depiction of Ned Kelly as a black square with an aperture has become an unofficial Australian symbol that is at once both recognisable and memorable. It was Nolan's iconic Ned Kelly that was used to represent Australia and Australians during the Opening Ceremony of the 2000 Sydney Olympic Games. Children could research the Australian artist Sidney Nolan and share findings with the class.

- Who was he?
- What is he famous for?
- Where would you find Sidney Nolan's paintings on display in Canberra?
- Why was Sidney Nolan so fascinated by the story of Ned Kelly?

5. The Australian bushranger Ned Kelly

Children could ask parents and grandparents about Ned Kelly. What do they know about his life and times? Share findings with the class.

- Who was he?
- When did he live?
- Where is 'Kelly Country'? See if you can find it on a map of Australia.
- What is Ned Kelly's armor made from? Visit the [State Library of Victoria](#) online where the Ned Kelly armor is on display.

6. Story time

As a young boy, Ned Kelly saved a classmate from drowning in a flooded creek. He was rewarded with a green silk sash for his heroism. Yet, within a few years, he became an outlaw who was eventually hanged for murder. *Ned Kelly and the Green Sash* is a window into the character of a poor boy, once honoured for his bravery, who grew up to be Australia's most notorious bushranger. Read the story *Ned Kelly and the Green Sash* written by Mark Greenwood and illustrated by Frane Lessac.

Children can retell their favourite parts of the story to a friend, who could then illustrate it using a storyboard or booklet format.

7. Screen time

A famous example of a stop motion animation is *Wallace and Gromit*, a British stop motion comedy film series. Created by Nick Park of Aardman Animations, the series consists of four animated short films and a feature-length film.

As a class, watch one of Nick Park's stop motion animations.

8. Stop motion animation

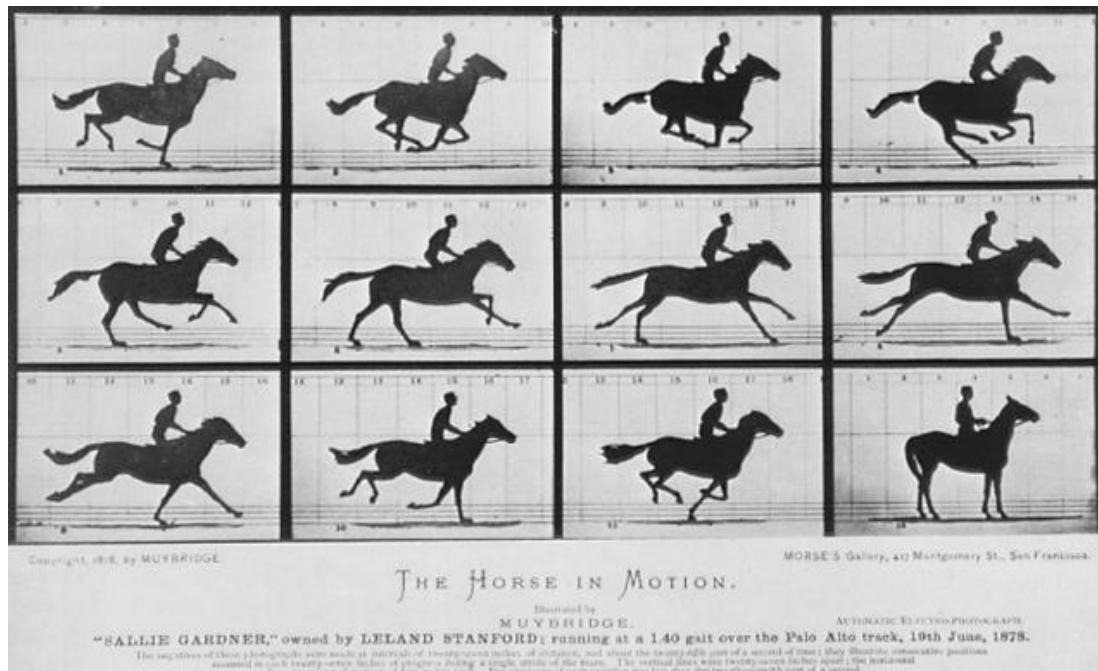
What is stop motion animation? Research the process, equipment, methods and materials required to make a stop motion animation. Share findings with the class.

- What is an **animation**?
- What is a **stop motion animation**?
- Think of some **famous examples** of a stop motion animation?
- How is a stop motion animation **made**?
- What are some of the **materials** that can be used to make an animation?
- What are the main **elements** of an animation?
- What **equipment** can be used to make a stop motion animation?
 - Digital camera, webcam, iPhone or iPad
 - Software such as iMovie
 - Apps such as My Stop Action
 - Computer
 - Tripod or improvised support
 - Lighting

9. Moving pictures

Animation means '**bringing to life**'. It is a technique that makes still pictures or objects appear to move. The animation effect occurs when a series of still images, or frames, are shown quickly, one after the other. We don't notice the spaces between the images because our brains fill the gaps, making the motion appear seamless. As a result, we don't see a sequence of single frames; instead we see the images come to life.

The English photographer **Eadweard Muybridge** [1830 – 1904] used a series of cameras in a row to capture images of people and animals moving. His pioneering work is still used as a reference by animators today.



Picture: http://en.wikipedia.org/wiki/Eadweard_Muybridge

There are many ways to make an animation. Discuss the following methods and play with examples. Choose one or more to make.

- A [thaumatrope](#) is a simple animation toy introduced in the Victorian age. It is a disc with a different picture on each side and pieces of string attached to opposite edges. When the string is twisted, the disc flips quickly and the two pictures appear to merge into a single image on the spinning disc. Images that work best for this method are those that fit together in a simple two-part action, ie. before and after. Remember that one of the images should be upright and the other upside down if they are to appear the same way up when they merge.
- A [flipbook](#) is like your own personal movie or slideshow. The image on each page changes slightly in a sequence from the first page to the last. Flipping quickly through the pages makes the pictures appear to move, creating an animation. An easy way to make a flipbook, start on the last page of a notebook or sticky-note pad and work from the back to the front, using the previous drawing as a guide for each new one. When the pad is full, flip through and watch your images transform into an animated sequence. Stick figures are a good starting point. They let you focus on the action without getting caught up in too much detail. Think of a simple movement and make your figure act it out over about 30 pages.
- A [zoetrope](#) works similar to a flipbook: if you move many images through a single spot fast enough, it creates the illusion of a single, animated image. Unlike a flipbook, where you flip through the pages quickly, a zoetrope *rotates* the images, which are viewed through a cut-out viewfinder. In a zoetrope, the images are arranged on a strip set at the bottom of a drum. As the drum spins, the viewer looks through the evenly spaced slits and sees the picture 'move'. The images should change gradually in the sequence. If a move is too drastic, there will be a jump in the action. The last pose should complete the cycle and lead back to the first one.



10. ArtPlay

Look at some animations that were made at a place called [ArtPlay](#) in Melbourne. ArtPlay is a creative arts centre that runs art workshops for children and families, just like CMAG. They hold art workshops, performances and exhibitions each week, all year long. Look closely at these animations and try to work out how they were made. Pay special attention to the elements of the animation:

- Backgrounds or backdrops
- Characters
- Props
- Story or narrative
- Soundtrack and voiceovers
- How it was photographed [aerial viewpoint]

[Fly - June 2010](#)

[Splash - June 2011](#)

[My City - January 2012](#)

[Journey through the machine - June 2012](#)

[Space - June 2013](#)

11. Kelly...Back in the Can

Watch the stop motion animation created in a School Holiday workshop at CMAG called

[Kelly...Back in the Can](#)

Ned and his friends go sightseeing in Canberra for the Centenary. The holiday is interrupted by a menagerie of characters straight out of a Nolan painting, including a silly policeman, a swooping magpie, a giant man-eating wombat, a lizard with superpowers and a very grumpy camel. In the shemozzle and kerfuffle of the chase, they fall into a wombat hole! Here they all become good friends and have a tea party, complete with balloons, party hats, streamers, a cake with candles and fireworks to celebrate Canberra's birthday. Hip Hip Hooray!

How was it made?

CMAG's stop motion animation *Kelly in the Can* was inspired by Sidney Nolan's paintings and bought those paintings to life on a larger than life-size theatrical scale. We took all 1000 photographs over 6 workshops from above looking down. This is called an aerial viewpoint.

The camera was mounted on a bar on the ceiling and the lens was pointing down to the floor. There is a connection between the way Nolan made these paintings and the way they were animated for *Kelly in the Can*. When Sidney Nolan made the paintings in the Nolan Collection at CMAG, he did not use an easel. Instead, he put the board flat on the dining room table to paint so that the paint would not drip!

To reference this idea, and to capture the flatness of Nolan's paintings, the backdrops, props and characters for this animation was laid flat too and were then photographed from above. You can view the documentary *Making Kelly...Back in the Can* by [clicking here](#).



stop motion animation in the classroom

The landscape and the characters

You can make your own ‘Nolanesque’ landscapes and bring them to life with landscapes and characters taken straight out of a Nolan painting! Download and print the PDF files, then glue them to a supportive base such as heavy cardboard. Cut out each of the elements needed in your animation – a blue sky, a green hill, a yellow landscape, a tree trunk, rocks, bushes, logs and characters. Now, it is the student’s job to bring them to life in an animation.



Brainstorm and Storyboard

Work in groups to **brainstorm** and make a **Storyboard** for your animation. Download and print the PDF files from the website. Start with the characters and brainstorm ideas for a story or **narrative**. Think in terms of a beginning, middle and end to your story starring the characters in your animation.

For example:

- Beginning - Once upon a time, there was a magpie that was chasing a policeman, who was chasing Ned Kelly who was chasing a wombat over a hill.
- Middle - They all fell into a wombat hole.
- End - The wombat puts the kettle on and they all became friends.

Your story can be as humorous or as ridiculous as you like. Once you have decided on the narrative for your animation, work out how to animate it in detailed drawings and instructions using the **Storyboard template**.



Prop-making

You may need to make **extra props** such as a teapot for a tea party scene, or lightning bolts if you want one of your characters to have super powers or a black circle of paper to suggest a wombat hole. You can choose 3D objects such as twigs, pebbles or leaves to add to your animation or simply and quickly construct your own props from materials such as paper, fabric, felt, plasticene. You can quickly and effectively make rocks, bushes and a wombat hole using torn and crumpled paper.

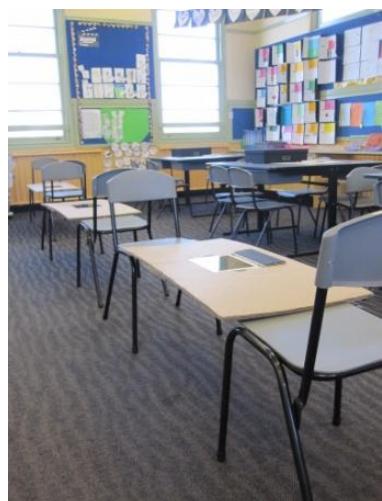


The iThing, the iPad and the App

Remember that many, many, many photographs make up a stop motion animation. If we set our movie to **10 frames per second [fps]**, we need to take **100 photographs** to make 10 seconds of animation. How many photographs are needed to make 30 seconds of animation?

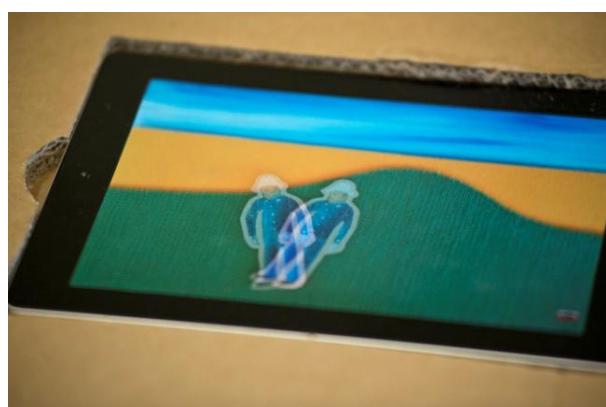
Teachers can follow the detailed instructions on pages 16-17 of this document to set the MyStopAction App on an iPad. The MyStopAction App can be set so that it automatically takes a photograph every 10 - 15 seconds. Students do not need to touch the iPad after it has been set by the teacher. Ten seconds will give students plenty of time to move the character / background / prop between shots.

Now place the **iPad** above the landscape using an **iThing** [a piece of thick cardboard could be used to suspend the iPad between two chairs]. The cardboard should have a hole in the middle so that the iPad's camera can be used. Use Blu-tack or Velcro to secure the iThing to the chair.



The MyStopAction App

Now it is time to make the animation. Each member of the group should be responsible for animating a character, prop or background. The character or prop that is to be animated must move slightly between each photograph. The **onion-skin** feature on the MyStopAction App superimposes a transparency of the last shot on the screen so that you can see how far to move before the next shot.



Finalising

When all of the photographs have been taken using an iPad, you can add:

- Titles
- Special effects
- A soundtrack
- Voiceovers

You can then export your movies to the iPad photo library and can play them back to watch! It is really important to practice, practice, practice your voiceover during the movie playback so that you know your cue and don't get stage fright when it is time to record! Don't worry if you make a mistake because you can re-record your voiceover as many times as you like.



hot tips...

- It is very important not to move the iPad when taking the frames. This helps to create continuity in the animation.
- Always transition each character, prop and background gradually using a series of photographs to enter and exit the frame, rather than drastically allowing them to appear or disappear.
- Keep the animation interesting by making sure that nothing is stationary for too long. For example, animate a rock, bush or log by tapping them slightly for each frame so that they bounce and settle and thereby look 'alive'.
- Give each child in the group a special role/responsibility. For example, magpie operator, prop-maker, technician, behavior monitor – keeping everyone on task.

my stop action app for ipad

There are many stop-motion animation Apps to choose from depending on the technology you plan to use. We have used MyStopAction App for iPad and iPhone which is available from the App Store for 99 cents.

- **Click on movie icon to create a new movie.**

Resolution and orientation:

- Landscape mode ON
- Set resolution to largest

Photo Options:

When adding frames, you will be taken to the photo capture screen immediately, and can take multiple shots.

- Fast photo mode ON
- Time lapse period between 10 - 15 seconds
- Single snap delay 0 seconds

Onion skin options:

When taking photos, the previous frame will be transparently overlayed to guide you.

- Onion skin ON
- Set transparency to midway on the scale

Camera options:

- Flash OFF
 - Front camera OFF
- Click on Back on the top left hand side of the screen

- **Shooting the frames**

- Click on green camera icon.
- Set iPad in position on the iThing so that the landscape fills the screen.
- Make sure sound is on maximum so that you can hear the shutter release.
- Click on green stopwatch. The shutter will release every few seconds [depend on the setting]. Make sure that you move right away from the frame between shots so that no hands or heads appear in the frame.

➤ **Playback**

- When all of the frames have been taken, click on the movie icon to bring up the play back screen.
- Click on the green arrow to playback.
- It is important to practice your audio during the playback before recording.

➤ **Audio**

- Click on back to return to the frames screen.
- Click on the audio icon.
- Frame rate should be somewhere between 5 -10 fps [frames per second].
- To make the animation shorter, select a higher frame rate.
- To make the animation longer, have a lower frame rate.
- Click on the red record button when you are ready to record the sound, music, sound effects or voiceovers. The movie will playback and you can add the audio track while watching the playback. This needs to be practiced first.

➤ **Effects [optional]**

- You need to place A and B markers on the movie timeline in order to use the **caption effect**.
- Place markers by tapping on the frames where you would like the caption to begin [marker A] and end [marker B].
- Click on the effects icon.
- Select captions. The keyboard will appear and hide the captions typing field so scroll up to unhide it.
- Type the title of your movie in the first field.
- Select the size, position and colour of the caption. Check your caption in the preview window.
- Click on apply.
- The **fade out effect** works well when applied to the last few frames.

➤ **Saving and Exporting**

- Click on the file icon in the top left hand corner of the screen to bring up the storage screen.
- Give the movie a title and add group members.
- Click on export video. It will be saved as a video in the iPad library.
- Click the iPad button to return to the App screen.
- Click on photos, then camera roll to find your stop motion animation movie. This can be saved to any computer connected to the iPad with the iPad's USB power charge cord.

You might like to share your animations on YouTube and send the link via email to:

nolan@act.gov.au

Your animations may appear on the CMAG website to inspire other students.

after the program – classroom activities

Once the basics of stop motion animation are understood, students can apply their skills and knowledge to bring any area of the curriculum to life. The extension possibilities are endless. Some ideas are listed below.

Give students the **open-ended task** of creating an animation, using a concept, image, sentence or object as a starting point. For example:

- Explain a mathematical equation
- Illustrate a science experiment
- Bring a work of art to life [student's own or someone else's]
- Dramatise a novel
- Explain how something works
- Research a significant Australian person, building or site

Students may choose the aerial viewpoint method or the diorama method to create their animations.

Aerial viewpoint method – backgrounds, characters, props are mainly 2 Dimensional and lay flat so that they may be photographed from above.

Diorama method – backgrounds, characters and props are photographed conventionally using a tripod or improvised support. A cardboard box makes a good 'stage' in which to place the background against.

Provide students with a variety of 2D and 3D materials. They should choose the most appropriate materials to animate their idea. The possibilities are endless, but here are a few:

- Drawing
- Painting
- Photographs
- Whiteboard and marker
- Chalkboard and chalk
- Paper cut-outs
- String on a flat surface
- Plasticene
- Play-dough [have students make their own using this [recipe](#)]
- Origami
- Wooden blocks
- Lego
- Ordinary everyday objects [eg. A shoe, a pencil]
- Yourself!

Students could complete a [Student Reflection](#) to assist them with their learning. Please also complete a [Teacher Evaluation](#) at the end of the program. We value feedback on how we can continue to improve our programs. Please return these via post or email them to nolan@act.gov.au

australian curriculum links

Visual Arts

Years 3 and 4

- Use materials, techniques and processes to explore visual conventions when making artworks. (ACAVAM111)
- Present artworks and describe how they have used visual conventions to represent their ideas. (ACAVAM112)

Years 5 and 6

- Plan the display of artworks to enhance their meaning for an audience. (ACAVAM116)

Digital Technologies

Years 3 and 4

- Explore and use a range of digital systems with peripheral devices for different purposes, and transmit different types of data. (ACTDIK007)

Media Arts

Years 3 and 4

- Use media technologies to create time and space through the manipulation of images, sounds and text to tell stories. (ACAMAM059)
- Plan, create and present media artworks for specific purposes with awareness of responsible media practice. (ACAMAM060)

Years 5 and 6

- Plan, produce and present media artworks for specific audiences and purposes using responsible media practice. (ACAMAM064)

History

Years 3 and 4

- Develop texts, particularly narratives.
Year 3 (ACHHS070) Year 4(ACHHS086)

Years 5 and 6

- Use a range of communication forms (oral, graphic, written) and digital technologies.
Year 5 (ACHHS106) Year 6 (ACHHS125)

English

Year 3

- Listen to and contribute to conversations and discussions to share information and ideas and negotiate in collaborative situations.
(ACELY 1676)
- Use software with growing speed and efficiency to construct and edit texts featuring visual, print and audio elements.
(ACELY1685)

Year 4

- Create literary texts using realistic and fantasy settings and characters that draw on the worlds represented in texts students have experienced.
(ACELT1612)

Year 5

- Create literary texts by developing storylines, characters and settings.
(ACELT1794)

Year 6

- Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions.
(ACELY1709)

We would love to know if you discover other relevant curriculum links when working with this program. Email your suggestions to nolan@act.gov.au